Literature on Early Literacy Instruction in Four Languages

NATIONAL CENTER ON EDUCATIONAL OUTCOMES

Literature on Early Literacy Instruction in Four Languages
(Chinese, Korean, Navajo, Russian)

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This report, sponsored by the Office of English Language Acquisition (OELA), is a summary of evidence-based research on teaching reading to Chinese, Korean, Navajo, and Russian children. It complements a recent summary of the literature on teaching reading to Spanish speaking students. There is a significant need for evidence-based research on children who learn to read in languages other than English. The research reviewed in this report represents the linguistic background of several of the largest subgroups found in the K-12 limited English proficient (LEP; sometimes also referred to as English language learners or ELLs) student population nationwide. From this research, teachers and policymakers can gain a better understanding of the variations in definitions of literacy across cultures and how the language of a country or people affects the ways in which reading is taught. This understanding can be applied to decisions about the teaching of reading in English to second language learners.

Literature Review Methodology

The initial task defined by the funding agency for this literature review was as follows:

(1) The contractor shall provide documentation that broadens the field's knowledge of how children in other countries learn to read in the native language and a second language, including English.

(2) The contractor shall select two languages other than Spanish to conduct this review, from among these: Vietnamese, Korean, Cantonese, Hmong, Russian, and Navajo.

The selection of the language groups to include was based on the relative size of these groups in the LEP student population served in U.S. schools. At the time the study began, the largest language groups, after Spanish, were those listed in the second task.

The first step in finding relevant research was to create a definition of reading to guide our search. The funding institution set the age parameters for the study as birth through sixth grade. We determined how reading would b operationalized after reviewing many definitions and descriptions of reading development, ensuring that our operationalization would cover the full age range. Three components were included: emergent literacy, fluency/automaticity in reading, and content reading. They are defined as follows:

Emergent literacy
This stage of reading development includes phonemic awareness (e.g., awareness that words are made up of different sounds), segmentation (ability to break words into component parts), print awareness and how books work, forming story parts (i.e., beginning, middle, and end), the idea that symbols represent something else, and use of pictures. We recognize that this stage may include formal (preschool) or informal (home) settings.

Fluency/automaticity in reading
This step of initial reading instruction includes the decoding of words (i.e. being able to pronounce written letters or words but not necessarily understand them) or instruction in character recognition in non-alphabetic languages. For this project, this is considered to be formal instruction in a school setting.

Content reading
In this stage of reading, emphasis is on understanding text for a purpose. This involves academic understanding of how text is organized (e.g., main ideas and supporting ideas).

When searching for research to review, top priority was given to empirical research in peer-reviewed journals, studies that had more detailed descriptions of study designs and samples, and those that fit the scope of the topic. Top priority was also given to articles published between 1991 and 2001, the year in which the data collection occurred. The languages to include were determined on the basis of the relative number of articles available. Top priority articles were used first; in order to have a richer understanding of views on literacy within a country and within the Navajo Nation; these were supplemented with articles that did not meet some of the criteria.

We followed several avenues to search for research literature. First, we conducted systematic searches of library databases (e.g., ERIC, Education Abstracts, etc.) in both English and a foreign language, when possible. Second, Internet searches provided information from International governmental organizations (e.g., UNESCO), refugee service organizations, and academic sites related to literacy and language learning. Third, perhaps our most productive approach to collecting literature was through personal contacts with researchers and ministers of education in the target countries, including the Navajo Nation.

During the searching process several issues arose had to be addressed that, in turn, affected the search process. For example, a common set of search terms evolved for use across all languages, yet there were some that had to be added that were specific to a language (e.g., "Pinyin"—a phonetic system used in the People's Republic of China). For some languages, the most productive searches were ones conducted in the native language. Differences were also found in research methods and writing across language groups, which made it difficult to have completely comparable literature reviews. Articles from Russia and the Newly Independent States (NIS) that were once a part of the Soviet Union tended to propose methods of reading instruction based on educational and psychological theories rather than on empirical data. Therefore, some articles that did not fully meet the requirements for the highest priority research were included in this literature review. These types of articles have value in providing a broader understanding of critical issues in reading development.

Another issue was that the search had to be limited by time and translation costs. We chose to concentrate on the best research available. Further access to research influenced the representation of the studies included and the researchers who published the articles. For example, we received the majority of our Chinese articles from one well-known Chinese reading researcher who mailed them to us. This set of articles represented the work of several Chinese

reading researchers who are networked and often publish together. Therefore, we did not search any further.

Finally, information on the peer review process, which was used as an indicator of quality of research, is not consistently available for journals in some of the countries. We had to repeatedly ask for information from journal editors, and sometimes from authors themselves. Sometimes it was impossible to determine whether articles were in journals that implemented a peer review process.

Literature Review Findings

In presenting the literature review findings for each language, we first identified those articles that were peer reviewed, and then indicated which of the main findings that we identified were derived from peer-reviewed articles. For each language, we highlighted the context of the country, language, and education system first, and then described the relationship of the research to the original literature review questions. A short summary for each language is presented here.

Chinese Literature Review Findings

Twenty-four full text articles from the People's Republic of China, either written in English or translated into English, were incorporated into the Chinese research synthesis[1]. Of those 24 articles that were full text, 18 were peer reviewed. Fifteen additional articles that were written in Chinese were annotated in English so that main ideas could be used. All of the 15 annotated articles were peer reviewed. These 39 articles fit into four main topics: (1) emergent literacy (awareness of print, home literacy environments); (2) metalinguistic awareness (awareness of phonology and morphology of Chinese); (3) reading fluency and content; and (4) native minority languages and two language instruction.

There is a small amount of research on emergent literacy and ways in which parents support children's pre-reading skills. According to these articles, early learning of characters affects the amount of reading that a young child is able to do. Therefore, there are some Chinese parents with a more traditional view of literacy who tend to emphasize memorization, correct formation of characters, correct pronunciation when reading aloud and much drill and practice. Chinese parents with all types of literacy beliefs can structure appropriate literacy activities in the home. Educators in the U.S. and Canada who teach Chinese children should be aware of the different understandings of literacy that may exist within some Chinese families and should use what they know about the Chinese language to inform reading instruction in English.

Young children in the People's Republic of China have varying amounts of access to books and print materials, but they all have exposure to environmental print. Sometimes they are exposed to print in Chinese and either Pinyin (a phonetic representation system) or English. Preschool children who could not yet read were observed to have developed fine observation skills that allowed them to determine when Chinese characters were oriented incorrectly or were missing pieces (Miller,Frosch, Kelly and Zhang, 2000, cited in Miller, 2002; Polland, 1993). It is

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[1] Literature from Taiwan, although of great value, was not included in this review due to differences in the form of the written language used by the People's Republic of China and by Taiwan and to resource constraints.

important for educators to remember that students have formed ideas about reading prior to receiving any formal reading instruction.

Character awareness is a basic requirement and step in Chinese reading development. Students are sensitive to the structure of characters, starting as young as age 2 if they have been exposed to environmental print, and employ this knowledge in other reading skills. Because the Chinese writing system represents morphemes, not phonemes as in an alphabetic language, and there is no direct sound-symbol correspondence, Chinese children must memorize many characters in order to learn to read. In the early stages of reading, they may learn a phonetic representation system that assists them in connecting the sound of words they have heard to the written characters. Over time the use of the phonetic representation system is phased out.

As students become more sophisticated readers, many of them learn to analyze complex characters and to compare parts of different characters that are similar. Doing so increases their ability to figure out the meaning of new words in context. However, there are irregularities in the way that characters are combined to form words and ideas. Phonological awareness seems to be important in helping children to figure out the pronunciation of characters that they encounter in text and thereby, to connect the character to words they have heard. Deriving the pronunciation of characters using graphic-phonetic correspondence (OPC) rules in Chinese is not straightforward because written Chinese has irregularities in the way characters are pronounced and used. Children with higher language abilities tend to pick up OPC rules more quickly and to have a reciprocal relationship with reading ability in later years. Similar to research done with English speaking students in the U.S., a higher degree of phonological awareness enables students to read better in Chinese or English, and reading better enhances phonological awareness. Some of the research recommends assessing phonological awareness in young children to determine whether they will be at risk for learning to read Chinese. There may be benefit for all students in having explicit instruction in sound-symbol relationships that includes OPC rules and the analysis of compound characters to determine the ways that similar characters have been used.

Li, Anderson, Nagy and Zhang (2002) found that morphological awareness in young Chinese readers had the strongest relationship to overall Chinese reading ability. Like phonological awareness, it has a reciprocal relationship to reading—more morphological awareness increases reading abilities in Chinese and better reading ability increases morphological awareness.

Similar to vocabulary development research in the west, the literature indicates that students learning Chinese are able to learn meanings of characters from context through reading grade appropriate books (Anderson, Shu, & Zhang, 1995) and should be encouraged to read extensively both in and outside the classroom. This extensive reading is important because it helps improve reading ability and expands students' vocabularies (Anderson et al., 1995; Tong & Zhang, 1997 ;).

The literature has some findings about second language learners in the People's Republic of China and in the United States or Canada as well. Language-minority children who spoke Naxi[2]

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[2] Naxi is a minority language spoken in the Lijiang Naxi Autonomous County of southwestern China. It belongs to the Chinese-Tibetan language family.

and were in "bilingual" classes performed better than their counterparts in a Chinese-only classroom based on final fall semester grades, suggesting that first language literacy skills transferred to the second language. Chinese English language learners tend to bring what they know about reading in Chinese to reading in English. Over time and with more exposure to English, however, they become more like native English speakers in the way they interact with text. The practice that these children have received in breaking Chinese speech down into morphemes and phonemes can provide a solid foundation for the development of English reading skills.

Our analysis of the scientific design of these studies found that 18 were both full text and peer reviewed. While none of the studies were experimental, 4 articles contained descriptions of quasi-experimental studies. In some cases, one Chinese article contained descriptions of more than one quasi-experimental study. Two articles addressed a reading intervention.

Korean Literature Review Findings

Twenty-four articles were incorporated into the Korean literature synthesis. Two articles were translated from Korean to English. One article was originally written in English. The remaining 21 articles were annotated in English so that main ideas could be used in this synthesis. Of those 21 articles, 11 were clearly peer reviewed and one came from a journal that stated it had a limited review procedure.

The majority of Korean articles relate to emergent literacy practices in preschool children. Only 3 of them discuss literacy in elementary school or beyond. There appears to be a split in the literature between those researchers who recommend direct teaching of reading skills in children as young as age 2 and early identification of students "at risk" for learning to read. On the opposing side, there are many educators who advocate for a more developmental view of reading, and who see reading readiness skills as very important and worthy of attention in preschool. Many articles discuss types of activities that can be done to encourage reading readiness in Korean children. The literature clearly indicates a high value for the role of parents and the home environment in developing literacy skills in young children. Like Chinese parents, some Korean parents tend to have a more traditional view of literacy activities and emphasize correct formation of letters, correct pronunciation of words and learning through drill and practice. However, parents with all types of literacy beliefs were found to create appropriate literacy environments in the home. Preschools can do a great deal to support parents' efforts and to provide individualized materials for children of all reading levels to use both at home and at school.

Two articles address the teaching of English as a foreign language and the importance of teaching students the culture of English-speaking countries along with the language. According to these articles, elementary English reading is typically taught via a phonics approach, but an approach that uses all four modalities (listening, speaking, reading, and writing) is desirable.

The analysis of the scientific design of the Korean studies indicates that one was both full text and peer reviewed. That study was correlational rather than experimental and did not describe a teaching intervention.

Navajo Literature Review Findings

Eleven articles form the basis of the Navajo research review. All of them were written in English in U.S. journals. The Navajo literature does not include studies that evaluate the effectiveness of literacy programs and teaching methods based on empirical data. The researchers, some of whom are Navajo, define the success of a reading program based on issues relating to cultural identity and preservation of the language. Of these 11 articles, 9 were peer reviewed.

While early articles, written in the 1970s by non-Navajo school and district personnel, indicate that a structured phonics approach is most successful with young Navajo readers, there has been a shift over time in what the literature recommends. Recent articles advocate that a Whole Language methodology is most in keeping with elements of Navajo culture. Some authors also state that a Whole Language approach is appropriate in a program aimed at linguistic and cultural preservation because of the lack of commercially produced Navajo texts. These authors state that Navajo reading programs often need to create their own culturally relevant materials in Navajo.

Much of the literature describes three Navajo literacy programs at Rough Rock, Rock Point and Fort Defiance schools in the Navajo Nation. All 3 of the programs were based on a bilingual/bicultural model with literacy in Navajo being introduced prior to literacy in English and maintained throughout the child's schooling. Some extremely limited data from standardized reading tests (Fillerup, 2002) indicate that students who received uninterrupted instruction in Navajo, along with English, performed better than peers who received instruction in English only.

Some of the research discusses ways to support parents and caregivers in doing shared reading activities with children at home. It is important for educators to recognize that parents and caregivers have a unique role as a child's first teacher.

An underlying theme in all of the Navajo research articles is the importance of respect for the student and high expectations for their achievement. Typically, the authors state, educators have had low academic expectations for Navajo students. While many Navajo children come to school with characteristics often associated with "at-risk" students, they also bring strengths that may be overlooked because reading programs are often developed with majority students in mind.

The analysis of the scientific design of the Navajo reading studies found that 9 were both full text and peer reviewed. None of these 9 studies were experimental or quasi-experimental. Three of the nine described a reading intervention.

Russian Literature Review Findings

Twelve research articles from Russia and the Newly Independent States (NIS) have been incorporated into the Russian literature synthesis. Five of them were fully translated into English and five were written in English. The remaining two articles were not translated from Russian. A fluent bilingual Russian-English speaking staff member was able to incorporate all of the texts in their entirety into the report. Of the total twelve articles, three were peer reviewed.

Improving reading speed and accuracy of decoding are the focus of much of the Russian literature reviewed. Specific strategies for doing so include teaching students to recognize commonly occurring consonant and vowel patterns instead of focusing on memorization of spelling patterns. The Russian language has some variation in spellings of words used in different contexts so teaching spelling patterns is less useful for rapid recognition of words. Teaching students to eliminate the vocalization of sounds during silent reading and having them monitor their own reading speed are other suggested strategies.

In addition to some specific reading strategies, the research reviewed also addresses the issue of whether reading in a first and second language should be introduced in preschool aged children or whether the second language should be introduced only when the child is older. Many students in Russia and the NIS speak more than one language. Sometimes they speak two that are closely related. Traditionally, students have waited until they are older to learn to read in the second language, but some of the research presented questions this practice.

Our analysis of the scientific design of these studies indicates that two of the articles were both full text and peer reviewed. Of these two, neither of them was experimental. One of the studies addressed a specific reading teaching intervention.

Introduction

This report is a summary of evidence-based research on teaching reading to Chinese, Korean, Navajo, and Russian children. It complements a recent summary of the literature on teaching reading to Spanish speaking students. Since the late 1990s, the U.S. Department of Education and the National Institute of Child Health and Human Development (NICHD) have initiated a series of research studies designed to assist teachers in learning more about English reading processes for students in U.S. schools. Several efforts currently underway examine reading in English language learners (often called limited English proficient students). A focus on improving reading instruction for students with limited English proficiency (LEP; sometimes referred to as English Language Learner or ELL) is timely given that some states experienced a 40% to 80% growth in the number of LEP students in just two years (Kindler, 2002a). While many of these students are speakers of Spanish as a first language, an increasing number of students are from other language backgrounds. The National Clearinghouse for English Language Acquisition (NCELA) estimates that in the year 1999-2000, the largest five language groups after Spanish speakers were Vietnamese (2.3%), Hmong (1.6%), Haitian Creole (1.1%), Korean (1.1%) and Cantonese (1.0%) (Kindler 2002b). Russian and Navajo were numbers 8 and 10 on the list, respectively.

In 2000, the Office of English Language Acquisition (OELA) commissioned a series of papers describing research-based recommendations for supporting literacy development in bilingual students (OELA, 2000). One of the conclusions of the papers in the "Research Symposium on High Standards in Reading for Students from Diverse Language Groups" was that the structure and the writing system of a language influence the way in which reading is taught to students. The authors strongly urged teachers to use what is known about the way reading is taught in other languages when incorporating a students' native language into the classroom.

To provide educators of English language learners with a research base that they can use when designing English reading instruction, the Office of Educational Research and Improvement, - U.S. Department of Education, and the National Institute of Child Health and Human Development (NICHD) created a National Literacy Panel of reading experts. The purpose of the panel is to "undertake a comprehensive, formal, evidence-based analysis of the experimental, quasi-experimental, qualitative and psychometric research relevant to a set of selected problems judged to be of central importance in developing literacy in language-minority children and youth, including English language learners (ELLs) (August, 2002, p. 1)." The studies included in the panel's review are those involving language minority students currently living in the United States.

To examine the ways in which Spanish-speaking children learn to read in English, the U.S. Department of Education and NICHD are sponsoring a five-year series of studies called the "Development of English Literacy in Spanish-Speaking Children." This series of studies examine a wide variety of topics, including the efficacy of different types of literacy and language programs for Spanish-English bilingual students, the transfer of literacy skills from Spanish to English, patterns of bilingual language acquisition in early childhood, predictors of

English language reading in young Spanish speaking children, and ways to support home literacy experiences in young Spanish speaking children.

There is a significant need for evidence-based research examining children who learn to read in languages other than Spanish and English. The way in which a child learns to read in his or her first language can significantly influence the child's attitudes and beliefs toward reading in English. The Office of English Language Acquisition sponsored this literature synthesis and review that is aimed at research conducted in non-Spanish speaking countries, and in Native American schools within the United States where indigenous languages are taught. The languages and cultures represented in this report, Chinese, Korean, Navajo and Russian are among those with the largest numbers of LEP students, after Spanish speakers. By looking at the research literature in these countries and in the Navajo language, policymakers and teachers can begin to see what members of different language groups consider to be components of literacy, what is valued in the teaching of reading, and how parents are typically involved in literacy development activities. Teachers who understand attitudes and practices related to reading can better communicate with parents and students about the way mainstream U.S. schools teach reading in English.

While some practices mentioned in this literature synthesis may look like promising methods to be borrowed by U.S. educators, we present them here with a word of caution. Successful teaching methods are embedded in the context of the school, the salient aspects of the language that are pertinent to how reading is taught, and to specific views on teaching and learning. To pick up a particular teaching method from one context and move it to another one may not ensure that similar results are obtained, even if the method is being used with speakers of the same language. Furthermore, research is also embedded within a political context. In some countries, citizens may not feel free to publicly question methods of teaching that are mandated by the government. What gets published may be limited to what a particular government considers acceptable. Finally, it is important to remember that the research presented here is not necessarily representative of all the research conducted in an individual country on a particular topic (for more information see the Methods section). The articles chosen for this report represent research available to foreign researchers searching for articles from outside of a country. The articles provide an illustration of the reading research trends within a country or language group, but they do not describe all published viewpoints.

With these cautions in mind, we begin by describing the study methods and including a description of how research articles were obtained. As becomes evident, our study methods were affected by country and language differences in the conception of research and how research papers should be written, differences in the way that information was available for each of the language groups, and practical constraints such as the cost of translating research articles written in non-alphabetic languages. Following the method section, we provide a summary of the reading research literature from four different cultures: China, Korea, the Navajo Nation, and Russia. For each, we give a brief overview of the context of education and reading programs and instruction, we synthesize the available literature and provide annotations of each article reviewed. Implications of the research findings for teachers of LEP students are discussed. We conclude with a discussion of recommendations for future research efforts that incorporate reading literature from other countries.

Literature Review Methodology

Reviewing literature from different countries and our own country necessarily is complex. Because of its complexity, the methodology is likely to have an impact on our findings. Thus it is especially important that the methodology and its constraints be understood. The initial task defined by the funding agency for this literature review was as follows:

> (1) The contractor shall provide documentation that broadens the field's knowledge of how children in other countries learn to read in the native language and a second language, including English.

> (2) The contractor shall select two languages other than Spanish to conduct this review, from among these: Vietnamese, Korean, Cantonese, Hmong, Russian, and Navajo.

The selection of the language groups to include was based on the relative size of these groups in the LEP student population served in U.S. schools. At the time the study began, the largest language groups, after Spanish, were those listed above.

Four changes to the initial task were made. First, Cambodian was added to our initial search list because it was included in the NCELA's list of the top ten language groups for LEP students in the United States at the time our study began. An updated list, published in December of 2002 (Kindler, 2002b) after the study began, resulted in changes in the ranking of Cambodian.

Second, Russia was expanded to include some of the other Newly Independent States (NIS) that once were a part of the Soviet Union (e.g., Kazakhstan, Estonia, Lithuania, etc.). Russia is one of the Newly Independent States, but there are others where much of the former Soviet Union's ethnic and linguistic diversity is found. We felt that there might be more information on the teaching of reading in a second language coming from these other areas. Furthermore, our literature search went back to include the years just prior to the break up of the Soviet Union and we wanted to maintain consistency in the areas we were including in our searches.

Third, Cantonese was broadened to Chinese and includes both Mandarin and Cantonese dialects that are written with Modern Chinese. We did this to reflect the fact that while there are many spoken dialects within the People's Republic of China (PRC), Cantonese being one of them, the writing system used for the majority of those dialects is Modern Chinese. Most children in the PRC learn to read in the language of the schools and in most places within the country that language is Mandarin. There are variations in language use for children in Hong Kong and there is also some variation in the language used within autonomous regions set up specifically for members of minority language groups. Taiwan was not included in this literature review due to resource constraints and because the Chinese from Taiwan read and write classical Chinese.

Fourth, instead of two languages for the final product, four languages were selected. This was done because initial searches revealed very limited information that was readily available on native language reading instruction for Vietnamese, Hmong and Cambodian students and greater

amounts of information for the remaining four language groups. Research staff members are native speakers of three of those four remaining language groups; therefore, we could provide more information than originally agreed upon.

In this description of the method, we clarify how we defined key terms for the study, how we categorized search methods and terms, how preliminary searches for articles were used to narrow the language groups finally selected for the synthesis, and how issues related to, and independent of, methods (e.g., budget concerns) were handled.

Defining Key Terms

Reading Development
The funding institution set the age parameters for the study as birth through sixth grade. We determined how "reading development" would be operationalized after reviewing many definitions and description of reading development, ensuring that our operationalization would cover the full age range. Three components were included in our operationalization: emergent literacy, fluency/automaticity in reading, and content reading. They were defined as follows:

Emergent literacy
This stage of reading development includes phonemic awareness (i.e., awareness that words are made up of different sounds), segmentation (i.e., ability to break words into component parts), print awareness and how books work, forming story parts (i.e., beginning, middle, and end), the idea that symbols represent something else, and use of pictures. We recognize that this stage may include formal (preschool) or informal (home) settings.

Fluency/automaticity in reading
This step of initial reading instruction includes the decoding of words (i.e. being able to pronounce written letters or words but not necessarily understand them) or instruction in character recognition in non-alphabetic languages. For this project, this is considered to be formal instruction in a school setting.

Content reading
In this stage of reading, emphasis is on understanding text for a purpose. This involves academic understanding of how text is organized (e.g., main ideas and supporting ideas).

These three components of reading development were used to guide the collection of articles. They were applied to all possible reading instruction approaches for both native and second languages acquired by groups in the study. In some cases, the second language was a majority or minority language used within the country. In other cases, the second language was a foreign language such as English.

From the beginning we realized that this definition had to be flexible and that essential differences in reading development might surface in our exploration of reading studies of other languages. Our intent was to be inclusive of developmental stages or nuances within stages of

reading in other language backgrounds (e.g., contrastive and complementary role of morphological awareness in Chinese character recognition compared to phonemic awareness). These developmental differences, as well as similarities, are discussed for each language group.

Research Article
We also used a guiding principle for prioritizing articles for inclusion in the literature review. Top priority was given to articles published in a peer-reviewed journal, those that had relatively detailed descriptions of study designs and samples, and those that fit the scope of our topic. Ulrich's Periodical's Directory was used to check each journal from which we obtained articles and find out whether they are peer reviewed. This resource often does not provide information on whether foreign journals are peer reviewed so we cannot say with certainty whether materials found in these journals have gone through a peer review process. Articles published between 1991 and 2001, the year in which the literature review was conducted, were also top priority.

We used articles that met the top priority criteria first and supplemented, as needed, with articles that were theoretical in nature, those that provided fewer details about study design or samples and those that were not from peer reviewed journals. For example, literature from Russia and the other Newly Independent States (e.g., Kazakhstan, Estonia, and Lithuania) tended to be theoretical in nature rather than empirically-based. These articles were included because they provide information about what is valued in the teaching of reading and the types of common educational experiences children from that area might have had.

For all articles that were peer reviewed and for which we had the full text available to us we described the characteristics of each study in terms of research approach, research design, whether it reported on a teaching intervention, use of a control group, research questions asked, sample characteristics, instruments used, data elements, data analysis, theoretical basis or assumptions and limitations. Several resources were used to help in coding of study designs (e.g., Creswell, 1994, 1998) and in considerations of study limitations (e.g., What Works Clearinghouse, 2003).

Search Methods and Terms

We started our search for articles using three approaches. One approach was to conduct a library database search using MNCAT, World CAT, ERIC, and others. Second, an Internet search was conducted for on-line articles and references, covering a range of sources, including International governmental organizations (e.g., UNESCO), refugee resources and libraries, literacy, linguistics, second language learning sites, and online bibliographies on reading research. A third approach was to pursue personal contacts with individuals within target countries and the Navajo Nation, primarily individuals who had knowledge and access to education-related materials at either the government or university level.

Library Searches
Our first approach was a systematic search of several major databases, including: MNCAT, World CAT, Linguistics and Language Behavior Abstracts (LLBA), ERIC, Education Abstracts, Modern Language Association, and Expanded Academic Index. We compiled a list of terms to be used to systematically search the databases. Search terms are presented in Appendix A.

Internet Search and Departments of Education

We also searched for information about published material on the Internet. For example, we used the same terms as described previously for library databases on the Yahoo Search engine and other engines including foreign country and regional engines (i.e., ASIACO). We also searched other kinds of sites: libraries, organizations relating to literacy, linguistics, or second language learning, refugee resources, and online bibliographies. A more complete listing of specific sites is provided in Appendix A.

Personal Contacts

We attempted to make two types of personal contacts. The first type was with educators or researchers in the country or area we had targeted. We attempted to make personal contacts via e-mail with education ministry officials in China and Hong Kong, Laos, Korea, Russia, other Newly Independent States and Vietnam. We searched the Internet for websites of foreign embassies and consulates in the United States. Embassy or consulate staff often provided us with contact information for the ministers of education in the target countries. E-mails were then sent to the ministers of education, if e-mail contact was possible, asking for help in obtaining research articles or government publications on early reading instruction (birth through sixth grade) in a first and/or second language. E-mails were followed up with both formal written communication and phone calls as needed. Questions addressed to the minister of education in Laos specifically focused on education provided to the Hmong both now and previously, before the majority of Hmong refugees left the country. Two ministers of education responded with a written statement regarding education policies and these are attached in Appendix E.

A second type of personal contact was made with researchers both in the U.S. and in the target countries. The Office of English Language Acquisition (OELA) provided an initial contact list of well-known reading researchers. In addition, NCEO staff searched the Internet for researchers studying pertinent areas. For example, a search for Chinese reading research turned up a list of Chinese linguists and psycholinguists that was divided by topic area and which provided e-mail addresses for each researcher. Staff compiled a master contact list for each country. We sent emails requesting assistance in obtaining research articles and government publications. Sometimes the assistance came in the form of suggestions about other people to contact. Other times researchers mailed or e-mailed copies of articles to us.

Selecting the Languages for the Synthesis

The steps of narrowing the language groups from six (Cambodian, Chinese, Hmong, Korean, Navajo, Russian, Vietnamese) to four involved an ongoing evaluation of the number and kind of articles found, the quality and number of contacts within the respective countries, budgetary concerns, and staffing to handle native language aspects of searches, annotating, and writing.

Three staff members used the priorities listed in Table 1 to sort articles for inclusion in the review. These general guidelines not only helped us to evaluate the number of articles that would fit the scope of the study, but also to identify the amount and depth of studies focused on specific themes within reading development for each language group. As shown in the table, certain areas were negotiable.

Table 1. Criteria Used for Literature Review Article Selection

Higher priority	Lower priority
Articles 1990 to 2001	Articles older than 1990
Natives learning the languages (Native language and English or other second languages)	Americans learning a second language
Peer reviewed articles, also open to some government sources, books, and/or possibly dissertations.	Non-peer reviewed publications
Articles of studies conducted and published outside U.S.	Studies conducted in U.S. (unless Navajo)
Fits into working definition of reading development or fits as possible background information for directly understanding the context	Literacy "reading development" definition that falls outside of working definition.
Focused on learning reading	General education information (unless useful background information)
Birth through 6th grade.	Students older than 6th grade level.

We also took stock of the quality and number of contacts within the respective countries that we would potentially be studying. These contacts included professors and researchers within countries, students, and other contacts abroad who could assist in obtaining copies of articles from researchers and foreign university libraries.

A third, and very important consideration for our recommendation of countries to include, involved budgetary concerns. As much as possible, we wanted to balance the number of articles that were written in English with the priority of incorporating as many of the studies done in the country of origin as possible. For example, Navajo did not require translation because all of the studies we encountered were in English. We included all the relevant studies on Navajo that we found. Chinese had many articles in both English and Chinese, so we concentrated primarily on the English literature base and supplemented with a few translated Chinese language articles. We put more money toward translations of articles in other languages (Russian and Korean) where there were fewer articles in English. Hmong and Cambodian had very few studies on the topic of reading instruction, so these languages were not included in our final recommendation of languages to include in the study.

Finally, availability of human resources was a factor in determining the final selection of languages to include in the study. By having staff whose native languages were those included in the study, we were able to capitalize on their language skills to assist in summarizing information from articles that we did not have the funds to formally translate. Attempting a project like this without them would have been difficult at best, and the results much less fruitful.

Issues Related to Methods

Several issues arose as we implemented our planned methodology for this literature review. The major issues were related to our search terms, the influence of translating costs, narrowing the topic, different research approaches in the target countries, and the availability of research. We highlight each of these issues briefly because they do have an impact on findings.

Search Terms and Databases

Although the initial search terms used across databases were fairly comprehensive for the purpose of the study, we later incorporated language-specific terms that allowed us to find additional results from the databases already searched. For example, in the search for Chinese reading-related documents, we later incorporated the results of new searches using the terms "Pinyin" and "Zhuyin Fuhao," terms that refer to a phonetic system of writing that some young Chinese children learn to read before learning characters. We conducted all of the initial Navajo searches using the term "Navajo" and then later went back to do some searches again with the term "Dine" or "Dineh" that the Navajo use to refer to themselves. The searches done using the latter two terms did not turn up new resources. Comparable late-blooming search terms unique to Russian reading development were not identified during the course of our searches. However, a Russian Internet search engine was discovered (www.rambler.ru) after the initial searches had been done. We incorporated articles that we found through searches done in Russian on this search engine. Using the Russian language to search both library databases and the Internet appeared to be more productive than searching in English.

Translation Costs

Translation costs are very high, and cost constraints influenced the literature that we were able to review. For the most part, there already is a wealth of research written in English available for certain language groups, such as Chinese. However, because one goal of the literature review was to include materials published in the native and/or predominant language of the countries studied, translations were required. We soon discovered it to be unfeasible to translate a large number of articles due to dense nature of academic texts and the high cost of translations in languages using non-Roman alphabets or characters.[3]

Narrowing the Topic

Reviewing the literature on the reading development of a given language group from birth through 6th grade is a significant undertaking. Doing so for four very different languages is a major effort. Although some of the languages that were initially considered such as Hmong, would have had few research articles on reading, the languages chosen for inclusion in the literature review (Chinese, Korean, Navajo, and Russian) generally had relatively large amounts of published material in the native languages and sometimes also in English. This availability of literature was one of the reasons these languages were selected for review.

The number of literature review articles could have grown had we included the works referenced in the literature reviews identified in our initial search. Because our primary goal was to select the best research available, we decided to include as many articles as possible within the limited budget, and balance existing English language articles with the resources obtained in the native languages.

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[3] A high quality translation of a research article can cost $500 to $1000 per 1000 English words (C. Stansfield, personal communication). Research articles chosen for translation varied in length from approximately 2,838 English words to 7, 929 English words and translation fees ranged from $1400 to $4000 per article. There are translation companies that will charge a lower fee but the reduced fees may result from fewer accuracy checks being built into the translation process and from using translators who do not have specific knowledge of the academic content area being written about in the articles.

In gathering articles for each language group, a general guiding principle was to prioritize works published in the native language. We defined the context of each language by its country, which is admittedly a limiting approach especially in the case of Chinese. There is research conducted on aspects of Chinese reading in Taiwan and in parts of Southeast Asia. However, for the purposes of this publication we chose to explore only research from mainland China.

Differences in Research Methods and Writing
While we placed a top priority on finding empirical research articles that provided detailed descriptions of study design and samples, native language research that we found often varied from this pattern in some significant ways. For example, as mentioned previously, articles from Russia and other Newly Independent States that related to the topic of reading instruction tended to propose teaching methods using educational and psychological theories to support the choice of methods rather than using data. Articles from China that were used for this study were largely on aspects of psycholinguistics and were quantitative in nature. However, some articles lacked the level of detail we were looking for about areas such as study design. We accepted all such variations in research and writing styles in foreign language articles in the belief that the articles do provide a view of how educators within a culture view reading, what they value, and what types of educational experiences children from those cultures might have had.

Some articles written in English and published within the U.S. or other English speaking countries also did not fully meet the requirements of the top priority research and yet is still included in our literature review. These are noted in our report separately, because they have value in providing a broader understanding of the critical issues in reading development. Whenever these were included in both the main literature synthesis, it is noted in both the text and the appendices.

Availability of Research
Initial searches for native language information in other countries included searches of ERIC and other databases available through U.S. libraries. Database searches had limited success. Securing research articles from abroad by networking with researchers and educators in those countries was more productive. On rare occasions, foreign researchers generously shared their work by mailing copies of publications. The only drawback to receiving large amounts of information this way is that the review of the literature becomes weighted toward one researcher or group of researchers. Therefore, the success of this method is somewhat contingent on an even distribution of generosity (or not-so-random acts of academic kindness) among the international research community. This can be balanced by contact with a leading researcher who is networked with others in the field and who will share from a broad range of research. Such was the case for the Chinese research reflected in this literature review.

Searching for and retrieving articles from overseas libraries was difficult. Although some libraries allowed patrons to search their holdings online, they all generally required that an individual be at the library to request copies of items. Many libraries would not send out information, thus requiring us to arrange for someone to be there on location to retrieve information and then mail it to us.

During the continuous updating of information for each language, a helpful Website was found online for Chinese educational information, C-ERIC. A search of this site provided even more articles on our topic, some of which overlapped with English language journals, and others that were Chinese language journals only. Unfortunately, our translation dollars were not sufficient to cover the expense of translating these articles, nor potentially the Chinese abstracts that were available on the site.

Some limitations of the C-ERIC site were that the information was not fully representational for the area because it only included 17 leading journals in Hong Kong, the Chinese Mainland and Taiwan. Other kinds of documents (e.g., government policy papers, conference or seminar papers, most theses, books, etc.) were not included. The site also noted a few technical problems involving the use of Chinese characters in their word processing system and difficulties with simplified and traditional character conversion.

The search for a Russian ERIC was not successful, though this would no doubt be a worthwhile venture in the future for those who are literate in Russian. There was, however, evidence of active information exchange online. For example, at the Institute for the Study of Russian Education at Indiana University, there are informational partnerships with Russian scholars through ERIC. However, this described partnership does not help a researcher who desires to search the educational journals available in Russia and other former Soviet Republics.

Quality of Research
The U.S. Department of Education places an emphasis on the use of high quality, scientifically based research to help inform instructional practice. When searching for articles, we gave the highest priority to obtaining articles from peer reviewed journals in the belief that these articles would be of the highest quality within a country. However, information about the peer review process proved to be less readily available for foreign journals, particularly those in Korea and Russia. For those articles from peer reviewed journals, finding out this information involved Internet searches, the use of library references such as Ulrich's Periodicals Directory (Salk, 2001), as well as e-mails and phone calls to editors of journals when such communication was possible. Throughout the document, we divide the discussion into findings from articles that have clearly gone through a peer review process and those for which it is unknown.

Chinese Early Literacy and Instruction

Studies Included in Literature Review

Twenty-four full text articles have been incorporated in this literature synthesis. Table 2 lists the full text articles used, some translated from Chinese and some written in English, from most recent to oldest. The table indicates that 18 articles were subjected to peer review (for more information and an annotation of each article, see Appendices B and G).

Table 2: Peer Review Status of Full Text Chinese Articles

Author & Date	Journal Name	Peer Review
Li, Anderson, Nagy, & Zhang (2002)	*Chinese Children's Reading Acquisition: Theoretical & Pedagogical Issues*	Book
Nagy, Kuo-Kealoha, Wu, Li, Anderson, & Chen (2002)	*Chinese Children's Reading Acquisition: Theoretical and Pedagogical Issues*	Book
Shu, Li, Anderson, Ku and Yue (2002)	*Chinese Children's Reading Acquisition: Theoretical & Pedagogical Issues*	Book
Wu, Anderson, Li, Chen, & Meng (2002)	*Chinese Children's Reading Acquisition: Theoretical & Pedagogical Issues*	Book
Gottardo, Yan, Sieger & Wade-Wooley (2001)	*Journal of Educational Psychology*	Yes
Miller, Frosch, Kelly, & Zhang (2001 cited in Miller, 2002)	*Chinese Children's Reading Acquisition: Theoretical & Pedagogical Issues*	Book
McBride-Chang & Ho, (2000)	*Journal of Educational Psychology*	Yes
Shu, Anderson & Wu (2000)	*Journal of Educational Psychology*	Yes
Mo (1999)	*Psychological Science*	Yes
Pine, Huang, Huang & Zhang (1999)	*Yearbook/Claremont Reading Conference*	Yes
Shu & Anderson (1999)	*Reading Chinese Script: A Cognitive Analysis*	Book
Zhang, Bao, Guan, Yu & Li (1999)	*Psychological Science*	Yes
Zhang, O'llila & Harvey (1998)	*Canadian Journal of Education/Revue Canadienne de l'Education*	Yes
Ho & Bryant (1997a)	*Reading Research Quarterly*	Yes
Ho & Bryant (1997b)	*Developmental Psychology*	Yes
Hudson-Ross & Dong (1990)	*The Reading Teacher*	Yes
Shu & Anderson (1997)	*Reading Research Quarterly*	Yes
So & Siegel (1997)	*Reading & Writing: An Interdisciplinary Journal*	Yes
Feurer (1996)	*RELC Journal*	Yes
Anderson (1995)	*Reading Horizons*	Yes
Shu, Anderson, & Zhang, (1995)	*Reading Research Quarterly*	Yes
Polland (1993)	*Yearbook/Claremont Reading Conference*	Yes
Hsia (1992)	*Applied Psycholinguistics*	Yes
Stephanson, Pine, & Melzer (1990)	*Yearbook/Claremont Reading Conference*	Yes

Our analysis of the scientific design of the full text, peer reviewed articles (see Appendix F) indicated that none of them was experimental. Four of the articles contained descriptions of one or more quasi-experimental studies. Two of the articles addressed a reading intervention.

Fifteen articles written in Chinese that could not be translated into English were annotated in English so that main ideas could be used in this document. Table 3 lists the annotated articles used, from most recent to oldest. The table indicates that all 15 articles were subjected to peer review (for more information, see Appendices B and G).

Table 3: Peer Review Status of Annotated Chinese Articles

Author & Date	Journal Name	Peer Review
Li, Fu & Lin (2000)	*Acta Psychologica Sinica*	Yes
Li, Zhu, Dodd, Jiang, Peng & Shu (2000)	*Acta Psychologica Sinica*	Yes
Shu, Zhou & Wu (2000)	*Acta Psychologica Sinica*	Yes
Jiang & Peng (1999)	*Acta Psychologica Sinica*	Yes
Yan (1999)	*Psychological Science*	Yes
Mo, (1998)	*Acta Psychologica Sinica*	Yes
Mo & Chen (1997)	*Psychological Science*	Yes
Bai & Shen (1996)	*Psychological Science*	Yes
Shu & Zeng (1996)	*Acta Psychologica Sinica*	Yes
Zhang, Zhang, Yin, Zhou & Chang (1996)	*Psychological Science*	Yes
Song, Zhang & Shu (1995)	*Acta Psychologica Sinica*	Yes
Shu & Li, (1994)	*Psychology Development and Education*	Yes
Zhou, Wu & Shu (1993)	*Psychological Science*	Yes
Shu, Zeng, & Chen (1993a)	*Psychology Development & Education*	Yes
Shu, Zeng & Chen (1993b)	*Psychological Science*	Yes

Main Findings on Chinese

The main findings from the review of Chinese literature are summarized here. Those findings that come from at least one peer-reviewed journal are marked by (PR). More detailed descriptions of findings follow in sections on specific topics.

- Character awareness is a basic requirement and step in Chinese reading development. Students are sensitive to the structure of characters and employ this knowledge in other reading skills. (PR)

- Students strategically use different parts of characters to figure out new characters in context and to make inferences. (PR)

- The amount of extensive reading outside class was large and varied. Children actively sought materials outside of class suited to their interest, but these independent reading habits seemed to develop gradually as children grew older. (PR)

- Schema theory based pedagogy showed a positive influence on students reading test performance. The quality of reading comprehension drops if readers are not given appropriate expectations about content. (PR)

- Chinese immigrant parents to the U.S. or Canada may value literacy and create home environments that promote an awareness and understanding of print in young children, just as many ethnic majority parents do. However, they may place more value on correct

reading and spelling technique as well as comprehension of readings than on shared reading activities. (PR)

- Chinese children enter school having had a great deal of exposure to the print, possibly in both Chinese and Pinyin, in their environment. The majority of them have already formed some ideas about the way in which print works without having had any formal reading instruction. (PR)

- Phonological awareness is an important skill for young Chinese readers just as it is for young readers of alphabetic languages. Phonological awareness in children as young as 2 and 3 years old had a significant relationship to the students' reading abilities in elementary school. Early assessment of a child's phonological awareness skills can help to predict whether a child will be an at-risk reader later on. (PR)

- Phonological awareness appears to have a reciprocal relationship to reading ability in Chinese, as it does in English. A certain amount of phonological awareness improves reading ability in Chinese, but reading ability in Chinese also benefits a child's phonological awareness. (PR)

- Chinese children are usually not taught how to use the phonetic component in compound characters to derive the pronunciation of the character. They tend to develop this ability through exposure to large amounts of text. Children with greater language abilities (e.g., more developed phonological awareness) tend to be able to derive the pronunciations most easily. Regular Chinese characters - those where the phonetic component provides the pronunciation of the character—are the easiest to figure out. (PR)

- Morphological awareness, which also appears to have a reciprocal relationship with reading ability, may be the most important metalinguistic skill for learning to read Chinese because of the structure of the Chinese language. The relationship between morphological awareness and reading Chinese appears to continue even after a child is beyond the initial stages of reading. (PR)

- Young bilingual Chinese children in the U.S. tend to bring what they know about Chinese syllable structure into English reading. Over time and with more exposure to English they tend to become more like native English speakers in the way they break words into parts. (PR)

- Young pre-readers and readers benefit from training in both morphological and phonological awareness where the relationships of sounds and symbols are made more explicit. Morphological awareness training may not benefit students until they encounter more compound characters in texts. (PR)

- Language-minority children who spoke Naxi and were in "bilingual" classes performed better than their counterparts in a Chinese-only classroom based on final fall semester grades.

Context of the Country/Language/Education System

China has approximately fifty-six minority nationalities, with further linguistic groupings within these predominant groups, making up about 8% of China's total population (Jing, 1997). These nationalities have their own oral languages that are completely different from the main dialects of other areas of China. A few of these minority groups also have a written system, though the extent of its use may be negligible (e.g., Naxi). These ethnic minorities are spread across China in various autonomous regions (provinces) and states within provinces. A description of the educational models used in these autonomous regions is presented in the section entitled "Native Minority Languages and 'Bilingual' Instruction in China."

Languages Used
Although the Mandarin dialect is the official language of the People's Republic of China (PRC), and is often referred to as simply "Chinese," there are many other regional oral dialects, in addition to the many minority group languages (see Figure 1). Written Mandarin, in the People's Republic of China, varies from that of Taiwan; the PRC employs the simplified version of Mandarin rather than retaining the traditional complex character style still used in Taiwan.

For students outside Beijing, teachers speaking the dialect of their region may mediate the first formal introduction to academic Mandarin. Dialects in China vary to a greater degree than the regional differences found in spoken English in the United States. Many Chinese dialects differ to the extent that one group is often unintelligible to another. Therefore, the majority of students in the rest of the country are orally bilingual, speaking their own dialect as well as learning Mandarin (Beijing Dialect) as the national language. Additionally, the population of Hong Kong currently uses Cantonese, a separate dialect from Mandarin with nine tones (instead of 4 tones in Mandarin). However, Mandarin is likely to grow in usage in the southern areas of China due to political changes and current educational policies on the use of Mandarin.

Language Description
Before describing the language context further, it is appropriate to describe the language itself because this lays the groundwork for understanding the studies in each of the sections. There are a number of words that can be used to describe the structure of the Chinese language, from "Geons" to "radicals." In the discussion here, we limit the words we use to those most commonly appearing in the literature.

Chinese characters are composed of radicals. A radical, also referred to as a component, is a series of one or more strokes. Some Chinese characters have one radical and others have more than one (see Figure 2). Other characters look like what they represent, usually from historically reproduced pictographic representations that were altered somewhat over time but that retain some of the characteristics of the original picture. Related to these are ideographs, which visually represent an idea. Ideographic compounds are two ideographs used together. Radicals are generally one of two types, ones that may give clues to the meaning (i.e., semantic radical) or the pronunciation (i.e., phonetic radical) of a character. Characters composed of both semantic and phonetic radicals are called phonetic compound characters. Below, each character example is given with the Pinyin pronunciation (e.g., ren, shan) (see Figure 2).

Figure 1. Linguistic Groups in China

China

1

2

3

2

5

4

7

7. **Southern Sino-Tibetan Dialects**

Gan   Hakka
Min   Wu
Xiang Yue

6

1. **Altaic Dialects**
  Mongolian (8) and others

3. **Indo-European**
  Tajik
  Turk
  Kazakh
  Uygur
  Kirghiz

2. **Mandarin**
  Northern, Eastern and South-western

4. **Tibetan**
  (14)

5. **Altaic**
  Korean

6. **Southwest Groups**
  Mon-Khmer (23)
  Miao-Yao (33)
  Some Tibetan
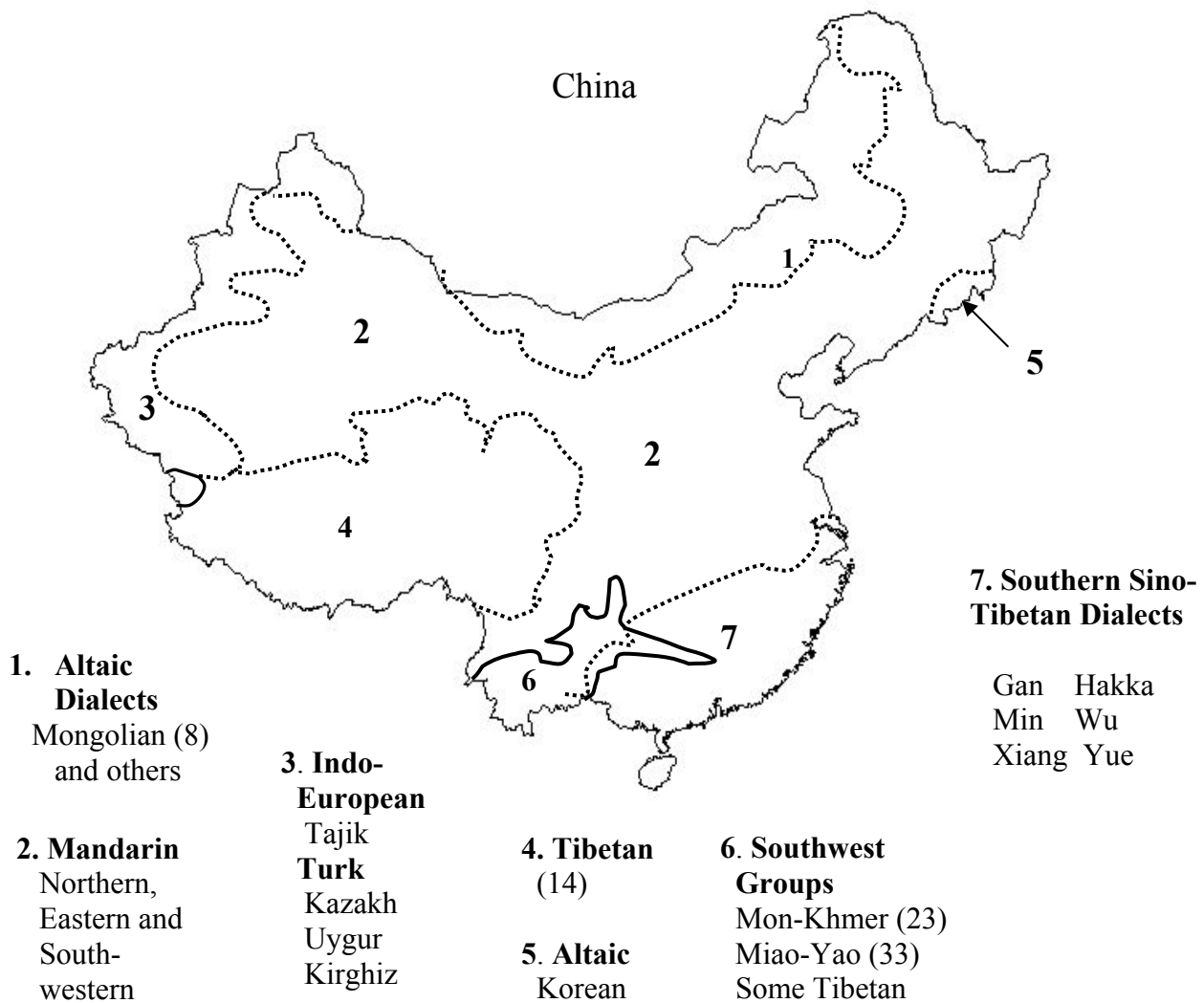
Boundaries in the map are general areas of language group predominance. The numbers next to some language groups are the number of languages in that category based on information from Ethnologue (2002). The number of languages does not take into account the number of all dialects/variations within each group.

Figure 2. Chinese Characters

Characters are made up of one or more radicals in the space of a small rectangle:

One radical characters   Two radical characters

人   山   仙
ren   shan   xian
(person)   (mountain)   (means immortal)
                                           person and mountain

工   木   林
gong   mu   lin
(work)   (tree)   (means woods)
                                           two trees together

> Some characters have radicals left to right as shown here. Others have radicals that are positioned above, below, or around another radical. Some radicals look different when they are grouped with another radical ('man' in word 'xian').
>
> Usually the phonetic radical is on the right side of a character, but this is not always true.

Some Character Types

Pictographic- looks like   **Ideographic:**
what it represents: represents an idea:

人= (person)   一   二   三   中
  looks like a   yi   er   san   zhong
  person walking   1   2   3   middle

> Many semantic characters do not directly illustrate their meanings (e.g., 我= I / me, 友= friend).

**Ideograph   Phonetic
compound:**   **compound:**

林   仙
lin = woods   xian = immortal

two trees together   'person' (changed slightly
                                   from character above and
                                   'shan' the radical for
                                    mountain as the phonetic

> The phonetic in the phonetic compound here only gives a clue to the pronunciation. Some phonetics give the complete sound for a character, and some give no helpful information.
>
> The least common characters have more reliable phonetic information. Commonly used characters are less reliable.

Radicals vary in how consistent they are in providing useful meaning and pronunciation information for the reader. The phonetic information is much less helpful with high frequency characters. For example, 26% of the high frequency characters actually have a pronunciation consistent with their phonetic component. With low frequency characters, or characters less used in Chinese, the likelihood of the phonetic component giving consistent pronunciation information increases to 60% (Perfetti, Zhang & Berent, 1992; Shu & Anderson, 1999). In contrast, a reported range of 14-46% of characters has semantic radicals with a clear relationship to the meaning of a character.

Spaces between characters in Chinese do not mark the beginning and ends of words as they do in English (see Figure 3). Chinese characters instead correspond to individual morphemes rather than words.

Figure 3. Spatial appearance of English and Chinese "Words"

Spaces divide words in English.   In Chinese, 我是中国人= I am Chinese.

Characters are not typically separated into words by spaces. Usually 1 to 3 characters make a 'word' in Chinese.
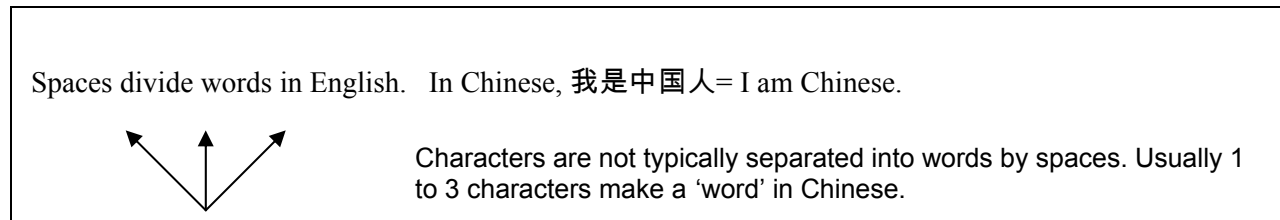
Also, unlike English, which allows for many consonants to be strung together patterns are more limited, with a large number of homophonic characters (e.g., ma = horse, ma = mother) that sound alike. However, these few acceptable Chinese patterns (Vowels, Consonant -Vowel, Vowel - Consonant, and Consonant – Vowel – Consonant) have the added variation of tones that greatly expand the number of possible sounds corresponding with each morpheme.

National Curriculum

Across China, the reading instruction found in elementary classrooms is fairly consistent. Chinese has a functional vocabulary of approximately 3,000 characters required for basic literacy. The task of teaching children how to read these beginning 3,000 characters is a predominant concern of officials and educators in China, inherent in the content and goals of the National Curriculum. This curriculum, although not forced on educators, is used primarily because there is a lack of alternatives (Wu, Li & Anderson, 1999). The goals set by the government for each grade are detailed, describing how many characters are to be learned and what level of processing of text should be attained in each grade. These goals are described under the section on elementary grade expectations.

For extensive reading to take place, children need access to appropriate level materials in schools, bookstores, or community libraries. At this time, extra reading material is not available to many Chinese children. The Chinese government is trying to find ways to improve children's access to books, but this is a large task. Schools across China have class texts for individual courses in which students are enrolled, but many have few extra outside class reading materials on hand. About 80% of the children of China and 91% of 770,000 elementary schools are in rural areas where there are no bookstores (Liu & Chao, 1991). Second, even when there are bookstores, the cost of books is often prohibitive, even for parents with higher paying jobs. However, access to children's magazines is increasing. Chinese publishers are working to make children's reading material more affordable, often working with local post offices to distribute children's magazines at much lower prices (Louie & Louie, 2002).

Other efforts to increase access to reading material for children and adults in China include programs such as "Adopt A China's Rural School Library Project" and the "China Rural Community Library program" (Liu & Chiao, 1991). These projects aim to improve China's rural education with funds to rural libraries from overseas Chinese and other interested groups (e.g.,

Education and Science Society, ESS). The first program funded rural libraries for 47 schools in seven provinces, including thousands of books and other reading resources. The second program worked in 16 provinces establishing community libraries and providing anywhere between 10,000 and 15,000 books, magazines and other materials published in China, for populations that otherwise would not have access to them.

A Typical Reading Lesson in China

Traditional classes usually have the teacher standing on a raised platform at the front of the room. A class of about 50 students sits in rows at desks where they remain for the entire class, unless asked to come to the board or to stand individually or collectively. The teacher may structure lessons around the following class activities: teacher reads aloud, class reads aloud in unison or silently, subgroup reads aloud, class copies words posted on board, teacher asks questions, class writes or orally answers questions individually at their desks or individually at the board, students justify their responses with some evaluation of responses by the class. These basic elements are usually carried out with an emphasis on drill and practice, though with variety in how this is done (Wu, Li, & Anderson, 1999). Some teachers will adjust the activities in response to class dynamics and interest level. There may also be certain adjustments made in the dialect of instruction, with some Chinese teachers choosing to use the same materials and methods with all children regardless of primary dialect (Sheridan, 1992).

A typical comprehension lesson often starts by the teacher reading the whole text aloud and presenting general content. Students are then asked to find new characters. These are taught one by one. The teacher then leads students in a close reading of each sentence and ensures comprehension by asking checking questions and providing explanations of the text. This is generally followed by a summary of the main ideas, either by the teacher or students, and potentially more questions if the teacher feels it is necessary. Then, students read or recite the whole reading aloud several times (Wu et al., 1999). This typical lesson may have variations in activities, as noted in the description of general reading classroom activities.

According to western reading skill taxonomies, that aim to incorporate more critical thinking skills, the Chinese reading classes tend to emphasize lower level comprehension (Wu et al., 1999). Comprehension activities mainly require students to be able to fill in a question blank with one correct answer. Student generated questions are rarely encouraged. Classrooms are also characterized by very little silent reading. Instead, there is semi-memorization of text through repeated text reading, some peer tutoring, and a large amount of oral reading both by the teacher and the students (Sheridan, 1992).

Chinese subjects are typically not separated into Spelling, Reading, and Writing, but rather integrate reading, language arts, spelling and handwriting in one book (Sheridan, 1992). Other general classroom characteristics include the use of visual, auditory, kinesthetic and tactile methods in the initial teaching of characters.

Preschool Educational System in China

According to one source, there are no government preschool programs that focus on preparing children to read (Greenwood, 1992). However, there do exist some public and private schools

not mentioned in the literature that offer preschool opportunities for an additional fee. These are not mandated programs and may not be available to every child in every geographic area. The curriculum for kindergarten outlined by the Ministry of Education (now the State Education Commission) gives requirements for language abilities, mainly oral and aural. According to this commission, at the end of kindergarten (age 6-7) children should be able to:

1. Use Mandarin in daily spoken communication with correct pronunciation
2. Use certain words in each part of speech (e.g., noun, verb, etc.)
3. Use Mandarin to clearly answer questions and express their own thoughts and demands.
4. Use newly learned words in explanations and be able to completely and coherently explain the content of pictures.
5. Understand content of stories, poems, and songs and remember main plots of stories, and recite 24-30 poems or songs. (Greenwood, 1992)

There is also the desire to cultivate a love of reading and story telling, and to develop their listening so that they are able to listen to children's broadcasts. Although these requirements are held as ideals for all areas of the country, there are rural and urban differences that interfere with having the same teacher quality and physical conditions in more remote areas, especially those areas with minority populations. Many rural children do not attend kindergarten, and as a result are exposed to less oral/aural training and do not enter elementary school with the same reading preparation.

Pre and Initial Character Instruction Approaches
Teachers in China use specific steps to initially introduce characters and reading to students in various contexts. Chinese speaking students from the PRC may have had Pinyin training, a Romanized system for representing the sounds of the Chinese language, while those in Taiwan have "Zhu Yin Fu Hao," (i.e., "bo po mo fo"), a non-Romanized symbolic phonetic system to teach Chinese (Ho & Bryant, 1997). Depending on where they are from and their first native dialect students in China may receive different initial introduction to characters. Cantonese speaking students in southernmost China generally do not have training in Pinyin as do Mandarin dialect speaking students. Although the Hong Kong Linguistic Society has developed a system called "Jyutping" for Cantonese, it is not being used (Bertelson, Chen, & deGedler, 1997). (See Table 4 for a summary of approaches by Chinese speaking areas.) Further, Cantonese speaking students from Hong Kong apparently receive instruction comparable to the concentrated method (described below).

For Chinese language education provided in other places (e.g., North America), other methods are being developed and tested. Chow and Lam (1995) suggest their method, which combines Pinyin and Zhu Yin Fu Hao, for American learners of Chinese. Also, a Chinese bilingual program for children in Edmonton, Canada in partnership with the Language Research Institute at the University of Calgary is conducting research on the linguistic impact and pedagogical value of Zhu Yin Fu Hao and Pinyin. The results are expected in spring 2004 (Dosdall, 2001).

Historically, there have been three methods of character instruction in China: (1) Concentrated Approach, (2) Diversified Approach, and (3) Pinyin. These approaches are briefly described in Table 4 below. The Concentrated character approach was then overtaken by the Diversified

approach in the 20th century, followed by a second wave of interest in the concentrated character method (Wu et al., 1999). A new method called "Pinyin" was developed in the 1980s. This is largely the method of choice today.

Table 4. Initial Instructional Reading Practices in Chinese Speaking Areas

Area	Initial Instructional Reading Practices in School	Articles Referenced
Majority of China	Alphabet letter learning Phonetic alphabet learning Syllable recognition Use of Pinyin Introduction of first characters- single element followed by compound characters. Memorization of characters shape, way of writing it, meaning, pronunciation, and Pinyin. Usual steps: pronounce it, discriminate it from other characters, write it 'in the air,' rehearse the order of strokes, analyze the structure, and explain the meaning. Stories are often told to help with memorization.	Hudson-Ross & Dong (1990) Wu, Li & Anderson (1999)
Hong Kong	No Pinyin taught generally Introduction of characters, usually using the concentrated method: explanation of characters around categories such as sound, shape and meaning. Or, related stories to specific characters to aid students in memorization. "Jyutping," a phonetic system for Cantonese, has been developed, but it is not currently in use.	Ho & Bryant (1997) Bertelson, Chen, & de Gelder, (1997)
Minority Regions in China	Phonetic system of first language taught Pinyin taught (see first steps under majority of China) Introduction of characters (more here with reference to two models)	Lin (1997) Feurer (1996)
Taiwan	"Zhu Yin Fu Hao" Chinese speaking students from Taiwan are taught phonetic aspects of Chinese using this different non-Romanized symbolic system.	Ho & Bryant (1997)

Concentrated Approach: Organize the teaching of characters around meaningful categories, teaching characters first, then having students practice the characters in meaningful texts. Some use of categories, such as grouping by the phonetic component (part of the character that gives information as to the sound of the character).

Diversified Approach: This approach emphasizes that "a character is in a word, a word is in a sentence, and a sentence is in a paragraph, and assumes that new characters can be learned gradually while reading, provided the linguistic context is helpful."

Pinyin: This method uses an alphabetic script that represents the syllables of spoken Chinese (e.g., ma). It is taught during the first 10 weeks of first grade. It is also often written above Chinese characters in books as an aid to pronunciation
                                                    (adapted from Wu et al., 1999)

Teachers who use the concentrated method of teaching characters organize the introduction and explanation of characters around categories such as sound, shape and meaning. They may relate stories to specific characters to aid students in memorization. Lastly, they may teach how to analyze and decompose a character by looking at its specific parts.

Elementary Grade Expectations
In the first weeks of first grade, students in the PRC are taught Pinyin. In addition to learning Pinyin, first graders in the PRC are also required to master 400 characters, pronouncing, reading and writing their correct stroke order with beginning ability to use these in composition. By the second grade students are expected to master 750 characters, develop understanding of synonyms and antonyms, and start to use dictionaries. In third grade, the number of characters mastered should approach 3,000, with increasing skills in these other areas of dictionary use. In grades 4 - 6 vocabularies continue to expand, with an additional concentration of at least 800 new characters mastered, and increasing skills in dictionary use and in discriminating words.

Other general reading goals exist for grades from 1-6. In grades 1-3, students generally work toward understanding word, sentence level, and paragraph level texts as improving comprehension and summary skills. In grades 1 and 2, student texts may still include Pinyin to facilitate the learning of new words. In grades 4-5, students continue to build on their reading skills by focusing on main words, and main idea sentences in paragraphs and multi-paragraph texts. In sixth grade these skills are further developed to aid in inferences and understanding the mood of age-appropriate texts.

Relationship of Research to Original Literature Review Questions

The basic description of reading development had to be altered slightly to fit the unique characteristics of the Chinese language, such as expanding the definition to include morphological awareness and general phonological awareness rather than emphasizing phonemic awareness alone, and accounting for the role of a phonetic system of representation in learning characters which varied across Chinese speaking areas. Still our literature review produced several findings of relevance.

Emergent Literacy
As originally defined, this stage of reading development includes phonemic awareness, segmentation, print awareness and how books work, forming story parts (i.e., beginning, middle,

and end), the idea that symbols represent something else, and use of pictures. We recognize that this stage may include formal (preschool) or informal (home) settings. The primary change in this definition for Chinese is due to the fact that Chinese does not have as direct a phonemic correspondence to its orthography as alphabetic languages do. For example, Chinese is not represented by letters that can be used to decode words. However, Chinese readers do use phonetic components as clues to derive the pronunciation of characters. These clues are not consistent, but may provide useful information for roughly 39% of compound Chinese characters (Zhou, 1978 cited in Perfetti and Zhang, 1995), compound characters making up about 82% of all Chinese characters. While there still are phonemes in oral Chinese, we adjusted our terms in some areas of discussion to 'phonological awareness' in order to categorize the sound correspondences in reading Chinese.

Other aspects of our original definition of emergent literacy do apply to Chinese, as we see in findings on home literacy. Studies showed that Chinese learners, like English learners, often have an awareness of which way a paper needs to be oriented to be 'right side up' (Polland, 1993) and can identify the correct orientation of individual characters (Miller, Frosch, Kelly and Zhang, 2000, cited in Miller, 2002), though this is limited to scripts familiar in a child's environment. Chinese children who have not had exposure to English letters may not be able to rightly orient alphabetic script, though some children with pre elementary exposure to Pinyin may have this early awareness. Another interesting difference for Chinese learners appears to be a more developed sensitivity to details of print, with apparent emphasis on approaching characters graphically (Stephanson, Pine, and Melzer, 1990). Children approaching characters more graphically may attend to characters more holistically at earlier stages of their development. An English-speaking student may attend to a whole word, or to potential roots and affixes if trained to do so, whereas a Chinese student may see the whole character or attend to individual semantic or phonetic components in various positions within a single character.

Fluency/Automaticity in Reading
We originally defined fluency/automaticity as the step of initial reading instruction that includes the decoding of words, or instruction in character recognition in non-alphabetic languages. For this project, this is considered to be formal instruction in a school setting.

For the development of reading fluency or automaticity, most of the literature described reading development as (1) early steps of children acquiring Pinyin or Zhu Yin Fu Hao, followed by (2) several years of studying and memorizing an estimated 3,000 characters needed by third grade. Some studies addressed the ability of students to acquire new characters through morphological awareness (Shu, Anderson, & Zhang, 1995; Shu & Anderson, 1997) and extensive reading (Anderson, Wilson, & Fielding,1988, cited in Anderson, Gaffney, Wu, Wang, Li, Shu, et al., 2002; Anderson, Gaffney, Wu, et al., 2002, Tong & Zhang,1997)**.** However, decoding in the sense used in English speaking contexts does not apply to Chinese. Instead, successful learners use their ability to decompose characters into their components. For example, there are phonetic components within characters that give helpful – though at times inconsistent – clues to the pronunciation of a character. Morphological awareness is emphasized in Chinese reading development, in that the semantic part of a character often gives clues to the meaning of a Chinese character.

Learning the patterns of components that may be combined to create acceptable characters is a process usually started with students in the first grade, with students approaching characters as memorized chunks. Then they may progressively incorporate more analytic strategies of using phonetic and morphological information as they learn more characters. This process of dealing with characters as wholes then pieces may be more an artifact of how characters are taught, or may in fact be a developmental stage independent of instruction. However, the fact that students are exposed, in the early grades, to high frequency characters that are generally less consistent perhaps encourages students to use a more holistic approach rather than an analytic one. It is generally after the first and second grades that students begin to be exposed to the lower frequency characters that are more consistent in their phonological clues.

Content Reading

Content reading was defined as a stage that emphasizes comprehending text for a purpose, either to get information or knowledge of academic content areas. This involves more academic understanding of how text is organized (e.g., main ideas and supporting ideas). This description of the "Content Reading" stage does not need to be altered to fit the Chinese reading context, except to perhaps add more specific areas of reading development under the umbrella term of 'content reading.' For example, while few studies directly focused on the teaching of comprehension, there were other studies more broadly distributed across topics such as vocabulary development, extensive reading, schema theory, and addressing how text is presented to students in speeded reading activities (Mo,1999). Because our initial definition was not meant to be comprehensive of every aspect of reading development in English or Chinese, but rather a general and flexible guideline, it is suitable to add these specific categories here under general content reading.

Early Childhood Literature

Studies Included in Early Childhood Literature Review

Table 5 shows the six studies relevant to early childhood; all of them were written in English. Four of them were subjected to peer review. These studies were also listed in Table 2, but are repeated here for clarity. An analysis of the scientific design of the four that are peer reviewed is presented in Appendix F. These studies are not experimental in nature: one is based on a survey (Zhang et al., 1998), two are descriptive (Anderson, 1995; Polland, 1993) and the fourth is based on observational data (Stephanson, et al., 1990). None of them address the effectiveness of a particular reading intervention.

Table 5: Peer Review Status of Early Childhood Literature

Author & Date	Book/Journal Name	Peer Review
Miller, Frosch, Kelly, & Zhang (2001 cited in Miller, 2002)	*Chinese Children's Reading Acquisition: Theoretical & Pedagogical Issues*	Book
Shu, Li, Anderson, Ku and Yue (2002)	*Chinese Children's Reading Acquisition: Theoretical & Pedagogical Issues*	Book
Zhang, O'Llila & Harvey (1998)	*Canadian Journal of Education/Revue Canadienne de l'Education*	Yes
Anderson (1995)	*Reading Horizons*	Yes
Polland (1993)	*Yearbook/Claremont Reading Conference*	Yes
Stephanson, Pine, & Melzer (1990)	*Yearbook/Claremont Reading Conference*	Yes

Main Findings on Chinese Early Childhood

The main findings from the review of Chinese early childhood literature are summarized here. Those findings that come from at least one peer-reviewed article are marked by (PR). More detailed descriptions of findings follow.

Home Environment
- Early learning of characters has an important relationship to later Chinese reading ability.

- Shared parent-child literacy activities (which are related to the availability of reading materials in the home) do play a significant role in a Chinese child's reading ability, but the effect may be variable depending on the age of the child.

- Chinese immigrant parents to the U.S. or Canada may value literacy and create home environments that promote an awareness and understanding of print prior to their child's entry to kindergarten, just as many majority parents do. (PR)

- Chinese immigrant parents to the U.S. or Canada may hold a more traditional view of reading instruction than other groups of parents. They may place more value on children's correct reading and spelling technique as well as comprehension of readings than on shared reading activities that are valued by educators. (PR)

- Teachers of a first or second language should account for parents' attitudes and practices relating to reading when designing instruction and communicating with parents. (PR)

Print Awareness
- Chinese children enter school having had a great deal of exposure to the print in their environment. The majority of them have already formed some ideas about the way in which print works without having had any formal reading instruction. (PR)

- If Chinese children have had exposure to two different writing systems in the environment, they may have formed ideas about both writing systems. (PR)

Relationship of Early Childhood Research to Original Literature Review Questions

Our original research question focused mainly on components and stages of pre-literacy in young children. Some of the studies in this section relate to print awareness, which was one such component of pre-literacy that we had listed. The others largely relate to something that was not in the definition--environmental characteristics of the family and home that may influence early literacy development. The pieces relating to environmental characteristics are helpful for teachers because they give an indication of literacy beliefs and practices among some Chinese parents that might be different from those in a U.S. school. Having an understanding of where differences in values may occur enables better communication between educators and parents.

Home Environment

One theme running through the early childhood articles was the importance of the home environment and of parent-child literacy activities in developing reading abilities in children. A study by Shu, Li, Anderson, Ku and Yue (2002) took place in Beijing and another study on home environments, by Zhang, O'Llila and Harvey (1998) took place in Canada. Both studies found that the home environment was an important factor in the development of reading skills, but the studies examined different types of factors. Shu et al. (2002) developed a parent questionnaire that looked at four areas related to home literacy: literacy resources in the home, shared parent and child literacy activities, parents' education level, and the children's' performance on reading assessments given at the end of first grade. The reading achievement scores were used as a measure of reading outcomes. Only the shared parent and child literacy activities had a significant relationship to the reading outcomes. The availability of literacy materials in the home was not significant by itself, but did contribute to the kind of shared parent-child activities that were found to be significant. Another factor found to have a significant relationship to reading outcomes, even among less educated families, was the age at which parents taught their children to read Chinese characters. The researchers found that the children who learned to read some characters early were more likely to have higher reading achievement. When the same children's reading achievement was measured again at 4th grade, the children who developed early reading skills still had higher levels of reading achievement. While parent-child reading activities and early teaching of characters were found to be the most important factors, other factors such as being read to at a younger age, having magazines and newspapers in the home, and spending time reading independently were also found to have a relationship to increased reading achievement.

Zhang et al. (1998) did a study of immigrant parents from Hong Kong, the People's Republic of China and Taiwan in the Vancouver and Victoria areas of Canada. Both of these cities are large urban areas in British Columbia that have high numbers of Chinese immigrants. Based on initial interviews with recent immigrants, the researchers created questionnaires about literacy beliefs and practices that were administered to a larger set of parents. Zhang et al., asked about the age when parents first read to their children, when the child first showed an interest in literacy activities, parents' educational level and other general questions about the children's abilities in both Chinese and English. The researchers found that, contrary to what some educators believe, immigrant parents did hold high expectations for their children's education in the new country and were able to create rich home literacy environments that supported learning in the second language. Of the parents in the study, the majority (78%) valued reading to their children before

the children started school. Parents with post-secondary education backgrounds started to read to their children as much as one year earlier (starting at age 2 and a half to 3 years) than parents who had a high school education or less (starting at ages 3 3/4 years to 4 years).

Consistent with the findings on native-English speaking children, the majority of the Chinese immigrant parents (79%) had children who showed interest in literacy practices and a well-developed understanding of the concept of print prior to starting kindergarten at age 5. In fact, forty parents (46%) indicated that their child developed an interest in reading and writing much earlier at age 2 or 3. Consistent with the parents' high expectations, most Chinese parents in Zhang et al's study reported a strong desire for their children to learn to read equally well in English and Chinese. Throughout the article, the researchers emphasized that while one cannot attribute all variations in student outcomes to cultural values and practices, educators of immigrant children should understand the differences in literacy practices and attitudes across cultures represented by their students. "Cultural background is an essential part of personal identity that interacts with the education one receives in a certain society" (Zhang et al., 1998, p. 182)

A third study by Anderson (1995), also conducted in Canada, adds another perspective on parents' values about literacy that compliments the previously mentioned articles from peer reviewed journals. The researchers conducted interviews with parents from three different native language groups: Chinese immigrant parents, parents who spoke Punjab and had emigrated from India, and native English speaking parents from Canada. Findings indicated different literacy values across groups. Chinese parents with high amounts of literacy did not appear to practice shared reading experiences with their children as much as parents from the other two groups. The Chinese parents who participated also indicated that they placed less value on shared reading experiences and more value on their children's' correct performance in reading (e.g., printing technique, spelling, story comprehension). This finding did not hold true across the other two language groups. The authors recommended that educators take into account the different views of parents from particular cultural backgrounds when promoting literacy activities in the home.

Awareness of Print
Earlier studies mentioned that young Chinese children typically have an awareness of print prior to age 5. Three studies about young Chinese children examined exactly what children knew about print prior to having extensive reading instruction. Miller, Frosch, Kelly and Zhang (2001, cited in Miller, 2002), examined the general abilities of children in recognizing features of written text before the children started formal schooling. They believed that children who had not been exposed to the writing system of a language would not be successful at identifying the correct orientation of writing. The study, conducted with both native Chinese-speaking children in Beijing and native-English speaking children in the United States, required subjects ages 4 and 5 to identify words written correctly and those with a reversed orientation. Participants were asked to perform similar tasks with both Chinese and a combination of Pinyin and English.

The researchers found that even young children with no formal literacy instruction had developed enough familiarity with the writing system they had been exposed to in their environment to know when elements were written with the wrong orientation (i.e., right to left versus left to right). As children grew older there was a significant improvement in their abilities.

The Chinese participants from Beijing were not as successful in identifying the correctly oriented letters in English or Pinyin because most had not yet been exposed to either one a great deal. Similarly, the U.S. children were much less successful on the tasks relating to characters because of their lack of exposure to Chinese writing. It should be noted that these research findings cannot be generalized to all Chinese or all native English-speaking children. Children in Hong Kong, where English is an official language, or children living in large urban areas where there is more English print in the environment, might have different success rates with such a task and English-speaking children who live in areas where there are many Chinese people (e.g., San Francisco, Vancouver, Toronto, New York) may also have had different levels of exposure to written Chinese.

The work of Polland (1993) appears to corroborate at least some of the findings of Miller et al. (2001). Polland studied young children ages 2-4 who were attending preschools in the U.S. or China but who had not received any formal reading instruction. Polland found that Chinese and English speaking children could place pictures, characters and Roman letters in the "right side up" position with about the same amount of success. Unlike the children in Miller et al.'s study (2001), Polland's subjects still had some success with the task even when Chinese speakers were looking at English script using Roman letters and when English speakers were looking at Chinese script. Polland speculated that Chinese speakers from the PRC have fairly frequent exposure to both Pinyin and to words written in English and that this exposure helped Chinese children orient letters correctly. He also hypothesized that American children had some success orienting the Chinese characters either because of an "internal logic" to the correct orientation or because there were some characteristics of the print that gave clues (e.g., thickness of lines). While the Polland study included a task that was different from that used by Miller et al. in several ways (e.g., children were shown individual letters or characters and told to orient them correctly so they had a 25% chance of getting the orientation right, pictures were used along with letters and characters), the results nonetheless indicated that the young children studied were highly aware of the print in their home and community environment and had developed some ideas about print without having been formally taught to read. This finding has implications for both native speakers and non-native speakers of a language when they are attending a reading class in elementary school.

Chinese children may use some strategies to help them understand the orientation of print that rely on fine visual discriminations. Stephenson, Pine and Melzer (1990) asked participants ages 3-6 to perform a number of tasks, but two are described in detail. First, young children were asked to identify missing portions from one character in a set of characters that were otherwise identical except for the size. Second, they were asked to pretend to write a letter on a piece of paper. On the first task more than half of the 3 and 4 year olds and 85% of the 5 and 6 year olds could correctly identify characters that were missing a portion. Children were observed to do a stroke-by-stroke analysis of each character on the page to find the one that was different. To the researchers, this behavior showed that the children had both the visual skills and the focused attention needed to notice fine distinctions in writing. As evidence of this, sometimes the subjects' indicated the wrong character as incorrect because of extra marks on the paper that were created during the photocopying process.

Results of the second task showed that preschool-age children were able to make marks on paper that looked remarkably like Chinese characters in form, although the marks had no meaning. All of the children in the study showed attention to detail in print that would well serve them when they began to recognize characters, some of which share components.

Early Childhood Literature Conclusion

Two of the major findings of the studies of early childhood literature parallel findings of research on English–speaking children: (a) that children have an early awareness of print based on exposure to text in the environment and that they develop some theories about print even when they have not been instructed in reading; and, (b) that shared parent-child reading activities can play an important role in a child's reading ability.

Some of the findings that may be specific to the Chinese population are: (a) Young Chinese children have well developed visual skills and pay close attention to fine distinctions in the way that characters look even when they have not been instructed in reading; (b) Some Chinese children may have had two writing systems, both Chinese and English or Pinyin, in their environment and may have formed some initial ideas about how the writing systems work based on this exposure; and (3) Some Chinese parents may hold different views about what constitutes reading instruction and about what their own role should be in helping their children learn to read. Teachers should be familiar with these views so that they can better communicate the values of the school to parents.

Relationship of Metalinguistic Awareness to
Learning to Read in Chinese

Studies Included in Metalinguistic Awareness Literature Review

A number of researchers have conducted studies on the role of metalinguistic awareness in beginning to read Chinese. Eight of them have published articles in English in U.S. journals that could be used in their entirety. Four studies were published in books on Chinese reading acquisition, written in English, and were also used in their entirety. Table 6 indicates the peer review status of these 12 articles (for more information see Appendices B and G). In Appendix F, an analysis of the scientific design is provided for the studies in Table 6 that are peer reviewed.

Table 6. Peer Review Status of Full Text Metalinguistic Awareness Articles

Author & Date	Journal Name	Peer Review
Li, Anderson, Nagy & Zhang (2002)	*Chinese Children's Reading Acquisition: Theoretical & Pedagogical Issues*	Book
Nagy, Kuo-Kealoha, Wu, Li, Anderson, &Chen (2002)	*Chinese Children's Reading Acquisition: Theoretical & Pedagogical Issues*	Book
Wu, Anderson, Li, Chen, & Meng (2002)	*Chinese Children's Reading Acquisition: Theoretical & Pedagogical Issues*	Book
Gottardo, Yan, Sieger & Wade-Wooley (2001)	*Journal of Educational Psychology*	Yes
McBride-Chang & Ho, (2000)	*Journal of Educational Psychology*	Yes
Shu & Anderson (1997)	*Reading Research Quarterly*	Yes
Shu & Anderson (1999)	*Reading Chinese Script: A Cognitive Analysis*	Book
Shu, Anderson, & Wu, (2000)	*Journal of Educational Psychology*	Yes
Ho & Bryant (1997a)	*Reading Research Quarterly*	Yes
Ho & Bryant (1997b)	*Developmental Psychology*	Yes
So & Siegel (1997)	*Reading & Writing: An Interdisciplinary Journal*	Yes
Hsia (1992)	*Applied Psycholinguistics*	Yes

The 12 articles in Table 6 are all correlational in nature and do not address a specific reading intervention. They form the basis of this discussion.

Information from six additional articles (see Appendices B and G for more information) that are written in modern Chinese is used to supplement the findings, although the articles were not fully translated into English. Table 7 indicates that all 7 of these annotated articles are from peer-reviewed sources.

Table 7. Peer Review Status of Annotated Metalinguistic Awareness Articles

Author & Date	Journal Name	Peer Review
Li, Zhu, Dodd, Jiang, Peng & Shu (2000)	*Acta Psychologica Sinica*	Yes
Shu, Zhou & Wu (2000)	*Acta Psychologica Sinica*	Yes
Jiang & Peng (1999)	*Acta Psychologica Sinica*	Yes
Shu & Zeng (1996)	*Acta Psychologica Sinica*	Yes
Shu & Li (1994)	*Psychology Development and Education*	Yes
Zhou, Wu & Shu (1993)	*Psychological Science*	Yes

Main Findings on Chinese Metalinguistic Awareness

The main findings from the review of Chinese metalinguistic awareness literature are summarized here. Those findings that come from at least one peer-reviewed article are marked by (PR). More detailed descriptions of findings follow.

Phonological Awareness
- There appears to be a general underlying phonological awareness in children that is not dependent on speaking a particular language. (PR)

- Phonological awareness is an important skill for young Chinese readers just as it is for young readers of alphabetic languages. Phonological awareness in children as young as 2 and 3 years old had a significant relationship to the students' reading abilities in elementary school. (PR)

- Phonological awareness appears to have a reciprocal relationship to reading ability in Chinese, as it does in English. A certain amount of phonological awareness improves reading ability in Chinese, but reading ability in Chinese also benefits a child's phonological awareness. (PR)

- Chinese children are usually not taught how to use the phonetic component in compound characters to derive the pronunciation of the character. They tend to develop this ability through exposure to large amounts of text. Children with greater language abilities tend to be able to derive the pronunciations most easily. (PR)

- Phonological awareness may be critical in developing orthographic-phonetic correspondence (OPC) rules in Chinese. Not all children easily develop an understanding of OPC rules and sometimes interventions are needed. (PR)

- When characters are unfamiliar, Chinese children most easily derive the pronunciation of regular Chinese characters - those where the phonetic component provides the pronunciation of the character. (PR)

Morphological Awareness
- Many Chinese children are aware of basic issues regarding the morphological structure of characters. Morphological awareness enables students to learn incidental characters that are encountered during reading and may be the most important metalinguistic skill for students due to the structure of the Chinese language (PR)

- Morphological awareness has a stronger relationship to overall Chinese reading than other types of metalinguistic awareness.

- There is a causal, reciprocal relationship between a child's morphological awareness and his or her Chinese reading ability that continues past the early stages of learning to read. (PR)

- Older students who are better readers, and who are learning to read in their native language, appear to have more insight into the function of radicals. (PR)

Bilingual Children
- Young bilingual Chinese children in the U.S. tend to bring what they know about Chinese syllable structure into English reading, but over time and with more exposure to English they tend to become more like native English speakers in the way they break words into parts. (PR)

- The exposure that Chinese children get to spoken Chinese and the training they may get in phoneme segmentation can be an asset in learning to read in an alphabetic language such as English. (PR)

Interventions
- Early screening for phonological awareness in a child may be a good indicator of children at risk of reading difficulties in an alphabetic language. (PR)

- Young pre-readers and readers benefit from training in both morphological and phonological awareness where the relationships of sounds and symbols are made more explicit. Morphological awareness training may not benefit students until they encounter more compound characters in texts. (PR)

Relationship of Metalinguistic Awareness Research to Original Literature Review Questions

The research in this section addresses characteristics of the child as a reader rather than to methods of teaching reading to Chinese children. Metalinguistic awareness is "the ability to identify, reflect on, and manipulate language forms" (Li, Anderson, Nagy & Zhang, 2002, p. 88). Given that the language and metalinguistic skills of students influence the way in which a teacher designs a reading lesson, the research discussed here is relevant to teachers of reading in both the first and second language.

It is important to keep in mind when reading this section, that this research represents a portion of what is potentially available from Mainland China and Hong Kong. There may be other views on metalinguistic awareness that are not represented here. Furthermore, the reader is encouraged to remember that most of the research cited here was done the Beijing area of China. Students in other parts of the PRC may grow up speaking a language that they never learn to read and Mandarin may be a new language to them when they start school. The limited input some non-native Mandarin speakers may receive in Mandarin prior to learning to read and write the language significantly affects their phonological awareness and the depth of their understanding about sound-symbol correspondence as well as their morphological awareness (Koda, 2002; Shu & Anderson, 1997).

The Importance Of Phonological Processing Skills
Three types of phonological processing skills are related to learning to read in Chinese: phonological awareness, "phonological recoding in lexical access" (measured by the speed with which a child names a character) and verbal memory. Wagner and Torgesen (1987, cited in McBride-Chang & Ho, 2000) initially identified these three skills for readers of an alphabetic language like English. Most of the Chinese studies reviewed here deal with just one type of phonological processing skill—phonological or phonetic awareness. Phonological awareness is defined by Shu, Anderson and Wu (2000) as, "a child's working hypothesis about the relationship between speech and orthography in Chinese" (p. 57) and includes the ability to manipulate phonemic segments of speech. A body of Western research has documented the importance of phonological processing in children's ability to learn to read an alphabetic language such as English (for example, see Sawyer and Fox, 1991). Phonological awareness is thought to have a reciprocal relationship with English reading ability. Having phonological awareness skills makes reading easier, and doing more reading increases phonological awareness skills (Koda, 2002; Taylor, 2002). However, researchers in the reading field have typically thought that in a non-alphabetic language like Chinese, phonological awareness had little impact upon a child's reading ability. The research reviewed here refutes that theory and shows that even preschool age children who have not yet formally learned to read in Chinese are aware of sound-symbol relationships and begin to try to use them to help understand text.

Ability to Segment Oral Speech into Phonemes
The ability to segment oral speech into phrases, words, and syllables has been shown to play a vital role in learning to read in an alphabetic language like English. In English-speaking children, the segmentation of speech into words and words into syllables has been found to develop before the ability to segment phonemes. Hsia (1992) compared the ability of young Chinese children attending U.S. preschools to the ability of native English speaking preschoolers on a word segmentation task in English. In some of Hsia's earlier work she found that Chinese-speaking children progressed from segmenting phrases in speech to segmenting syllables to segmenting word boundaries over time. This earlier study showed that there appeared to be a different pattern for younger Chinese speakers than for older Chinese speakers. Those who could not yet read tended to segment at the phrase level while those who could read tended to segment at the word or syllable level. Hsia proposed that it would be easier for older children, those who attended both a U.S. preschool and a Saturday Chinese school and were learning to read Mandarin Chinese and English at the same time, to segment English words into syllables than it

would be for native Chinese speakers who were monolingual. This would be due to the bilinguals' exposure to Chinese speech with its different rules for syllabification and to early training in Chinese reading that involved training in phonetic representations of words. Hsia's findings indicated that, while all Chinese children in the study showed a sharp increase over time in their ability to segment words, some of the older Chinese children (age 5 ½ to 6) had developed a sensitivity to syllable boundaries. This sensitivity tended to make the English word segmentation tasks easier for the older students than they were for either the younger Chinese students or the native English speakers.

Speaking two languages was a benefit to second language acquisition. The older students who spoke two languages in Hsia's study scored high on the word segmentation task initially and their performance continued to increase. The younger Chinese students and the native English speakers tended to start out by segmenting phrases or syllables in speech instead of words and over a six-month period they progressed toward segmenting words, although to a lesser degree than the older bilingual children. Hsia hypothesized that the ability to segment syllables "plays a transitional role in young children's progress toward knowledge of interword boundaries" (p. 362).

Ability To Use Orthography-Phonology Correspondence Rules
A brief review of some salient characteristics of the Chinese writing system is helpful in understanding research relating to orthography-phonology correspondence rules. As noted previously, approximately 80% to 90% of Chinese written characters contain two components— a phonetic component that gives some information about the sound of the morpheme and a radical component that gives information about the semantic category of the morpheme. There are about 200 different radical components and 800 different phonetic components in Chinese (Hoosain, 1991 cited in Ho & Bryant 1997a).

Phonetic components can be characters with their own meanings when they are used alone or they can represent only sound and always be used as a phonetic component of a more complex character. A subset of the 80% to 90% of characters that have a phonetic component directly give the sound of the entire character, but do not indicate the tone that should be used.

There is another group of characters for which the relationship of sound to symbol is less direct. In this latter group, the sound of the character can only be determined by comparing the character to others that have the same phonetic component. This skill of analyzing and comparing phonetic components to determine the sounds of characters is not a skill that is widely taught to preschool and elementary children who are learning to read in Chinese. Rather, children who come in contact with a large number of characters tend to develop the ability on their own (Ho & Bryant, 1997b). Chinese characters that share a common phonetic component may be homophones, partial homophones, rhyming syllables, or may have completely different sounds (Ho & Bryant, 1997b).

These two ways of arriving at the sound of a character comprise the Chinese "orthography-phonology correspondence" (OPC) rules (Chen, 1993, cited in Ho & Bryant 1997a). One skill that may be crucial in developing and applying OPC rules is phonological awareness (Ho & Bryant, 1997a).

Ho and Bryant (1997b) found that, while a measure of visual ability did predict some of Chinese children's early reading success, phonological knowledge in two and three year olds had a much stronger relationship to the same children's reading abilities as 6 and 7 year olds. The key to this stronger reading performance was the children's ability to use the phonetic component in the characters to derive the pronunciation. Chinese children progress through stages similar to those found in native English speaking children (Jiang & Peng, 1999). Participants in the study started reading by recognizing characters through rote memorization. However, once the participants knew a number of characters, they progressed to forming some "arbitrary connections" (p. 950) about sound-symbol relationships and about the meanings of characters. The more characters children encountered, the more they began to recognize recurring elements like phonetic components of characters. This analysis of components to form some OPC rules was not based on any formal instruction.

In a second study, Ho and Bryant (1997a) continued their study of children's acquisition of OPC rules by examining whether, after the beginning reading stages where visual recognition of characters played a major role in reading, Chinese children learned to read phonologically. Since Chinese readers typically have to figure out on their own that certain characters have the same phonetic element and the same pronunciation, the researchers hypothesized that phonological awareness may be an important skill in applying OPC rules when reading Chinese.

To study this relationship between OPC rules and reading, Ho and Bryant (1997a) looked at young readers in Hong Kong who had not learned a phonetic system of representing sounds. These children also had not yet been instructed in how to separate characters into their components to look them up in a dictionary. The researchers believed that any child younger than 3rd grade who knew OPC rules had to have developed such knowledge on their own. Results showed that Chinese first graders rely on OPC rules heavily, more than Chinese second graders do. The first graders tended to overuse the OPC rules. The researchers also found that children who scored high on a measure of rhyme awareness (an indicator of phonological awareness skills) had a greater ability to use phonetic components in characters. The authors concluded that even though the sound-symbol relationship is not always regular in Chinese, some young readers appear to be helped by knowing about them.

The children who applied OPC rules developed them on their own through exposure to and knowledge of many Chinese characters. The authors believed that a certain level of reading ability was necessary in order for their subjects to learn the OPC rules in Chinese. The second graders in the study, who used the OPC rules to a degree that was not statistically significant, had learned to read approximately 500 more characters than the first graders and started to understand that there were exceptions to the OPC rules. Age and exposure to more characters seemed to make the major difference in a child's understanding of the exceptions to the rules. The authors stated that there are most likely children who do not pick up OPC rules on their own. They believe such children should be taught more about the sound-symbol regularities in Chinese so that they can use this knowledge.

Shu, Anderson, and Wu (2000), Shu and Anderson (1999), Shu and Zeng (1996), Shu and Li, (1994), and Zhou, Wu, and Shu (1993) investigated the development of phonetic awareness in

mainland Chinese students during the elementary school years to see whether children learned to use the phonological information in the phonetic component. Shu et al. (1994) examined whether 1st and 2nd grade students could use phonetic symbols and context clues to help them figure out new words in reading. Shu et al. (2000), Shu and Zeng (1996), and Zhou et al. (1993) examined whether it was easiest for children to use phonological information on regular characters (e.g., the phonetic component gives the exact pronunciation of the word) or on irregular characters where the phonetic component does not directly give cues to pronunciation or bound phonetic components (those that never appear alone and are always found as part of a more complex character). They did so by asking children to write down the phonetic representations of both familiar and unfamiliar characters. The results of all studies indicate that the regular characters, those where the phonetic element was pronounced like the word in which it was found, were the ones the children could most easily write in the phonetic system. Regularity of characters was the most significant factor in helping children remember the pronunciation. Irregular characters and bound characters were equally difficult for the children. The next strongest factor in helping the children with writing the Pinyin version was the familiarity of the characters. Because Chinese writing does not offer pronunciation cues as consistent and reliable as those in some other languages, children are most likely to know familiar characters that they have been taught in school (Shu et al., 2000). Only about 8% of the characters that children are required to learn in elementary school contain bound characters that are used only as phonetic elements in more complex characters (Shu et al., 2000). This lack of familiarity with the bound characters helps explain why the children in the study were less able to derive the pronunciation and write them in Pinyin.

Shu and Anderson (1999) studied 2nd, 4th and 6th graders who were native speakers of Mandarin, the language of the schools. The researchers developed a 60 item test where students were shown characters and asked to write the pronunciation in Pinyin (or to write another character with the same sound if they were unsure of the Pinyin). Fifty percent of the characters were unfamiliar ones and the other 50% were familiar to the children. Results indicated that children's familiarity with the character and the regularity of the sound-symbol correspondence affected the outcome of the task. When characters were familiar, there was only a slight difference in the students' ability to write those that were regular versus those that were irregular. When characters were unfamiliar, those with irregular sound-symbol relationships were harder to write. Shu and Anderson found that over time there was a shift from the child being more influenced by the familiarity of a character in the early grades to being more influenced by the regularity of the sound-symbol relationship in the later grades. The authors state that the children learned to use the information in the phonetic components over time in spite of the fact that they had received no instruction in how to do so.

Interaction Of First And Second Language Phonological Awareness
According to Hsia (1992, p. 345), "traditional Chinese phonology divides the Chinese Mandarin syllable into an initial and a final [sound] (Chao, 1968). The initial is usually a consonant….The final [sound] of a syllable is 'the syllable minus the initial' (Chao, 1968, p. 18). The final actually constitutes the vowel peak." The length of the vowel peak varies depending on whether the vowel is single, a diphthong (i.e. two vowel sounds combined as in /ia/) or a tripthong (i.e., three vowel sounds combined as in /iau/). Vowel peaks are often lengthened, producing many

open syllables. This lengthening of vowel sounds creates stress on most syllables in spoken Chinese. Sometimes the final sound is a nasal sound.

The tendency among Chinese speakers to divide a syllable into an onset and rime is enhanced by the phonetic symbols that previously were used by mainland China, until it switched to an alphabetic phonetic system, and the system called "zhuyin fuhao," which Taiwan still uses with early readers today. In the Taiwanese system, there are two phonetic symbols for each character, one that represents the initial sound and one that represents the final sound. The exposure that Chinese children get to spoken Chinese and the training they may get in phoneme segmentation may assist Chinese speaking children in learning to read in an alphabetic language such as English. Gottardo et al. (2001) suggested that "phonological awareness at the level of onset and rime is related to early Chinese reading" (p. 531) and Li, Zhu, Dodd, Jiang, Peng and Shu (2000) established developmental norms for phonological awareness in Chinese children, but few studies have been done on the transfer of those skills into an alphabetic language such as English.

In a second study reported in Hsia (1992) the researcher studied bilingual Chinese-English preschoolers in the U.S. who also attended a Saturday Chinese school. These children were learning to read in both English and Chinese at the same time. She compared them to a group of monolingual English speaking preschoolers who were learning to read in English. She asked the children to segment multi-syllabic words presented orally and visually in English to show their understanding of syllable construction. The Chinese students often divided syllables into an onset and rime according to Chinese syllable construction patterns. For example, in the word "rabbit", the Chinese speakers might divide it into 3 syllables "ra/bbi/t" so that the first two syllables both ended in a vowel. The Chinese speakers also tended to stress every syllable equally instead of putting more stress on the short "a" sound in rabbit and less stress on the short "i" sound as a native English speaker would do. However, as the bilingual Chinese-English preschoolers got older, their division of words into syllables and the stress placed on syllables in a word with several parts became more like that of a Native English speaker. Hsia stated that the younger Chinese children had a great deal of exposure to spoken Chinese and its syllable construction and as they obtained more exposure in school to American English their patterns changed. She questioned whether students without this strong native language background would ever fully learn to locate and differentiate between word and syllable boundaries in English.

Based on these findings, Hsia recommended that young children receive training in things like word stress, vowel length and other features within words when segmenting words and syllables from speech. This is particularly important, she maintained, for bilingual students who come from a syllable-timed language background such as Chinese and who are learning English as a new language.

Gottardo et al. (2001) studied bilingual Chinese-English speaking children in Canada to look at issues of cross-language transfer of phonological awareness. Their subjects had a range of skills and experience in the two languages. Some of the children had been born in Hong Kong and were recent immigrants to Canada while others were born in Canada and had received all their schooling in English. Some subjects had had several years of reading instruction in Chinese and

some had received none. Most of the children spoke Chinese at home and some spoke both Chinese and English. The researchers administered a number of standardized and experimental tasks in Chinese and in English that looked at a child's skill in such areas as word identification, word attack, rhyme detection, tone detection, phoneme deletion (e.g., here is an English word, now remove one particular phoneme and repeat it), ability to repeat pseudowords or pseudo characters, and the speed of symbol identification. Children were also administered subsections of standardized reading assessments. An oral cloze test in English and another in Chinese allowed the researchers to get some information on a child's ability to fulfill the syntactic and semantic demands of passages.

The researchers found that "performance on the English phoneme deletion task was significantly related to English reading performance. In addition, Chinese rhyme detection was the Chinese task that was significantly related to English reading performance" (p. 538). They went on to state that "the same relationships exist among English tasks that measure phonological processing and reading in children who are native Chinese speakers as have been documented in native English speakers" (p.538). These findings support the idea of cross-language transfer of phonological processing skills and indicate that there may be a general phonological processing ability in children, which they can apply to any language to which they have had some exposure. This is true even if, as in the case of these children, their second language is alphabetic and their first language is not.

Gottardo et al. (2001) recommended early screening of phonological processing skills in either the native language or the second language to indicate children who may be at risk for reading problems in alphabetic languages. They stated that second language learners who have had some exposure to both spoken and written English but who do not perform well on assessments of English phonological processing skills are likely to be at risk of reading problems later on. Students who have had limited exposure to spoken and written English could be assessed in their native language.

Importance of Morphological Awareness
The research in the preceding sections seems to confirm that there is a relationship between success in Chinese reading and a child's level of phonological awareness, just as there is in alphabetic languages. This is true even though Chinese characters represent morphemes that are larger units than phonemes. Three pieces of research establish the relationship between a child's age, reading level and their morphological awareness. Morphological awareness is defined as the ability to recognize morphemes, the smallest units of meaning, in spoken speech. Li, Anderson, Nagy and Zhang (2002) listed three facets of morphological awareness in Chinese: (1) morpheme awareness—understanding that morphemes and syllables are different; (2) homograph awareness—understanding that the same character has different meanings depending on the context; and (3) radical awareness—understanding that the radical gives information about the meaning of the character which can be used to help infer the meanings of new characters.

First, Shu and Anderson (1997; 1999) conducted a series of investigations with elementary school children to determine whether the students were aware of the basic structure of compound characters and could use the information provided by the radical component to figure out the

meaning of new words encountered in readings. Results showed that 1st graders had not yet learned to use the morphological structure of components, but, that by 3rd grade, students could use it (Shu & Anderson, 1999). Older children were best able to use the information provided by the radical component when the character representing the radical was a familiar one (Shu & Anderson, 1997). This was true even if the overall compound character was unfamiliar. Children with higher reading abilities were most easily able to analyze the radical component of the unfamiliar compound characters. As with phonological awareness, this research indicates that morphological awareness develops over time in many children, even without specific instruction on the topic (Shu & Anderson, 1999).

Next, Nagy, Kuo-Kealoha, Li, Anderson and Chen (2002) conducted a study that showed a causal relationship between a child's morphological awareness and his or her Chinese reading ability. Nagy et al. (2000) hypothesized that the nature of the Chinese writing system requires an understanding of the role that morphological awareness plays in reading Chinese that is comparable to the role that phonological awareness plays in reading English. This would be true, they believed, despite the fact that there are some basic differences between phonological awareness and morphological awareness (e.g., more difficult nature of the task to separate phonemes from speech and some disagreement about the direction of the causal link between phonological awareness and reading English). The reciprocal nature of metalinguistic awareness and learning to read is similar for both languages. The authors stated, "Although understanding the writing system logically presupposes the ability to segment the spoken language into the linguistic categories represented by the writing system, it is often the very process of learning to read that brings children to understand their spoken language in terms of these categories" (p. 63).

Nagy et al. (2002) designed an instructional intervention with two parts. The first part was aimed at increasing a Chinese child's understanding of the Chinese writing system and of the relationships between sounds and characters. Typically, reading instruction in China does not involve a great deal of direct instruction on this topic. Students were helped to apply insights about the structure of characters to new characters and words. The second part of the intervention aimed to increase children's volume of reading in an effort to allow them more opportunity to gain morphological awareness through more exposure to text. Some participants in the study were given both interventions together in the belief that the two together would produce the strongest result, some were given only one of the interventions, and others were given no intervention at all.

For both first and fourth graders, the morphological awareness intervention alone had the most significant relationship to their reading ability and to tasks of sound-symbol correspondence. Results of the morphological intervention were most significant for 4th graders. The researchers thought this was true because at that grade level Chinese children are required to learn more complex characters.

The authors concluded that there is indeed a causal, reciprocal relationship between morphological awareness and reading Chinese that appears to continue even in the later stages of reading because students continue to learn more complex characters. While phonological

awareness also has a reciprocal relationship to reading in English, the relationship appears to be strongest in the early reading stages.

Wu, Anderson, Li, Chen and Meng (2002) also developed a morphological awareness intervention for Beijing elementary teachers that specifically trained them in ways of teaching the structure of the language to beginning readers. Their findings, like those of Nagy et al. (2002) indicated that making morphological relationships explicit during reading instruction was a benefit to older elementary school students. During the intervention, teachers followed a three-step process to teach simple characters. Instead of just having students memorize a new character through repetition, the teachers helped students to understand the relationship of each stroke to the whole character. Students also learned how certain characters evolved over time from something that looked much more like a picture of the thing it represented. When the class studied compound characters the teachers presented both the character and Pinyin together and taught students what each component of the character added to the meaning as well as extended meanings of the character. For example, a teacher instructing students in the compound character for 'shrimp' pointed out to students that the left-hand component of the character gives a semantic category, in this case "worm." The right hand component of the character is a phonetic component that gives the sound of the character but with a different tone. To extend the students' vocabulary, they were then asked what other words could be made with the character shrimp.

The researchers found that at 4th grade, there was a significant effect of the morphological intervention on a student's reading ability. At first grade there was not a significant effect because the students had limited opportunity to apply what they had learned in the intervention. The types of compound characters that the intervention emphasized were not typically encountered in first grade texts. Fourth graders had more exposure to compound characters and more opportunity to use their knowledge of the structure of characters to help them read. The teachers and students both reported that the change from the traditional method of reading instruction created a new enthusiasm for learning characters and a deeper understanding of the structure of those characters that could be applied to new characters.

Li et al. (2002) examined the relative importance of both phonological awareness and morphological awareness in learning to read Chinese. Groups of 1st and 4th graders were given reading proficiency tasks plus phonological awareness tasks (syllable reversal, onset deletion and tone discrimination tests) and morphological awareness tasks (morpheme discrimination, morpheme transfer, radical form and radical meaning tests). The authors found that morphological awareness was the most important skill for reading Chinese. They stated, "the nature of the writing system determines the nature of linguistic processing" (p. 105).

Metalinguistic Awareness Literature Conclusion
The studies in this metalinguistic awareness section, when taken as a whole, point to the clear benefit for some students in receiving reading instruction that makes phonological and morphological aspects of Chinese characters explicit. In the past, students who had such knowledge tended to have developed it on their own through exposure to and analysis of large amounts of written text. However, not all students developed these types of understandings of how spoken Mandarin and the writing system relate to each other. In spite of inconsistencies in

the way that the written language is structured, an understanding of the structural components of the writing system can help students analyze new characters that they encounter.

One clear recommendation from the literature that can be highlighted for teachers of any language is the value of early assessment of a child's phonological awareness in a language to which the student has had sufficient exposure. Students who do not score well on such a measure may be at risk of reading problems, particularly in an alphabetic language.

Development of Reading Fluency and Content Reading

Studies Included in Reading Fluency and Content Review

Table 8 shows the 9 full-text studies included in this section. Seven of them were from peer reviewed sources (for more information see Appendices B and G). Of those seven that were both peer reviewed and for which we could read the full text, three contained descriptions of quasi-experimental studies and the rest were correlational or descriptive in nature. One article addressed a specific reading intervention.

Table 8. Peer Review Status of Full Text Reading Fluency and Content Articles

Author & Date	Journal Name	Peer Review
Shu, Anderson & Wu (2000)	*Journal of Educational Psychology*	Yes
Mo (1999)	*Psychology Science*	Yes
Pine, Huang, Huang & Zhang (1999)	*Claremont Reading Conference*	Yes
Shu & Anderson (1999)	*Reading Chinese Script: A Cognitive Analysis*	Book
Zhang, Bao, Guan, Yu & Li (1999)	*Psychology Science*	Yes
Shu & Anderson (1997)	*Reading Research Quarterly*	Yes
Shu, Anderson, & Zhang, (1995)	*Reading Research Quarterly*	Yes
Nagy, Kuo-Kealoha, Wu, Li, Anderson, & Chen (2002)	*Chinese Children's Reading Acquisition: Theoretical and Pedagogical Issues*	Book
Hudson-Ross & Dong (1990)	*The Reading Teacher*	Yes

Findings are primarily based on these four articles and are supplemented with information from 11 studies that were annotated, but not translated, in English. Table 9 shows that all of these annotated articles went through a peer review procedure (for more information see Appendices B and F)

Table 9: Peer Review Status of Annotated Reading Fluency Content Articles

Author & Date	Journal Name	Peer Review
Li, Fu & Lin (2000)	*Acta Psychologica Sinica*	Yes
Yan (1999)	*Psychological Science*	Yes
Mo, (1998)	*Acta Psychologica Sinica*	Yes
Mo & Chen (1997)	*Psychological Science*	Yes
Tong & Zhang (1997)	*Psychological Science*	Yes
Bai & Shen (1996)	*Psychological Science*	Yes
Zhang, Zhang, Yin, Zhou, & Chang (1996)	*Psychological Science*	Yes
Song, Zhang & Shu (1995)	*Acta Psychologica Sinica*	Yes
Shu & Li (1994)	*Psychology Development and Education*	Yes

| Shu, Zeng, & Chen (1993a) | *Psychology Development & Education* | Yes |
| Shu, Zeng & Chen (1993b) | *Psychological Science* | Yes |

Main Findings on Chinese Reading Fluency and Content

The main findings from the review of Chinese metalinguistic awareness literature are summarized here. Those findings that come from at least one peer-reviewed article are marked by (PR). More detailed descriptions of findings follow.

- Chinese classrooms are characterized by more concentrated reading than extensive reading. (PR)

- Reading difficulties are more prevalent among Chinese children than previously thought. (PR)

- Character awareness is a basic requirement and step in Chinese reading development. Students are sensitive to the structure of characters and employ this knowledge in other reading skills. (PR)

- Chinese students can learn vocabulary incidentally while reading. Students strategically use different parts of characters for learning characters and making inferences. Higher ability students made better use of clues available to them. (PR)

- The amount of extensive reading outside class was large and varied. Children actively sought materials outside of class suited to their interest, but these independent reading habits seemed to develop gradually into the older grades. (PR)

- A few studies in our literature review focused on reading instruction approaches. Schema theory based pedagogy showed a positive influence on students reading test performance and another study showed that the quality of reading comprehension drops if readers are not given appropriate expectations about content. (PR)

Relationship of Fluency and Content Research to Original Literature Review Questions

This section deals with the teaching of reading skills in China that address the second two aspects of our reading definition. These include initial reading instruction (e.g., instruction in character recognition in non-alphabetic languages, reading fluency, etc.) and content reading (e.g., instruction in reading text for a purpose, including comprehension of text and text organization).

As noted in the Context section, aspects of our definition dealing with fluency development are addressed by studies that focus on the importance of morphological ability of students (Li, Anderson, Nagy, & Zhang, 2002; Nagy, Kuo-Kealoha, Wu, Li, Anderson, & Chen, 2002; Wu, Anderson, Li, Chen, & Meng, 2002) and of extensive reading (Anderson, Shu & Zhang, 1995; Tong & Zhang, 1997). Research showed that successful learners can decompose characters into their components and use both morphological and semantic information. Also, they can use this information even though phonological information is at times inconsistent and exposure to lower

frequency characters that *do* have more consistent patterns does not occur until after the first and second grades.

Few studies directly focused on the aspect of our definition of reading development that included reading comprehension, so studies that focused on vocabulary development, extensive reading, schema theory, etc., were included under 'content reading.' Also, because there is some overlap in the development of fluency and content in reading, these areas are not split apart except for the latter part of this section, which focuses on instruction.

Development of Automaticity

Chinese Readers' Awareness of Characters. The right-side up text judgment tasks in the early reading development studies indicate that print awareness for a child's first or second language script develops early if the child is provided exposure to this in their environment. Identifying the correct direction of characters and the inaccuracies of spatially transformed characters demonstrate a stage of awareness useful to later literacy development. These early skills also provide the way for students to develop in their abilities to identify, recognize, and use the information given in semantic and phonetic radicals of characters. Studies in our review shed light on how these radicals are, in fact, used by different ages of students in different types of tasks.

To start, Chinese students are sensitive to how characters are structured. This is probably the result of exposure to the language and the early training in school focusing on the correct formation of characters. Although children in the younger grades seemed more influenced by a variety of structure types when judging whether characters are accurately formed, all students generally were sensitive to changes in left-right structure types (Li, Fu, & Lin, 2000). Another study suggested that most young readers of Chinese depend on structural analysis to determine correctly formed characters (Pine, Huang, Huang and Zhang, 1999). However, the way components are organized in a character is not the sole influence on students' ability to identify correctly formed characters.

Students also pay attention to the information found in phonetic components. In a slightly contradictory finding to Pine et al. (1999), a study showed that using phonetic information actually was the prime strategy used by students to identify correctly formed characters (Song, Zhang, & Shu, 1995). However, this finding may depend on the age of students, because the adults who participated were more likely to pay attention to the form of the character instead.

Overall, children have shown some basic understanding of phonetic radicals – a beginning generalized rule being that the right part of a character gives the pronunciation information (Shu, Anderson, & Wu, 2000). This understanding, however, lacks the analytic depth seen in older students who, for example, go on to use phonetic information to figure out 'neighboring' characters that use similar components. It may be that younger students, previously observed to approach characters on a more holistic visual level than using analytic methods (Shu, et al., 2000), are drawing more from oral language in their response to the task of judging the correct structure of characters. It is also possible, however, that this attention to phonetic information may be influenced by other factors such as character types, previous instruction, a stage in reading development (based on the contrast of adults in the study), or some other reason.

Further, the ability of students to identify correct characters may be altered depending on the task and objective of a study. Students were less able to recall malformed characters in a text when they were presented with appropriate titles that matched content (Mo, 1999). Students with titles that did not match text content, on the other hand, were much more perceptive of incorrect characters and were able to point these out afterwards with better accuracy than students given appropriate titles. This increased attention on the language of the text itself makes sense because studies on eye fixations have shown that when readers focus on content, their eyes tended to group more words together while reading and tended toward selective rereading of portions addressing content (Bai & Shen, 1996; Yan, 1999), and other readers apparently not as focused on the flow of content had smaller single unit eye fixations characterized by more careful word-by-word reading. It is probable that when the access to content was short-circuited by poorly matched titles that a careful single unit reading pattern reflecting bottom-up processes was used by students, making it more likely for them to spot the incorrect characters in the text.

Although the findings are interesting in themselves, it is also worth noting that rather than finding a research focus on the equivalent to automaticity in English, the emphasis of the Chinese research in our review appears to focus on the ease of identifying accurately formed characters –akin to spelling tests in English. This interest is most likely due to the morphological orthography of Chinese. However, it is also potentially influenced by an interest in laying the groundwork for understanding potential reading difficulties among Chinese based on links found between dyslexia and spelling in English, or perhaps due to a general cultural interest in correctly formed characters –historically valued as a mark of the educated.

From here we expand into studies broadly categorized under the heading Reading for Content. These studies are organized by subsections on vocabulary acquisition, students' abilities in making inferences, the importance of extensive reading, and various methods of reading instruction.

Reading for Content
Using Information in Character Components. There is an obvious difference between identifying correctly formed characters and establishing basic sight word recognition of common words, or actually using information within characters to do other things, such as make inferences, acquire vocabulary, and read for content. The next section deals with the first of these: the importance of vocabulary acquisition.

Vocabulary Acquisition. The literature says that readers can effectively guess the meaning of new words from contextual clues within characters, but that the level of familiarity with characters makes it easier for students to acquire or infer new meanings (Shu & Anderson, 1997). It is also clear that components of characters are not helpful when students do not know their meanings. Therefore, it appears that the amount of character knowledge still remains a factor in these studies, even though researchers may work to isolate variables such as breadth of vocabulary (Shu & Anderson, 1997) in teasing apart students' ability to infer meanings from character components.

Shu and Anderson (1997) concluded that higher ability students were better at making inferences about new words because they made better use of components for clues to meaning. But it is unclear from our annotation of the article whether knowing the meaning of a semantic component within a character was considered 'knowing a word.' As in English, there may be certain inferencing strategies independent of knowing a specific word that partly depend on students' knowledge about parts of words (e.g., roots, prefixes, and suffixes) or their ability to use contextual clues to make inferences. Using the root and prefix example in English, students who do not know a root meaning may be limited in using the other knowledge about words that they may have. Similarly, limited knowledge about the meaning of radicals may affect the success of students using vocabulary or reading skill strategies.

Although our review of the literature did not find studies specifically focusing on the impact of the breadth of students' Chinese vocabulary, there have been studies on increasing its breadth. The literature clearly points out that semantic information in familiar characters helped students to remember old characters and acquire new ones. Students were also able to supply correct characters for orally familiar words written in Pinyin even though they had not yet seen these characters in print (Shu & Anderson, 1997; Shu, Zeng & Chen, 1993a). They could do this because they knew some of the components of the characters through their use in other words. Also higher ability readers were better able to make use of the semantic information available in characters (Shu, Zeng, & Chen, 1993b; Shu & Li, 1994). However, characters that are more conceptually challenging are harder for students to infer when the characters are less familiar, and this was found to be true across reading ability levels of students (Shu & Anderson, 1997).

To summarize, it is clear that Chinese students are not only aware of their orthography with attention to form, but can use their awareness of semantic and phonetic components to make inferences, acquire new words, and even choose correct characters that represent familiar concepts they have not encountered in print before. These studies underline the need for automaticity in developing sight word vocabularies in Chinese, as in English, and the need for children to be taught to use what they know about their orthography in order to further their reading development, especially in the area of vocabulary acquisition. It is important to note that many of these studies are conducted with Mandarin speaking students (see Appendices B and F); therefore, some findings may not generalize to other dialect or minority language groups.

Inferring from Context and Extensive Reading. Another area to discuss, complementary to a student's ability to glean information from characters, is whether students are able to infer meaning from context. This topic bridges issues in Chinese students' vocabulary acquisition and general reading skills.

Similar to vocabulary development research in the west, the literature indicates that students learning Chinese are able to learn meanings of characters from context through reading grade appropriate books (Anderson, Shu, & Zhang, 1995) and should be encouraged to read extensively both in and outside the classroom. This extensive reading is important because it helps improve reading ability and expands students' vocabularies (Tong & Zhang, 1997; Anderson et al., 1995). [4]

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[4] For more research on extensive reading and improving reading ability and vocabulary in Anderson, Wilson, & Fielding, 1988 and Anderson, 1996 cited in Anderson, Gaffney, Wu, Wang, Li, Shu, Nagy, & Ming, 2002.

Extensive Reading and Book Availability. Studies elsewhere have shown that extensive reading is important to children's reading development (Elley, 2001 cited in Elley 2002), but there have been few studies conducted on extensive reading in China (Anderson, Gaffney, Wu, Wang, Li, Shu, Nagy, Ming, 2002). One study did show that the amount of extracurricular reading by Chinese students was relatively large and that they displayed various ways of reading across age groups (Tong & Zhang, 1997). With increasing age, students paid more attention to content and gradually developed more independent reading habits, choosing reading materials based on their specific interests. However, there may be certain limits on the influence of increased reading volume on reading abilities; one study investigating a morphological instruction intervention and an increased reading volume intervention did not show a positive synergistic effect on measures aimed at character and morphological awareness (Nagy et al., 2002). Although the Tong and Zhang study (1997) showed that students were reading a comparatively large amount, it is important to note that the availability of extra reading materials cannot be assumed across all of China as previously described in the Chinese Context section.

Methods of Reading Instruction. In our review, there are few studies directly about methods of reading instruction, or reading for content. The "Shared Book Method," involving the reading-aloud of visually accessible engaging books by teachers with their classes, has shown increases in students' vocabularies and general reading ability in Chinese classrooms, similar to studies done in other countries (e.g., Singapore, South Africa). However, it has also been recommended that there needs to be more silent reading in China (Sheridan, 1992), as well as shared reading aloud.

Other studies focused on schema-based approaches and various instructional conditions. Researchers found that students in a schema-based instructional program showed an increase in reading scores compared to a control class (Zhang, Bao, Guan, Yu & Li, 1999). Regular class scores actually decreased, but this was attributed possibly to more difficult material across grades in the study. Another study also supported the need for solid schema building through appropriate preparation of content (Mo, 1999). Results showed that titles, reflecting an accurate portrayal of content, had an obvious impact on the scores of students in the fast reading condition, especially for high ability students. However, inappropriate mismatched titles were negatively affected. It was also found that the students in the fast reading group had to depend less on the reading materials for information, and those in the mismatched title group had to depend more on the text. Overall, the researchers concluded that the quality of reading comprehension decreases if readers cannot build up their expectations about content.

Although appropriate schema building has been found to be beneficial, task type, grade, and accompanying reading instructions were also found to be important in what information was retained. One study looked at information processing under natural and comprehension task conditions (Mo, 1998). Results showed that senior students tended to retain more in the natural and comprehension conditions and that junior students tended to retain more information about text expression in the natural and memory reading conditions. The finding that varying the reading tasks given to students influences information retention is supported by another study (Mo & Chen, 1997) that showed that students who received no reading instruction tended to read general information from the body of an article, whereas students given specific reading tasks

retained information from the beginning and end of the text (where main ideas and conclusions were drawn).

Phonics and Holistic Approaches. References to both phonics and Whole Language approaches were found in the literature, though no studies were actually conducted that had these approaches as the focus of research. Positive and negative aspects of both approaches in the Chinese classroom were mentioned, including limitations and specific aspects that were deemed beneficial for the teaching of Chinese. One teacher/researcher, noting the non-alphabetic nature of Chinese, stated that Chinese students learning to read in their native language would not benefit from attempting to sound out words to get the meaning of new characters (Hudson-Ross & Dong, 1990). Instead readers rely on components of characters to aid them in discovering the meaning and pronunciation of unfamiliar words. These relationships between a character's structure (components), sound, and meaning can potentially help them with guessing meaning from context (Hudson-Ross and Dong, 1990), and students in fact do better when they know how to derive clues from these different sources (Shu & Anderson, 1997; Shu & Anderson, 1999). These researchers suggested that general principles of the phonics approach would be beneficial, by explicitly teaching children sound and print correspondences in a systematic fashion and introducing helpful rules where these exist in Chinese (Shu, Anderson, & Zhang, 1995).

Native Minority Languages and 'Bilingual' Instruction in China

Studies Included in Minority Languages and Bilingual Instruction Literature Review

Most Chinese studies of minority education in China focus on enrollment, retention and graduation rates, practices of bilingual education, and comparisons among different minority groups (because they concentrate the research on the officially recognized minorities, not on ethnic minorities as such) (Hansen, 1999)**.** However, there was one study by Feurer (1996) in our review that addressed the potential benefit of native language use in minority bilingual instruction. The study comes from the Regional English Language Centre (RELC) Journal published in Southeast Asia by the Southeast Asian Ministry of Education and it did go through a peer review process. Appendix F shows our evaluation of the scientific design of Feurer. It is quasi-experimental in nature and does address a reading intervention.

Main Findings for Chinese Minority Languages and Bilingual Instruction

- Naxi speaking children in the "bilingual" classes performed better than their counterparts in a regular Chinese-only classroom based on final fall semester grades. Authors concluded that first language literacy skills transferred to the second language.

- Teachers should build connections using the students' first language and culture in instruction.

- Teachers can use linguistic knowledge of a student's native language in effective ways to teach reading in a second language.

The Feurer study looked at the performance of native Naxi speakers in a "bilingual" class versus a Chinese-only class. Instruction in the bilingual class was primarily in Mandarin Chinese and Naxi was used for explanations to help the students learn the Chinese. This study (Feurer, 1996) concluded that Naxi-speaking students' literacy skills in their first language did transfer to their learning of Chinese, based on the fall semester grades for each class. There were no standardized reading measures independent of the course material, though the national curriculum does provide a common reference for content. An additional writing measure was administered to the students after attempts at using an oral measure. These results also led them to conclude that positive transfer had occurred.

Relationship of Minority Language and Bilingual Instruction Research to Original Literature Review Questions

Support for bilingual education in China has proven variable with the changing political climate throughout its history. For example, after the Great Leap Forward (1958-1960), it was acceptable for minority student educators to translate school materials into the students' native language.

The First National Conference on Minority Education (1951), initiated by Zhou Enlai, emphasized the promotion of minority regions, the establishment of minority education and literacy, and the organization of a national committee to provide guidelines for developing script for minorities and to start new schools in remote areas with special financial support (Hansen, 1999). In 1951, the National Committee considered the promotion of 18 new scripts for 12 minorities. These minority groups included the Zhuang, Buyi, Miao, Dong, Yi, Hani, Lisu, Wa, Li, and Naxi. Dai had their own script, which was simplified just as the Chinese script had been simplified. Other groups such as the Manchu and the Hui actually have adopted Mandarin as their native language but are still considered minority groups based on other cultural or religious differences (e.g., Hui are Muslims) (Clothey, 2001).

Government backing of minority languages was short-lived with the mandatory standardization of education that followed the Cultural Revolution (1966-1976). This movement sought to end all minority expressions in language and culture including bilingual education. Ironically, the emphasis put on the equality of minority peoples, that they were not backward people who require any kind of special assistance, translated into forced Mandarin use, restricted native language use, and the shutdown of many schools.

In the 1980s the climate again became favorable toward bilingual efforts in minority education. In the latter part of the 1980s, minority regions and minority education were subsidized. In 1984, the government passed a law giving the minority regions the right of local autonomous government, including their right to organize minority education (Hansen, 1999). In addition, to promote the advancement of minorities in the educational system, they were given additional points on exams to get into higher education. Government officials at different levels also tried to strengthen the training of local teachers and re-establish bilingual education particularly among Tibetans, Mongols, and Uygurs.

Although the current policy on the development of bilingual education is legally supported by the Chinese constitution, local educators and government officials often reject bilingual education proposals and related political decisions. These disagreements are usually based on arguments over whether bilingual education is necessary or useful and concerns over the lack of money and resources, including qualified teachers. (Hansen, 1999). Further, there remains a strong national sense that Mandarin should be the main medium of instruction (Postiglione, 1998). This concern for Mandarin classes is sometimes shared among parents of minority children who see Mandarin as more useful for upward mobility. Achievement in Mandarin is needed for further education and is sometimes needed for employment opportunities within minority autonomous regions. However, the achievement gap between minority groups and the Han are still rather large. Even though there are a few ethnic minorities (Korean, Russians, etc.)

that actually score above average on certain educational measures, most minorities score below the national average (Postiglone, 1998).

How Minority Education is Conducted

Where general attitudes toward bilingual education in China are mentioned in the literature, most researchers are reported as holding positions that support the development of bilingual education for minorities. They support the idea that using a child's first language will help facilitate a child's second language, in this case Mandarin acquisition. In Yunnan and other provinces, Mandarin is the only language of instruction provided in junior middle school grades and above. Minority education teachers often use students' native language through primary school.

As inferred by the background language context of different regions of China, studies conducted in most areas of China often involve speakers of more than one dialect because students learn a home language dialect for their region as well as written and spoken Mandarin. Chinese speakers who grow up using the Mandarin dialect in areas around Beijing in the north do not have an additional oral dialect to acquire in the transition to learning written Mandarin. Students speaking other dialects are often transitioned to the use of Mandarin in school with the aid of teachers speaking their home language dialect. Some teachers may continue this practice through the primary grades.

The use of home-language oral dialects by the teacher is slightly different from the use of home-languages by bilingual teachers working with minority groups, who have their own languages and possibly their own scripts. Minority children, if provided with instruction in their native language and Mandarin, will usually have experienced one of two basic models of bilingual education in China. This is not to say that these are the only two models of bilingual education in China, because there are most likely a limited number of students with access to private bilingual schools in larger cities that include English instruction. However, these two models are those that have been adopted by schools in minority-populated regions. The two models generally implemented in minority regions are:

> *Model I:* Teaching is done in two languages. Teachers teach to the texts in Mandarin and use the minority language to give explanations. Mandarin is the main language to be used, and the minority language is used only to facilitate better learning of the Han Mandarin.

> *Model II*: Students are to learn in the minority language first and foremost; Hans is introduced when students have become proficient in their own language; the aim is eventually to have the students become fluent in both languages (Lin, 1997).

The first model described above is considered by far the most common model used across minority languages (Lin, 1997). Most approaches used in minority areas stress that the native language is a means to attaining proficiency in Mandarin, rather than for its own sake, essentially a variant of transitional bilingualism. After primary grades, Mandarin is exclusively used, with secondary texts heavily using canonical Han works. Some areas have tried dual translation of student texts to ease comprehension (Hansen, 1999). However, the texts usually became 50%

longer after translation, which increases costs even more in situations where there are already limited resources.

Usually minorities who speak languages that are without scripts are excluded from discussions about bilingualism in China. Also, there are some irregularities in reporting on Chinese education that include facts about the extent of bilingualism among certain minority groups (Hansen, 1999): for example, if publications say that the Hani have bilingual education, it is in fact speaking of the Hani who speak the Luchan dialect (Lucan, Honghe, Yuanyang, and Jinping). The Hani group in Sipsong Panna does not have bilingual education (Hansen, 1999). However, other minorities have done well establishing bilingual education at the college level such as the Koreans in Yanbian (Hansen, 1999).

Native Minority Reading Instruction Conclusions
Although this section presents the findings of only one study, it includes some key points from the background literature as well as recommendations from literature on educating language minority students for teachers of these students in the Chinese context, which are similar to principles found in western classrooms.

- Bilingual education occurs in both large cities and in rural minority areas though the educational models most likely differ.

- The two bilingual education models generally implemented in minority regions are (1) the minority language is used only to facilitate better learning of the Han Mandarin and (2) the goal is for students to be fully fluent in both the minority language as well as Mandarin.

- Naxi speaking children in the "bilingual" classes performed better than their counterparts in a regular Chinese-only classroom based on final fall semester grades. Authors concluded that L1 literacy skills transferred to L2.

- Teachers should build connections using idioms, metaphors and examples from the students' first language and culture to bridge the gap between the first and second language (e.g., a Chinese teacher was able to facilitate students' understanding of curriculum by utilizing effective idioms from Uygur herdsmen background)

- Researchers found that students open up and learn more when they are able to offer examples and ideas.

- Linguistic knowledge can be helpful - some students in Zhuang language group identified with the English language more than Mandarin because Zhuang is a phonetic based script.

Implications of Findings for Teaching Reading

The People's Republic of China, like the United States and other countries, has researchers who are interested in improving the knowledge base about processes that children use to read text. A

few researchers are actively involved in finding out what kinds of teaching methods best support these processes, particularly for children who do not pick them up on their own. These researchers and educators, familiar with the Chinese educational context, have made several recommendations for both Chinese educators teaching Chinese and American educators teaching English to Chinese speakers. We consider the recommendations made to teachers of Chinese speaking children, because this gives insight into what Chinese educators and researchers see as important points to address in their own context.

Researchers have noted that while reading instruction is fairly uniform across China, with the same texts and lessons given at the same pace, there is still some room for teacher initiative within the National Curriculum Guide (NCG) (Wu, Li, & Anderson, 1999). The authors observe that the NCG is not forced, but rather that its continued use is because there have been few alternatives developed. These same authors, familiar with the strengths and weaknesses of Chinese elementary grade school instruction, specifically made the following recommendations for teachers of Chinese.

For Teachers of Chinese to Chinese Speaking Children
- Explicitly teach the structure of Chinese characters and words (Wu, Li, & Anderson, 1999)

- Increase the amount of extensive reading in and outside of class (Wu, Li, & Anderson, 1999)

- Teach in a way that allows students to problem solve (Wu, Li, & Anderson, 1999)

- Be aware that the most common strategy that students reported using to determine whether a character was correct was structural analysis. Linking a character's shape to meaning was rarely used. Pine et al., (1999) theorize that strategies may be a result of either teaching strategies employed in Chinese classrooms or simply common practice with language (Pine, Huang, Huang and Zhang, 1999).

The following points were made for those Chinese teachers who may have students with reading difficulties in their classrooms.

- Low ability readers in Chinese seem to experience similar difficulties to low ability readers in English despite the very different nature of the languages. (So & Siegel, 1997)

- Phonological processing is important to Chinese language development and to identifying children who are at risk for reading difficulties, just as it is in other languages such as English. (So & Siegel, 1997)

- Strengths and weaknesses of Chinese instruction were also observed as playing a role in the success of students with reading difficulties. Multi-modality methods as well as explicit instruction in patterns of language, increasing the amount of reading, and increased problem solving opportunities, were seen as positive directions in instruction for these students. (Wu, Li, & Anderson, 1999)

These recommendations were initially found in the literature for Chinese teachers of minority students within China. However, these also may apply to language teachers outside of China who also deal with students whose first language is not the majority language of their country of residence.

- Teachers should build connections using idioms, metaphors and examples from the students' first language and culture to bridge the gap between the first and second language (e.g., a Chinese teacher was able to facilitate students' understanding of curriculum by utilizing effective idioms from Uygur herdsmen background) (Lin, 1997)

- Students open up and learn more when they are able to offer examples and ideas (Lin, 1997)

- Linguistic knowledge can be helpful - some students in the Zhuang language group identified with the English language more than Mandarin because Zhuang and English are both phonetic-based scripts. (Lin, 1997)

For Teachers of Other Languages to Chinese Speaking Children
For those outside the Chinese educational system, the literature has numerous recommendations to educators of Chinese students learning English and/or Chinese simultaneously:

- Chinese students may have a different sensitivity to print (Polland,1993).

- Chinese students will not have had 'sounding out' strategies because this is not used with the Chinese language (Hudson-Ross & Dong, 1990)

- Some students will have had experience using phonetic components of characters to help them with script-sound correspondences with unfamiliar characters. But these phonetic clues are inconsistent, especially with higher frequency Chinese words (Shu & Anderson, 1999).

- Chinese educators do not generally use the Whole Language approach (Hudson-Ross & Dong, 1990).

- Students may benefit more from explicit teaching of phonics, spelling and sound correspondences/ rules (Hudson-Ross & Dong, 1990; Shu & Anderson,1999).

- Parents' views of home literacy may emphasize different aspects of literacy such as accuracy of printing, attention to form, or comprehending stories (Zhang, O'Llila, & Harvey, 1998).

- Younger students may benefit from the development of their syllable awareness in Consonant –Vowel – Consonant patterns. This contrasts to the predominant open syllable (CV) patterns in Chinese (Hsia, 1992**).**

Korean Early Literacy and Instruction

Studies Included in Literature Review

Twenty-four articles have been incorporated in this literature synthesis. We were able to read the full text of three of those articles. Two articles obtained from the Korean National Library were translated into English for this study. First, Cho (1992) was taken from the *Journal of Korea National Open University Research.* Editors at this journal indicate that there is a limited review procedure that does not include rigorous peer review requirements. Second, M. Park (1991) was taken from the *Journal of Jeonbookdae Education* and information was not available on whether there are peer review procedures for this journal. A third article, by D. Kim (1999), was originally printed in English in the *Journal of Special Education*, a peer reviewed Korean journal. Only one article was both full text and clearly peer reviewed. An analysis of the scientific design of this article is provided in Appendix F. It is correlational in nature and does not address a specific reading intervention.

An additional 21 articles written in Korean were also obtained from the Korean National Library and, while not fully translated into English, they were annotated in English. The majority of the 21 annotated articles address reading in Korean kindergarteners (ages 2 to 6). Some of the articles address teachers' perceptions of teaching and others address student characteristics. One article examines ways to improve the reading ability of elementary school children. Table 10 lists the articles, in descending chronological order, and indicates that 11 of them were subjected to peer review (for more information, see Appendices C and G).

Table 10: Peer Review Status of Korean Articles

Author & Date	Journal Name	Peer Review
Kim & Lee (2001)	*Studies in Language*	Unclear[5]
Chung (2000)	*Korean Journal of Childcare & Education*	Yes
Lee, C. (2000)	*Korean Journal of Childcare & Education*	Yes
Lee, K. (2000)	*Korean Journal of Childcare & Education*	Yes
Shim, Kim & Kim (2000)	*Korean Journal of Childcare & Education*	Yes
Kim, M. (1999)	*Yonsei Journal of Human Ecology*	Unclear
Kim & Shin (1999)	*Korean Journal of Childcare & Education*	Yes
Lee, M. (1999)	*Journal of Education*	Yes
Lee, S. (1999)	*Journal of Joongangdae Research*	Unclear
Kim, J. (1998)	*Korean Journal of Childcare & Education*	Yes
Kim & Moon (1998)	*Journal of Geumsandae Research*	Unclear
Hwang (1997)	*Journal of Pusand Hyowon English Literature*	Unclear
Lee, M. (1997)	*Korean Journal of Childcare & Education*	Yes
Shin, Ko & Hong (1997)	*Journal of Jeonbookdae Education*	Unclear
An (1996)	*Journal of Moonkyongdae*	Unclear
Kim, S. (1996)	*Seoulkodae Elementary Education*	Unclear
Yoo, H. (1996)	*Journal of Haejeondae*	Yes
Kwon, J. (1993)	*Inhondae Research*	Unclear
Chun (1992)	*Korean Journal of Childcare and Education*	Yes
Joo (1992)	*Journal of Educational Research (Korean)*	Yes
Cho (1990)	*Journal of Korean National Open University Research*	Limited review

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[5] Unclear indicates that information about the use of a peer review process was not available for this publication.

Main Findings on Korean

The main findings from the review of Korean literature are summarized here. Those findings that come from at least one peer-reviewed journal are marked by (PR). More detailed descriptions of findings are found in the following sections.

- Reading readiness skills can be taught to young children ages 2-6. (PR)

- Reading should be taught to 2-6 year olds to prepare them for the reading instruction demands of elementary school. Researchers vary in whether they recommend direct instruction or indirect instruction. The majority of research recommends a more indirect approach in keeping with a developmental view of early reading. (PR)

- Individualizing reading materials for young children, whether for "non-instructive" activities or for more instructive activities, was a key to the success of reading instruction in Korean students. (PR)

- Identification of pre-school aged children who may be "at risk" for learning to read has value, according to some researchers. (PR)

- The home literacy environment has an important and long-lasting impact on a child's reading ability. The mother's role in developing pre-reading skills is particularly important. (PR)

- Korean mothers with all types of literacy beliefs structured age-appropriate home literacy activities for their young children. The types of activities in which children participated varied depending on the mother's viewpoint but all provided some form of activity to their children.

- Parents benefit from training and support that helps them to do reading activities with their young children. (PR)

- Korean English teachers should teach the culture of English speaking countries along with the English language.

- Elementary English reading is typically taught via a phonics approach, but an approach that uses all four modalities (listening, speaking, reading, and writing) is desirable.

Context of the Country/Language/Education System

The Korean Language
Korean is the 13th most widely spoken language in the world. More than 70 million North and South Koreans, as well as approximately half a million Koreans living in other countries, use it as a native language (National Institution of Education Development, 2002). While Korean has existed as a spoken language for thousands of years, it was originally written with Chinese characters. The use of Chinese restricted reading to the educated class and also created

difficulties in accurately representing Korean speech (Kim, 1992). Therefore, in 1446, King Sejong established the first Korean alphabet called Hangeul, which he envisioned as an easy to learn writing system that would be accessible for all people (Kim, 1992). Hangeul has been in use since that time although it was not commonly accepted until the late 1800s. Korean still retains a link to the Chinese language, however, because more than 50% of Korean vocabulary comes from Chinese loanwords (National Library of Congress, 2002).

The original Hangeul had 28 letters, 24 of which are used today. Fourteen letters are consonants and 10 of them are vowels. Some vowels and consonants may also be doubled (National Institution for Education Development, 2002). Consonants: ㄱ (k), ㄴ (n), ㄷ (t), ㄹ (r or l), ㅁ (m), ㅂ (p), ㅅ (s or sh), ㅇ(voiceless), ㅈ (ch), ㅊ (ch'), ㅋ(k'), ㅌ (t'), ㅍ(p'), ㅎ(h) Vowels: ㅏ (a), ㅑ (ya), ㅓ (o), ㅕ(yo), ㅗ(o), ㅛ(yo), ㅜ (u), ㅠ (yu), ㅡ(u), ㅣ(i) These letters consistently represent sounds with a one to one correspondence and are combined in a limited number of patterns. Korean syllables have 3 parts: an initial consonant, a peak vowel, and a final consonant. No matter where a syllable is located in a word, it is pronounced the same way (Lee, Park, & Kim, 2000).

Consonants are the initial and final sounds in syllables and the shape of the letter indicates the way the sound is articulated in the mouth. For example, for the letter ㄴ (pronounced 'nieun'), "the front of the tongue curves and the top of the tongue sticks to the upper gums. The shape of the letter is based on the lateral form of this process" (Korean Information Service, 2002, p. 2).

The vowels were created to represent images of the round sky, the flat land and a standing man (Korean Information Service, 2002). For example, ㅣ is the image of a standing man and there is a group of vowels that are a variation of this shape ㅏ (a), ㅑ (ya), ㅓ (o), ㅕ(yo).

Hangeul is fairly easy to learn because of the scientific design that consistently reflects the phonemes of spoken Korean (Korean Information Service, 2002; National Library of Congress, 2002). Illiteracy is uncommon among adults, and children as young as 2 and 3 years old have been known to make attempts at communicating with writing.

For the purposes of this document, the term Korea refers to South Korea. There are regional dialects of Korean found in South Korea that vary somewhat in vocabulary and pronunciation, just as there are regional dialects of American English. These dialects are mutually intelligible except, possibly, for the kind of Korean spoken on Cheju island off the coast of the mainland (National Library of Congress, 2002). The dialect of Korean spoken in and around Seoul remains the standard dialect. Figure 4 shows Korea with both Seoul and Cheju marked.

Hangeul first became more widely used in the 1900s, but since that time it has not always been the primary written language of Korea. During different parts of the twentieth century, Chinese, Japanese and Hangeul have all been taught in the schools as the primary written language. Hangeul has been mandated since 1948 when the South Korean government was established. However, the Korean language is still sometimes written using a mixture of Chinese characters and Hangeul, particularly in academic texts at the secondary and postsecondary level and in some newspapers. The Chinese characters may appear in parentheses next to the equivalent word

written in Hangeul or they may be mixed in the text without parentheses (Kim, 1992). Students do not start learning the Chinese characters until middle and high school.

Figure 4: South Korea
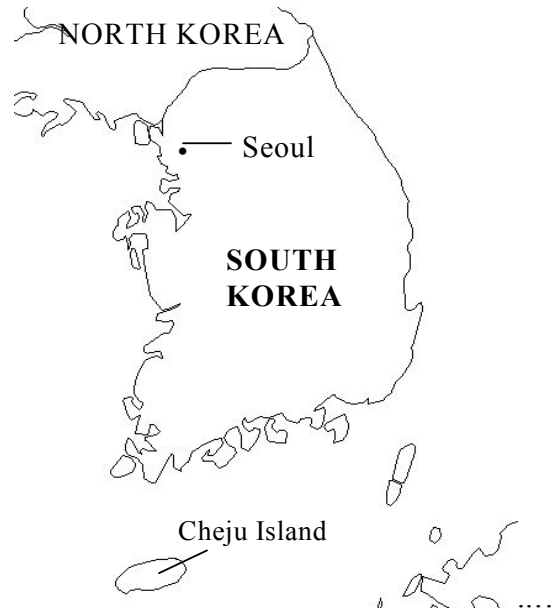
Structure of the South Korean School System
Korean Ministry of Education figures (2002) show that preschool education (also called "kindergarten") lasts from age 3-6. Historically, kindergarten programs have been associated with private and religious institutions and were not always widely attended. Since the 1960s the Korean government has enacted a series of initiatives aimed at raising enrollment rates and improving the quality of teacher training and materials. This encouragement from the government resulted in an explosion of preschool opportunities (Library of Congress, 2002). Kindergartens are still not part of the public school system, however, and rely primarily on student tuition for their financial support. As a result, there is often intense competition among schools to recruit students and families, resulting in a situation where kindergartens will cater to the demands of parents in order to attract more students (Lee, Park, & Kim, 2000).

Elementary education, for ages 6-12, is mandatory and supported by the government. The almost 100% rate of elementary school attendance has created some very large schools and large class sizes, particularly in urban areas. The government has made continuing efforts to lower class sizes, but as recently as 1996 there were still approximately 36 students per class.

High rates of student enrollment are also evident in middle school, attended by students ages 12 to 15, where approximately 99.3% of elementary students attend (Korean Ministry of Education, 2002). Since 1985, the government has offered free, compulsory middle school education in rural areas and is working on offering it to the rest of the nation as well. At the middle school level, there is some specialization with particular schools offering an academic curriculum while others offer a vocational or more practical skills type of curriculum. Up until 1969 there were entrance

examinations to determine which middle school a student attended. The examinations were abolished and a lottery system of assigning students to neighborhood schools was introduced.

High schools educate students between the ages of 15 and 18 at student expense (Korean Ministry of Education, 2002). As recently as 1996, 98.8% of middle school graduates were admitted to high schools. The schools often specialize in a particular type of curriculum such as academic, vocational or foreign language. In recent years science, art and athletic high schools have been founded to increase opportunities for students gifted in a particular area. Entrance into a particular high school is often decided on a competitive basis via a "selection examination." In the 1990s, students applying for vocational high school had some choice of which high school they wanted to apply for while students applying to attend academic high schools were assigned to area schools largely based on their examination results. Students in academic high schools select a major area of focus during their second year.

South Korea has one of the world's highest rates of post-secondary school enrollment, and competition to get into the best universities can be stiff. However, the country has faced a problem of having highly educated students with limited job opportunities due to a lack of marketable skills (Library of Congress, 2002). Post-secondary options include colleges and universities, teachers colleges, junior colleges, Air and Correspondence University, Open Universities and others such as theological colleges and seminaries (Korean Ministry of Education, 2002). A college or university education typically lasts 4 to 6 years. Junior college programs typically last 2 to 3 years. Since 1995, public universities have discontinued the use of entrance examinations and moved to a system of considering factors such as applicants' high school achievement, academic achievement test scores, and results from personal interviews as the basis for admission. More than 40% of the weight is given to high school achievement.

Additional Instruction Provided by Parents

Lee et al. (2000) documented that academic success is highly valued by many in South Korea. Many families begin preparing for a child's university education when the child is very young. To that end, some Korean families employ a private reading tutor for children starting at about age 3.   Each week the private tutor brings worksheets that teach concepts like naming letters, the sounds of letters, matching pictures with words and writing order. Activities may also include tracing and copying letters to learn the shapes and learning basic elements of syllable structure. The tutor collects the completed worksheets and corrects them. "Parents appear to believe that the worksheets provide their children with systematic lessons and show the progress of daily practices," the researchers state. But they also note that "these worksheets rarely result in children mastering reading and writing skills because they are used too early, sometimes when children are only 2 years old" (Lee at al., 2000, p. 349).

Typical Reading Instruction

There appears to be a split between popular beliefs among educators, parents and students about the role of kindergartens in teaching reading and the beliefs of educators and researchers. According to Lee et al. (2000), many parents demand that kindergartens teach reading and writing skills through such direct instructional strategies as drill and practice so that schools can pick up where the private tutors left off. Kindergartens that compete to attract students may find the need to offer reading and writing worksheets as part of the curriculum.

Kim (1992), however, takes the view of educators who affirm the importance of a maturational perspective to reading readiness. Kim states that kindergarten students (ages 3-6) in the early 1990s were taught with a reading readiness program that worked on the shapes of Hangeul and understanding the functions and uses of written words, but that they were not directly taught reading in Hangeul. The National Kindergarten Curriculum (Ministry of Education, 1999) that was to be implemented in February of 2000 actually contains very few references to reading instruction of any kind. The curriculum consists of five areas, one of which is language. Within the language area are three sub-areas: listening, speaking and "becoming interested in reading and writing" (Korean Ministry of Education, 1999, p. 31). The goals for students within this last area relate to understanding the concept of words and writing, becoming interested in letters in the environment and having exposure to books so that students can understand texts read aloud. "Active learning experiences should take place, rather than simply training children to passively interpret written letters" (Ministry of Education, 1999, p. 31). Lee et al. (2000) list five literacy activities that are commonly used by Korean kindergarten teachers: 1) Playing a word game called "linking the last syllable" in which the first player gives a word and the second player must give a new word that starts with the final syllable of the first word; 2) Using children's names in multiple contexts such as writing their names on name tags, attendance charts, sign up lists for activities, etc.; 3) Playing games to help children practice the rules of combining consonants and vowels; 4) Making picture dictionaries where students write invented spellings of words or teachers write the actual spellings; and 5) Writing a poem or altering existing poems while keeping the same structure. While these activities are more reading oriented and may meet the demands of parents, they are at the same time supportive of emergent literacy practices that embed literacy in meaningful contexts that are related to common experiences.

According to Kim (1992), reading instruction officially starts in first grade. Since 1987 when a new national curriculum was developed, reading has typically been taught through a combination of an alphabetic and a text approach. Students are taught components of syllables and how to combine sound components to make a word. They also learn to read sentences and stories at the same time they are learning to read words. In the text approach, they are helped to develop an understanding of the text they are studying and they learn to explain the meaning in sentences. They then are expected to learn to read and write individual words and syllables within the text. Korean teachers do not specialize in methods of teaching reading and there are few, if any, textbooks available that specifically address methods of reading instruction. As students become older, reading instruction is part of Korean language education in which students are instructed in literature appreciation as well as in writing. The focus in the upper grades shifts more toward the comprehension of reading rather than reading strategies.

Relationship of Research to Original Literature Review Questions

The research articles that were obtained from the Korean National Library largely relate to emergent literacy in young children. There were two articles on characteristics of the home environment and parental attitudes toward reading that, in our view, fit with the emergent literacy category because they described aspects of the home that contributed to early literacy. Our search turned up very little research on fluency/automaticity in reading or content area reading in Korean.

Development of Reading and Writing Skills in Early Childhood

The two studies that were translated into English for the purposes of this review illustrate a tension in the Korean educational community between those who take a more developmental view of reading in early childhood and those who favor direct reading instruction at an early age.

Park (1991) approached early childhood reading from a developmental perspective by describing the effects of "non-instructive" reading teaching methods with thirty-two students from one Korean kindergarten (ages 2-6). Students selected to participate in the study were those with lower reading and writing abilities. In Park's words, "Children must understand words before [they] receive direct reading or writing instruction. In order to boost comprehension of individual words, it is necessary to use visual and sensory exercises and to explore the child's experiences related to the words (p.3)." To that end, Park designed a range of activities based around 4 themes: (1) hand-eye coordination, eye movement and differentiation exercises; (2) word games using realia and picture cards; (3) shapes that are the basis for Korean letters, and; (4) the language experience approach to build on language in the environment. At least twice a day for two semesters, all of the students in the study had an opportunity to work with the materials that were available in the classroom. The first semester, students primarily worked with activities relating to the first 3 themes. Activities were informal and ranged from making geometric shapes with paint or playing games with sandpaper letters to putting picture cards up in the classroom with the word printed next to the picture and increasing the number of times a student passed by the picture and word. The second semester was devoted to activities based on the language experience approach. The teacher allowed the students many opportunities to interact with print and encouraged students to write something related to the topic of the day on the blackboard, to bring in pictures related to the topic, to make word books with words the children wanted to know, to write letters to friends and to circle letters they knew in text from magazines.

In addition to these classroom activities, Park also designed individualized materials for each child to take home for more practice. These materials related more to the development of writing. Once a month, parents were invited to participate in a training session to show them how to use these materials in the home to support the "non-instructive" approach. The author called this a "continuous educational environment in school and at home" (p.5).

Park's study does not contain any quantitative or qualitative data that describe results of the teaching methods. The findings generally state that the children involved in the study improved their ability to differentiate shapes, developed increased levels of concentration and hand-eye coordination, developed an increased ability to link pictures with the words that represented them and overall had greater interest in reading writing activities. "Reading and writing became a natural and interesting activity", Park stated (p. 4). In the author's opinion, these children had, at the end of the study, a strong base of pre-reading skills and they could benefit much more quickly from direct reading instruction in first grade.

In contrast to Park's 1991 study, the work of Cho (1992) describes a method of direct reading instruction for kindergarteners (ages 2-6). Cho explained the importance of reading instruction for kindergartners in the following way:

Within the domain of language, reading is considered the basis for learning. This has made parents greatly interested in their children's literacy and has also sparked children's educational institutions to experiment with various methods for teaching reading. Children's educational institutions, in response to high parental expectations are confronted with the issue of how to deal with reading instruction properly. It is necessary to find an effective means of reading instruction without imposing an additional burden on the children. In addition, there is an urgent demand to research aggressive and systematic teaching methods in light of the fact that many children already show some interest in reading and have been stimulated by a variety of media sources to start reading. (p.4)

The researcher studied the effect of 3 types of reading instruction upon groups of non-reading Korean kindergartners: (1) alphabet-centered (i.e., a skill-based approach that focuses on distinguishing letters and words visually); (2) assisted reading (i.e. a method developed by researcher Kenneth Hoskisson that helps children focus on the meaning of words in context through repeating specific words and phrases that have been read aloud to them from a text), and; (3) a combination of alphabet-centered instruction and assisted reading.

Cho (1992) described Assisted Reading instruction in detail. First, the teacher or parent reads a book aloud to the child and asks the child to repeat particular words, phrases or sentences from the text. The adult points to the words while the child is repeating them. This step of reading the text aloud to the student and having the student repeat elements orally is done several times to draw the child's attention to recurring words. When the child can recognize particular words in written form the adult changes the focus to words the child does not yet know. Words the child does know are skipped. When the child can read the words in the story aloud independently the child does so. The teacher helps only when the child has difficulty.

The researcher gave 79 Seoul kindergarteners are modified version of Humphrey and Cummings' "Reader-Nonreader classification Test" to determine which students were non-readers. Twelve of the 79 students were included in the research study because they had no reading skills. These twelve children were divided into four groups of three each. One group received an alphabet centered reading intervention, one received an assisted reading intervention, one received an intervention that was a combination of an alphabet-centered approach and assisted reading. The fourth group received no intervention outside of what was normally done in kindergarten classes. Each group except the control group received twenty minutes of reading intervention each day, five days a week for four weeks. A reading pretest and posttest were given before and after the reading intervention. For the pre and posttest students were asked to read both familiar and unfamiliar stories aloud. Points were given for each one of a preselected set of words in the text that the child pronounced correctly during oral reading.

Cho's findings indicated that the kindergarten students who received some type of reading instruction scored higher on the posttest when reading unfamiliar stories than did the children in the control group who received no reading instruction at all. When reading words from familiar stories, there was no difference on the posttest between children who had received reading instruction and those who had not. Of all the groups receiving reading instruction, the children in the group that received a combination of both the alphabet-centered approach and the Assisted

Reading approach scored the highest on reading unfamiliar stories on the posttest. There was a statistically significant difference between the group that received the combination of methods and the control group. There were no other statistically significant differences between groups.

On the basis of the findings, the author recommended that educators adapt traditional Korean reading instruction used in kindergarten (e.g., learning letter sounds, learning the difference between words and letters, and tracing letters). Cho concluded that children who are non-readers need reading instruction that focuses on both form and pronunciation of words as well as the meaning of words in context. An approach that focuses only on one or the other is "not effective in increasing their reading skills" (p. 29). However, the author recommended that a reading program using this combined method approach should be easily adaptable to meet the needs of different types of children. The instructional level cannot be too difficult for a child. This implies that a teacher have access to a wide variety of texts at different levels.

Identifying and Improving Pre-Reading and Reading Skills in Young Children
Of the 21 articles written in Korean that were annotated in English (but not fully translated), 8 relate to identifying and improving the Korean pre-reading or reading ability of children ages 2-6: Shim, Kim & Kim (2000), K. Lee (2000), S. Lee (1999), Kim (1998), Kim & Moon (1998), An (1996), Yoo (1996) and Cho (1990). These articles also reflect the split among researchers who advocate for a developmental approach to learning (An, 1996; Kim, 1998; Kim & Moon, 1998; Lee, 1999; Shim et al., 2000; Yoo, 1996) with many informal literacy activities, and those who are in favor of a more direct reading approach (Cho, 1990; Lee, 2000).

Developmental Approach to Reading. In an empirical study, Shim, Kim & Kim (2000) examined how a book lending program for Korean kindergarteners impacted the students' reading ability and attitudes toward reading. The book-lending program, aimed particularly at 4-year olds, was adapted from the *Book Backpack Program,* (Cohen, 1997) and was implemented for 14 weeks. In addition to the books, children took home a newsletter for parents that explained activities to do with each book. Findings indicate that the book-lending program significantly increased the reading ability of both boys and girls, as measured by the *Reading Ability Test* (Sulzby, 1986). It also had a positive effect on children's perceptions of reading as measured by the *Perceptions of Reading Interview* (Kim & Sim, 1996).

Lee (1999) found that an informal, non-directive, picture book reading activity done with Korean kindergarten children for nine weeks produced growth in the children's' reading ability as measured by *The Classification Scheme Test (*Sulzby, 1985, 1988*)* and *the Adapted Informal Reading Inventory* (Lee, 1997). There were no significant differences in the amounts of progress made by emergent and conventional readers.

Kim and Moon (1998) designed a study to examine the effect of a Whole Language approach using Korean picture books for reading activities implemented with 4 and 5 year old Korean kindergarten students. Sixty seven children were divided into an experimental group that received the Whole Language intervention for 10 weeks (n= 34) and a control group that did not (n=33). A pretest-posttest design was used with a reading interest measure (*Primary Pupil Reading Attitude Inventory* by Askov) and a reading development assessment (developed by Sulzby; the test was modified in the manner of Choi, 1993) given before and after the invention.

Results indicate that the children who received the Whole Language intervention had higher interest in reading after the intervention and a more advanced developmental stage of reading than the control group did.

Kim (1998) conducted a 3-week experimental study to determine the effects of literacy-enriched play upon the reading ability of Korean 4-year olds. Eighty-seven students were divided into 3 groups: one that received literacy enriched play with the teacher interacting directly with students during the play; one that received literacy enriched play with no teacher involvement and a control group. Findings indicate that the group that had the literacy enriched play with teacher interaction had a higher frequency of reading behaviors and higher recognition of letters in the environment.

An (1996), dissatisfied with traditional reading and writing practices that emphasize form over meaning, implemented a "situation-oriented" reading and writing program with Korean kindergarteners. A "situation-oriented" literacy program is based on the premise that young children figure out some of the basic reading and writing concepts themselves when they are exposed to language in context. While the researcher does not appear to provide quantitative or qualitative data on the outcomes of the reading program, An does provide practical examples of how teachers can implement such a program and the recommended duration of the implementation.

Finally, Yoo (1996) conducted a literature review on practices that support emergent literacy in young children. Yoo recommends that the types of activities that are often done at home should also be implemented in Korean kindergartens. The literacy events should be meaningful to children and serve a purpose in the classroom. The author provides many examples of activities that kindergarten teachers could use.

Direct Approach to Teaching Reading to Young Children. A smaller number of the annotated research studies advocated for direct teaching of reading to kindergarten children. First, K. Lee (2000), studied the metacognitive strategy use of Korean 5 and 6 year olds to determine how teachers could incorporate strategy training into their reading instruction. A teacher demonstrated to participants the use of metacognition in a reading lesson and read a fairy tale to each group. Then one-to-one individual interviews were conducted with the children to collect data on children's abilities in four areas: predicting, questioning and answering, identifying main ideas, and formulating questions.

Findings in each of the four areas were broken down by both age and IQ level. There were no differences in the groups' ability to formulate question or in predicting ability according to age or IQ level. However, in questioning and answering ability there was a significant difference between the younger and older students within the lower IQ groups. In the six-year-old group, questioning and answering scores were found to be significantly different according to the child's IQ level. In addition, for six year olds, there were significant differences in questioning and answering, and in identifying main ideas, between the higher and lower IQ group. Overall, six-year-old children were more likely to use metacognitive strategies.

Second, Cho (1990) used results from a battery of standardized reading readiness tests to compare the pre-reading abilities of Korean Kindergarteners who were reading against those of students who were not yet reading. Based on the findings, the author makes recommendations for reading instruction. Cho used Humphrey-Cummings *Reader-Nonreader Classification Test* (1982) to identify Korean kindergarteners who were not reading and those who were reading. A battery of reading readiness tests showed significant differences in motor coordination, discrimination, memory, comprehension, concept formation and general knowledge of the readers as compared to the non-readers. Cho recommends that reading readiness programs be developed for Korean kindergarteners and that these programs are suited to the needs of both readers and nonreaders. A standardized reading readiness instrument is also recommended so that children at-risk of experiencing a reading delay could be identified early.

Home Environment and Its Role in Developing Early Reading Skills

Four annotated articles addressed the role of the home environment in early literacy (M. Kim, 1999; M. Lee, 1999; Kwon, 1993; Joo, 1992). All of them place a high value on the role of the mother in supporting the development of literacy skills. M. Kim (1999) found that Korean mothers surveyed tended to hold one of three types of literacy views: emergent literacy views, traditional literacy views, or a combination of the two. All of the mothers surveyed, regardless of the type of literacy views they held, structured developmentally appropriate reading activities for young children in the home. However, the types of activities mothers did with children varied. Mothers with traditional literacy views tended to do the most decontextualized skill-oriented activities with their children. The author recommended that more home literacy programs be developed to support mothers with traditional literacy views.

Kwon (1993) also did a survey of Korean mothers with 5 and 6 year-old children to determine factors in the home environment that played a role in the children's future reading ability. The survey also researched the mother's perceptions of her role in supporting reading development in the child. The researcher found that the middle class families involved typically had many books available to children and mothers read aloud whenever children were interested. However, mothers typically did not talk with their child about what was being read. Kwon recommends that mothers spend more time interacting with their child about the books that were read (e.g., asking questions).

Joo (1992) took a slightly different approach to determining the home literacy environment of Korean kindergarten students. Joo observed 59 children ages 3-5 and conducted individual interviews with students and their families in the home. Findings in the English annotation and the English abstract printed with the article are not detailed. They simply state that the children involved in the study were exposed to a wide variety of print in their home environment. When print was embedded in a context children tended to comprehend the print most often. The researcher found that 68.6% of 3 year olds, 80% of 4 year olds, 82.5% of 5 year olds could read context embedded print. When print was decontextualized, children were much less likely to comprehend it. Joo found 16.7% of 3 year olds, 21.4% of 4 year olds and 47.0% of 5 year olds could read decontextualized print.

Finally, M. Lee (1999) synthesized a review of literature examining the importance of family storybook reading for children's reading development. Based upon the review, Lee recommends

16 reading methods parents can use with their children and 8 ways to integrate informal reading activities at home. Details of the recommendations are not provided in either the English abstract printed with the article or in the English annotation.

The Teaching of English as a Foreign Language
Two annotated articles addressed the teaching of English as a Foreign Language. In the first, Kim & Lee (2001) surveyed 146 elementary English teachers in Korea to ask about effective ways to improve the English reading skills of Korean children. While the English annotation does not provide many details about specific results of the study, major findings include the advantages of using multimedia (e.g., Internet and CD-ROMs) in foreign language reading instruction because of the ability to obtain authentic materials in the language. Another major finding is that Korean teachers need to teach the culture of English speaking countries along with the language because the two areas are strongly connected.

In the second article, Hwang (1997) provides a literature view with some guidelines for teaching English reading to Korean elementary and secondary students in Korea. Typically, elementary English reading is taught through phonics, but the author advocates for using an approach that includes all four modes of language (listening, speaking, reading and writing). Such an approach, Hwang argues, will maximize English reading comprehension.

For middle school English reading, the author emphasizes that pre-reading activities (e.g., reading factors, the genres and characteristics of texts) should be used with students to increase their comprehension. The background knowledge, cultural and social knowledge of the students should also be related to reading comprehension.

Reading Assessments
One full text article, and the remaining three articles that were annotated in English cover the topic of reading assessment from different angles. D. Kim (1999), a full text article written in English, looked at the validity of a Korean reading inventory using curriculum-based measurement (CBM) approaches that are commonly used in the United States. In curriculum based measures such as the ones Kim designed, students are asked to read a grade-level text aloud for one minute and the number of words read correctly is recorded. Kim describes the oral reading assessment given to Korean elementary students and argues that CBM can be an effective tool for both regular education and special education teachers in Korea. The researcher believes that CBM shows an "adequate" reliability in a Korean context and can be used to identify students who have reading difficulties. According to Kim, the oral reading assessment in his study provided information that differentiated between Korean regular education students and Korean students with individualized education plans (IEPs) in reading. Information provided by a curriculum-based measurement could enable teachers to make better instructional decisions. Kim goes on to say that curriculum based reading measures are easy to construct in Korean and are very pertinent because of the regular sound to symbol correspondence in the language.

Chung (2000) assessed the interrelationship between early reading development and early writing development in Korean five year olds. Findings indicate that children incorporated elements of stories they had been read (e.g., punctuation, conjunctions, unique expressions or phrases, and typical story development) into the stories that they wrote. Based on these findings,

the author recommends that "parents and teachers prepare various, qualitative environmental print, select various, high quality picture story books, and read them frequently to their children as they are very important reading resources for children's language development" (p. 75).

M. Lee (1997) studied the effectiveness of combining two early reading assessment tools and adapting them to a Korean context; Sulzby's *Classification Scheme* (1985, 1988) to assess emergent reading and Lipson and Wixson's *Informal Reading Inventory* (1991) to assess conventional reading behavior in children. The end result was the *Informal Reading Inventory* which was based largely on Sulzby's work with the addition of 4 new categories for conventional readers. The author states that the new assessment was more effective at differentiating the reading skills of older pre-school-aged readers than the *Classification Scheme* test (Sulzby, 1985, 1988) had been.

The last assessment article by Chun (1992) looked at the relationship between reading development and IQ in Korean five year olds. The researcher gave nonverbal IQ assessments to 37 five year olds enrolled in a Korean kindergarten. Measures of reading ability were obtained through Individual interviews with children in which they were asked to respond to questions about a story book. The results indicate that among five year olds there was a developmental progression of stages in reading that started with a complete lack of understanding written text and progressed through understanding pictures, understanding the concept of print but not knowing how to read text and finally reading text. The authors found that the students in the highest developmental stage, that were able to read text on their own, had the highest IQ scores of the group. The area of the IQ test that seemed to have the most different results among children of varying reading abilities was the vocabulary sub-section of the test. There was a significant difference in the vocabulary scores between children who could read and children who could not read. Chun recommends individualized reading instruction for young children rather than group instruction.

Implications of Findings for Teaching Reading

The literature cited here, including those articles that were translated into English and those written in Korean that were annotated in English, does not have any specific recommendations for teachers outside of Korea who teach Korean students. Both translated studies make a claim that there is value in teaching pre-reading and/or reading skills to preschool and kindergarten students as a way of getting children ready for more intensive reading instruction at the elementary school level. Eight of the annotated articles support this claim. In general, U.S. educators and reading research experts tend to advocate for a more developmental view of early reading that is similar to that of Park (1991), Shim, Kim & Kim (2000), Lee (1999), Kim & Moon (1998), Kim (1998) and An (1996). These articles list a number of activities that could be done with children in any reading class but it is important to keep in mind that all of the research cited deals with students who are native speakers of a language going to school in the language to which they have been exposed since birth. When early reading instruction is provided, the two translated articles emphasize the importance of having individualized materials for students with varying levels of reading skill and interest.

Korean researchers, similar to their counterparts in the United States, tend to place a high value on children's home environment and family reading experiences to develop pre-reading skills.

Several of the articles on home literacy environments recommend training and support for parents to help them develop more interactive literacy activities with their children.

What is of interest for U.S. educators reading this section on Korean reading research is to see that some limited English proficient Korean students in the U.S., either those who were born in Korea and received some education there or those who were born in the U.S. and whose parents were educated in Korea, may come from a background in which direct reading instruction with memorization, repetition and emphasis on correct pronunciation of words is begun with children as young as ages 2 to 3. The literature seems to indicate that, because kindergartens in Korea compete with each other to attract students, some schools have had to make adaptations in their curricula to meet the parents' demand for more direct reading instruction. U.S. educators at the kindergarten level may, then, need to provide clear communication with Korean parents, stating why a particular model of early reading instruction in English is being implemented in a child's classroom. Information about the U.S. education system may also be important to provide parents so that they understand how reading fits into the entire K-12 experience as well as the role that reading skills play in post secondary education options in the United States. A school that teaches and tests reading through 8th grade or beyond may be a new experience for Korean immigrant parents.

It is noteworthy that of all the Korean reading research that was available, few studies addressed children who were beyond kindergarten age. This fact appears to reinforce the idea that there is a high literacy rate in South Korea and that formal reading instruction takes place in a limited span of years. Understanding the context of Korean literacy and reading education will enable U.S. educators to communicate more effectively with the families of Korean born children, or families of U.S. born children where parents were educated in Korea, about students who are experiencing difficulty reading in English.

Navajo Early Literacy and Instruction

Studies Included in Literature Review

Eleven articles form the basis for this review of the Navajo literature. All of these articles were written in English and were used in their entirety. Table 11 indicates that 9 articles, listed from most recent to oldest, were published in peer-reviewed sources. The analysis of the scientific design of these nine studies is provided in Appendix F. They were primarily descriptive in nature. One study was pre-experimental and did describe a reading intervention. The other studies did not.

Table 11. Peer Review Status of Navajo Articles

Author & Date	Journal Name	Peer Review
Fillerup (2002)	*National Association for Bilingual Education Newsletter*	No
Francis (1996/97)	*Journal of Navajo Education*	Yes
Holm & Holm (1995)	*Bilingual Research Journal*	Yes
Dick, Estell, & McCarty (1994)	*Journal of American Indian Education*	Yes
McLaughlin (1994)	*Journal of American Indian Education*	Yes
Hartle-Schutte (1993)	*Language Arts*	Yes
McCarty (1993)	*Language Arts*	Yes
Anziano (1991)	*Early Education and Development*	Yes
McLaughlin (1989)	*Anthropology and Education Quarterly*	Yes
Anderson-Heiman (1977)	*The development of supplemental reading texts for Navajo students in elementary education*	Book
Wieczkiewicz (1979)	*Journal of American Indian Education*	Yes

Some articles from the 1980s and 1970s were included because of the scarcity of research, in general, on Navajo reading. See Appendices D and G for more details about each of the studies and a complete annotation.

Main Findings for Navajo

The main findings from the review of Navajo literature are summarized here. Those findings that come from at least one peer-reviewed journal are marked by (PR). More detailed descriptions of findings follow.

- There is a lack of qualitative or quantitative research examining the topic of effective methods for teaching reading in Navajo or in English to Navajo students. (PR)

- Teaching literacy in Navajo is the major way to preserve a language that is in danger of dying out as well as to transmit culture. By learning to read and write in Navajo students also strengthen their self identity. (PR)

- Three successful literacy programs commonly described in the literature (Rough Rock, Rock Point, and Fort Defiance) were all based on a bilingual/bicultural model. In all 3

cases Navajo literacy was taught initially, and English literacy was taught later. Skills in both languages were maintained. (PR)

- The most recent research articles endorse a Whole Language approach to teaching reading in Navajo that uses locally produced texts based on elements of Navajo life and stories traditionally passed down by elders. A Whole Language approach is compatible with many aspects of Navajo culture. (PR)

- Earlier research articles endorse a more structured, phonics-based approach for teaching reading in English and do not necessarily mention reading in Navajo. (PR)

- There is a shortage of high quality Navajo texts for use in classrooms. Community members, parents and students have often been asked to become authors and create authentic texts for students to read in Navajo and English. Such texts are more relevant to the students than commercially available textbooks used in settings with majority students. (PR)

- Parents should be respected for the unique knowledge of Navajo culture that they possess and viewed as a child's best "first teacher." Schools can go to the parents with training and support for this role. (PR)

- Some Navajo students have many of the characteristics that educators commonly associate with being "at risk" of failing to learn or dropping out of school. However, Navajo students come to school with many strengths that are often overlooked by an educational system geared to majority students. (PR)

- High expectations for Navajo students' academic achievement and social skills are important in spite of risk factors in the students' background. (PR)

Context of the Country/Language/Education System

The Navajo Language
The Navajo language is spoken predominately in the four corners region of the United States. As shown in Figure 5, the Navajo Nation Tribal administration area spans across the southwest corner of Colorado, the northwest corner of New Mexico, the northeast corner of Arizona and the southwest corner of Utah.

The Navajo alphabet in its present condition consists of 34 letters. The letters below represent the Navajo alphabet followed by a Navajo writing sample.

Łł Ńń

Áá Éé Íí Óó Ąą Ęę Įį Ǫǫ Ą́ą́ Ę́ę́ Į́į́ Ǫ́ǫ́ Óó
Aa Ee Ii Oo

Bb Cc Dd Gg Hh Jj Kk Ll Mm Nn Ss Tt Ww Yy Zz

Figure 5. The Navajo Nation

Katzner (2002, cited on World Language, 2002a) provides this Navajo writing sample:

Naakidi neeznádiin dóó ba'ąą hastą́diin dóó ba'ąą náhást'éí nááhaiídą́ą' Naabeehó Yootó dóó kinteel bita' Dinétah hoolyéegi kéédahat'į́į ńt'éé', dóó índa shádi'ááh dóó e'e'aahjigo dadeezná jiní. Ła' t'éiyá Tséyi'jigo adahaazná jiní; náánáła' t'éiyá Mą'ii Deeshgiizh dóó Soodził bine'jį' adahaazná jiní, dóó náánáła' éí Tóntsaají' adahaazná jiní. Táadi neeznádiin dóó ba'ánígo nááhaiídą́ą' Naabeehó dibé dóó łį́į' bee dahazlį́į' dóó díí naaldlooshii shódayoost'e'go nikidadiibaa' jiní. Naakaii ádaaníigo t'éiyá 165 nááhaiídą́ą' Naabeehó 3500 yilt'éego kéédahat'į́į ńt'éé' —dííshjį́į́góó 100,000 yilt'é jiní.

Although the Navajo language is old and complex, its history in formal schooling is relatively short. Formal schooling, as defined today with school buildings and classrooms, was not a part of Navajo culture until the mid-1800s. The English language has been predominantly used in Navajo education and students as recently as the 1950's were punished for using Navajo in school. McLaughlin (1989) observed the spread of Navajo literacy skills into certain settings. Reading and writing in Navajo have become especially important for young adults and adults who have access to church and school environments where uses for the written language have been developed and where members of the Navajo community have assumed control rather than members of the majority culture. The use of reading and writing skills in Navajo is spreading outside of these two settings as well. Currently, more and more young adult and adult Navajo report that they are using written Navajo in their personal lives for writing letters, keeping journals, and taking notes. However, reading and writing in English is still important in local and regional business (Begay, Dick, Estell, Estell, McCarty & Sells, 1995).

In recent years, the English-only speaking population of young children in the Navajo Nation has grown rapidly (Francis, 1996/97). As a result, Navajo has become an endangered language and Native American communities are trying to maintain it by introducing it in schools.

Structure of the School System
Until the 1960s, three types of schools were present in Navajo country: Bureau of Indian Affairs (BIA) schools, missionary-run schools, and public schools. Public Law 638 was enacted in 1966 as part of the Johnson administration's War on Poverty program. This law provided funding through the BIA to local agencies (in this case a non-profit organization run by Navajo leaders) to promote educational innovation (Roessel, 1968). Rough Rock Demonstration School was the first of its kind in the United States, a Navajo community-run school funded by the BIA and Office for Economic Opportunity. Today over 200 schools in the Navajo Nation are funded with BIA grants, but are run locally (Harvard Project on American Indian Economic Development, 1999). Degrees of Navajo and English integration into the curriculum vary from school to school, but Rough Rock Demonstration School and Rock Point school are generally seen as models for Navajo/English bilingual education (Northern Arizona University, 2002).

Legislature and state educational policy have a significant impact on the organization of the Navajo schools. Thus, in 2000, in Arizona, a state with a large proportion of the Navajo population, voters passed a law that curbed bilingual education in the state. Instead of teaching academic subjects in students' native languages, intensive one-year English immersion programs were proposed. The ambiguities and complexities of the law are still under debate and they center on the timelines for implementing the ban, procedures for parental waivers that would allow bilingual teaching, school restructuring, etc. (Zehr, 2001). It is unclear how the passage of the ban on bilingual education has affected the programs discussed in this section. For the purpose of clarity, we refer to the programs mentioned in the literature with the past tense to indicate that the majority of the literature consulted was written prior to the new legislation.

Depending on their populations and educational policies, schools that educate Navajo children typically use a variety of methods and techniques for language education. According to Holm & Holm (1995), these can be classified into four approaches:

Approach #1: No Navajo. Today, with the exception of teaching religion in Navajo, most schools serving Navajo students still are limited to teaching in the English language.

Approach #2: Navajo as a Means. The Navajo language is used, often by classroom assistants, as a means to get students to the point where they can understand instruction in English. Navajo is discontinued at some point and all instruction from then on is conducted in English.

Approach #3: Navajo as Supplemental. In the 1990's, many states started requiring foreign language credits in order for students to graduate, and schools in Arizona, in particular, began allowing Navajo to fulfill foreign language requirements.

Approach #4: Navajo as Integral. Navajo is used for its own sake and is the language of content instruction. Students are taught to read and write in Navajo before they learn to read and write in English and skills in both languages are maintained. The Rough Rock Demonstration School is a famous example of such a program. Holm & Holm (1995) indicate that while the programs of this type that existed at the time they wrote their article were generally considered successful, few other schools followed suit.

Relationship of Research to Original Literature Review Questions

This section highlights the process and characteristics of teaching reading to Navajo children. The information presented here should not be considered exhaustive; however, it does provide various perspectives of researchers from the past several decades. While there is a great abundance of literature available pertaining, in general, to working with American Indian students, there is little research on teaching reading skills to Navajo students. That is why a few articles from the 1970s and 1980s have been included.

It is important to note that, unlike languages mentioned in other countries in this report, the Navajo language is an endangered one that the Navajo community is trying to maintain (McCarty and Zepeda, 1995). Navajo students often do not speak Navajo as their first language.

None of the 10 articles in this section provide data from an experimental study that examines the effectiveness of specific reading methods in either Navajo or English. Many of the articles are written from the standpoint of explaining and defending bilingual/bicultural education programs for Navajo students. Five recurring themes are found in the available literature and will be reviewed in the following sections: (1) The importance of a bilingual/bicultural approach to educating Navajo students; (2) Descriptions of specific literacy teaching methods and programs; (3) The use of locally developed, culturally relevant materials; (4) The importance of incorporating parents as "first teachers"; and (5) The need to hold high expectations for Navajo students despite the risk factors that may be in their background.

The Importance of Bilingual/Bicultural Programs
The first bilingual/bicultural (Navajo-English) instructional program began in the late 1960s at Rough Rock Demonstration School in Arizona. Since that time, many other Navajo controlled

schools have implemented what the literature often calls "two language" programs.[6] Some public schools serving Navajo students have followed suit by also developing such programs (Holm & Holm, 1995). It is unclear from the literature how many of the schools have been able to continue offering programs that emphasize both Navajo and English in the face of the Arizona English-only legislation that was passed in 2000. Although empirical data to support Navajo "two language" programs are limited, the literature is clear in its support for these programs; many times for reasons other than increased academic achievement of Navajo students, although the increase in academic achievement in English is frequently mentioned as a benefit.

In recent years, members of the Navajo Nation have grown increasingly concerned over the numbers of Navajo young people who speak only English and who have limited exposure to Navajo (Holm & Holm, 1995). To compound the issue, measures of English ability often show these children to be less than fully proficient in English. "Two language" programs in schools are the primary way to combat Navajo language loss (Francis, 1996/97; Holm & Holm, 1995), preserve the rich Navajo history and culture for future generations and develop self-understanding in young people (McLaughlin, 1989). In such programs, the authors argue, it is important that literacy in Navajo be developed first and literacy in English be added later. Developing literacy in Navajo first is one way to send a message to students that Navajo speakers are not lower status than English speakers in the school (Holm & Holm, 1995). Students who perceive that their Navajo skills are valued as highly as English skills may make more of an effort to become bilingual. According to Holm and Holm (1995), teaching Navajo first and English second shows young people and parents that bilingualism can be an asset. It also capitalizes on the cultural skills and abilities that students bring to school, rather than viewing them as a deficit (McCarty, 1993).

Along with early instruction in Navajo reading and writing, the language must be used for a real purpose in the school setting and not merely provided as a single language course. McLaughlin (1994) argues:

> Minority language students succeed educationally to the extent that political processes in schools reverse those that legitimize the domination and disablement of members of the minority group as a whole…First, the minority student's language must be incorporated into the process and content of schooling… (p. 53)."

Some schools described used Navajo as part of a culture-based curriculum school-wide, while others also used the native language to teach content courses such as math, science and social studies. In such cases, researchers point out that there was a clearly defined place and time for the use of Navajo and other times for the use of English (Francis, 1996/97).

The importance of using Navajo for a purpose has been demonstrated in the larger context of the Navajo Nation. McLaughlin (1989) found that reading and writing skills in Navajo have been incorporated into the activities of some of the local churches that use religious texts written in the

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[6] In other settings, such programs might be called bilingual programs. According to Holm and Holm (1995), the term 'bilingual' is often used to refer to Navajo students who do not speak English well or to refer to teachers who have Navajo students in class. In their view, the term "two language" program is clearer.

Navajo language. According to McLaughlin (1989), while many of the older Navajo Nation members speak Navajo on a daily basis, this practical use of the written language has encouraged more Navajo to use reading and writing skills as well.

Specific Reading Programs and Teaching Methods

The specific reading programs and teaching methods described most often in the literature, for both the Navajo and for the Native American population in general, tend to be those that ascribe to a bilingual/bicultural model where possible, (Dick, Estell & McCarty, 1994; Francis 1996/97; Holm & Holm, 1995; McCarty, 1993) and which use an experiential, Whole Language approach with student and community generated texts. For example, a student in one second grade classroom created a text based on her personal experience with farming (see McCarty 1993 for photographs). The text described how corn is planted, what the plant looks like in various stages of growth, when it is ready for harvest and how it is processed. The student also made reference to the use of corn in Navajo ceremonies and to dishes cooked with it. The text was accompanied by detailed drawings. According to McCarty (1993) a text based on authentic Navajo life contains information that is familiar to many Navajo students while at the same time validating the culture.   Reyhner, Lee and Gabbard (1993) state that experiential learning provides a better cultural fit for many Native American students than does the traditional individualistic, competitive model used in many mainstream schools.

The Rough Rock English-Navajo Language Arts Program (RRENLAP)

The Navajo community school at Rough Rock, Arizona is one of the most frequently described in the literature on American Indian education (see, for example, Francis, 1996/97; Dick, Estell, & McCarty, 1994; McCarty, 1993). The Rough Rock Community School was founded in 1966 as a federal War on Poverty program and it initiated the contemporary Native American education movement. "Until the advent of the Rough Rock demonstration school," Agnes and Wayne Holm wrote, "no school had formally empowered parents or the community to have a significant say in the education of their children" (Holm & Holm, 1995, p. 145). Since that time, the school has played a pivotal role in educating Navajo children and empowering the local Navajo society.

One of the considerable steps forward in bilingual/bicultural education at Rough Rock was the Rough Rock English-Navajo Language Arts Program (RRENLAP), which was conceived in 1987 and supported by a Title VII grant from the U.S. Department of Education, Office of Bilingual Education and Minority Language Affairs. RRENLAP was modeled on the Kamehameha Early Education Project (KEEP) in Hawaii and adapted to fit the needs of Navajo students. In the mid-1990s, the program provided bilingual Navajo-English classes in kindergarten through third grade. The scope of the program was limited by a lack of Navajo teachers, particularly at the upper grades, and a lack of high quality Navajo texts (McCarty, 1993). Changes to previous bilingual programming were concentrated in three areas: (1) English and Navajo oral language and literacy development by means of Whole Language pedagogy with integrated reading and writing; (2) increased time for staff development and materials development; and (3) in-classroom research on related issues and phenomena, such as alternative literacy/biliteracy assessment and children's emerging literacy (McCarty, 1993, p. 184).

Dick, Estell, and McCarty (1994) identify the following three key features that characterized instruction in RRENLAP classrooms: Cooperative classrooms, process-oriented reading and writing strategies, and a criterion-referenced system for assessing student progress (p. 35).

One of the most important innovations introduced in the Rough Rock School was the approach to viewing reading and writing together as a whole process. Educators made use of strategies like cooperative learning, process writing, and language experience activities to encourage critical thinking. According to McCarty (1993), "These techniques departed radically from the cue-response, 'teacher-proof' phonics, and spelling exercises of basic skills (p. 184)" that had been used with Navajo students in the past and that have found renewed popularity in some reading programs today.[7]

In the mid-1990s, when many of the articles cited here were written, there were limited data available on the academic achievement of students who had participated in RRENLAP. Preliminary findings indicated that in a one year period program participants made gains in English reading comprehension as measured by locally developed assessments (McCarty, 1993). Students' percentile scores on the California Test of Basic Skills more than doubled in the English vocabulary area, although their scores were still below national norms (McCarty, 1993). One group of students exited from RRENLAP at the end of third grade made a mean gain of 60 percentage points on a criterion-referenced test of listening comprehension over the 3 year span of the program (Dick, Estell & McCarty, 1994). The most compelling finding, from looking at both individual student scores and scores for cohorts on standardized assessments, was that students with uninterrupted development in Navajo reading and writing made the largest achievement gains (Dick, Estell & McCarty, 1994; McCarty, 1993).

Outcome Based Education was introduced at Rough Rock in the mid-1990's, and the authors anticipated changes to RRENLAP because of the new school-wide focus on outcomes. No further articles have been found that document those changes.

Navajo Immersion Programs
Fort Defiance Elementary school had a two-language program in Navajo and English starting in the 1970s (Francis, 1996/97; Holm & Holm, 1995). However, the increasing numbers of English-only speakers among the student body who were also limited in their English proficiency convinced educators and policymakers to switch to a Navajo immersion program in the late 1980s and early 1990s. Holm and Holm (1995) state, "The goal of this program was not (as it was at Rock Point), higher academic achievement; it was the acquisition of, and development in Navajo" (p. 149). Participation in the program was voluntary and started with kindergarteners in the first year of implementation. School administrators and teachers planned to add a grade level to the program each year. In the mid-1990s the program involved kindergarten through 4th graders.

In Kindergarten, instruction was largely in Navajo with one small group session a day in English. As students grew older the emphasis shifted more toward equal or greater use of English. By the second and third grade students received instruction in Navajo for half the day and instruction in English for the other. Participating students took classes in developmental Navajo, Navajo

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[7] For more details about the RRENLAP Program and the local context of Rough Rock, see Begay, et al., 1995.

reading followed by English reading, Navajo writing followed by English writing, and a bilingual mathematics course. Material from other content areas such as social studies and science was incorporated into activities in these five classes.

Holm and Holm (1995) describe outcomes of the program in very general terms without providing any data. According to researchers, 3rd and 4th grade students in the Navajo-English program performed as well on English ability tests as monolingual English speakers who did not participate in the program. Overall English reading achievement for Navajo students in the school was still below the national norm but the gap between the students in the Navajo-English program and in the English only program was closing. Students in the two language program also performed better than students in the English only program on tests of Navajo language ability.

In a brief article in the July/August 2002 issue of NABE News, Fillerup describes another Navajo Immersion Program at Leupp School in the Flagstaff, Arizona school district. This public school started an immersion program with Title VII money in the fall of 1998. Again, the impetus for the program came from parents and Navajo community members who were concerned that less than 10% of the student body could speak Navajo. The school developed a holistic, theme-based curriculum centered around Navajo culture that also fit with Arizona state standards. The first year of the program kindergarten students were included and educators plan to add a grade each successive year up through 8th grade. The majority of instruction takes place in Navajo.

Fillerup presents more detailed but still limited outcome data from the Stanford Achievement Test for participants in the Leupp program. For example, he states that "…LEP students in the NI [Navajo Immersion] program outperformed the average Non-LEP student in the district by .4 NCEs in Reading and 7.8 NCEs in math, while scoring within 6.3 NCEs in Language (p. 44)."

The author emphasizes that the immersion program was not the only initiative introduced at the school during this time period. Others included sheltered English instruction for grades K-8, "Take Home Technology", family and school-wide literacy programs. Strong leadership from both the school principal and the superintendent enabled the immersion program to be successful and strong collaboration between the school staff and the Navajo community was necessary to incorporate elements of Navajo culture.

Two Language Program at Rock Point Community School, Arizona
Rock Point School began as a Bureau of Indian Affairs (BIA) school in the 1930s (Holm & Holm, 1995). In the 1960s it was determined to be the poorest performing of all BIA schools. A small-scale Navajo literacy program was started in the mid-1960s and increased with the addition of Title VII funds in the early 1970s. Cooperative teaching teams of a Navajo speaking teacher and an English speaking teacher were used in elementary-level classes. Reading and writing was begun in Navajo in first grade, and literacy in English was taught in second grade. In the lower elementary grades, other courses included English as a second language, bilingual mathematics, a "hands on" science course in Navajo and a Navajo social studies course. At the upper elementary level, the main teacher instructed in English and students had a Navajo specialist for literacy instruction and some content courses.

The authors provide little achievement data for graduates of the program, and do acknowledge that participants often did not perform above the national average on standardized tests. However, they found that students in the program typically performed as well or better than similar groups of students in other schools where there was no immersion program.

Phonics-based Approaches
Some of the older literature from the 1970s describes phonics-based approaches to teaching English literacy to Navajo students. Wieczkiewicz (1979) described a highly structured, phonics-based approach to teaching reading in English that was used at Rough Rock school prior to the implementation of the bilingual/bicultural program described previously. According to the author, a battery of cognitive and academic tests were given to twelve Navajo 6th and 7th graders to determine whether students had any kind of learning difficulties prior to the implementation of the reading curriculum. The students' in the sample were all native Navajo speakers test results were affected by their limited English skills.

Wieczkiewicz structured daily lessons with the *Recipe for Reading* program which taught decontextualized phonics and mechanics in isolation. In addition, students were assessed daily on recognition of commonly used words from the Dolch list to help them obtain fairly quick mastery of basic texts. Additional time was spent in sustained silent reading of basal reading texts and in completing workbooks. All students were required to read and write in cursive because cursive was used in the phonics program.

The author provides very limited data on the findings of the study other than that one of the measures used for both pre- and post-testing, *The Spache Diagnostic Reading Scale,* showed that students had made significant gains.

Wieczkiewicz listed a number of recommendations for teacher including over learning of English decoding skills to choosing readings to match the phonics concepts being studied and teaching phonetic rules for spelling.

Locally Developed, Culturally Relevant Materials
One important component of the Whole Language reading program that is frequently recommended in the literature is meaningful texts that contain experiences students can relate to. Anderson Heiman (1977) described a shortage of culturally relevant reading materials in the 1970s. According to the author, at that time, the Navajo in particular had limited access to reading materials describing experiences with which they were familiar. The Montana Council for Indian Education produced materials for Crow and Cheyenne readers but there was little available that related to the Navajo. Since that time, schools and districts have begun using desktop publishing to produce their own texts, in Navajo and English, based on traditional folktales and stories of life on the reservation. Creating texts for reading has many benefits. Community members are brought into the school and asked to tell stories which are then transcribed. These stories have a particular relevance for the children and involving community members creates bridges between the school and community. Children also create texts and because the texts have an immediate audience, the process of writing takes on new meaning (McLaughlin, 1994) and a definite space is set aside for the use of Navajo (Francis 1996/97).

Children see each other and members of the community as authors, rather than having the concept of an author be someone distant from them (McCarty, 1993). Culture is transmitted through the readings (Anderson Heiman, 1977) and students and their families produce their own "school knowledge" (McLaughlin, 1994).

Incorporating Parents as "First Teachers"

Several articles discuss the importance of cooperation between teachers and parents in educating Navajo children (e.g., Anderson Heiman, 1977, Hartle-Schutte, 1998). Children who do not experience success in the elementary school setting might show improved progress in education with the help of their families. Hartle-Schutte (1993) noted that partnerships between schools and Navajo parents must be established. Such partnerships would develop both teachers' and parents' awareness about students' current literacy state. Improved knowledge of the students' abilities would allow educators to develop teaching efforts aimed at improving specific literacy skills and as a result would better prepare students for the literacy requirements of everyday life. Cooperation between parents and teachers would also enhance educational strategies in general and improve the future of teaching literacy.

While the topic of parent involvement is a fairly common theme in the general educational literature of the times, the Navajo literature stresses that parents and caregivers must be viewed as possessing unique cultural and linguistic knowledge that they can share with their children (Anderson Heiman, 1977). Often times, low income, minority parents are viewed as being a negative influence on the academic achievement of their children because of what they fail to provide, rather than as a positive influence. In settings where many of the teachers are non-Navajo, the parents can have the greatest chance to develop early literacy habits.

Anziano (1991) described a structured parent-child reading project that capitalized on the strengths of parents by acknowledging them as "first teachers" in early childhood. The researcher went to Navajo parents in their homes and worked with them on ways to interact with their child during shared reading times. Parents were provided with story kits that included texts that drew on children's previous experiences (e.g., herding sheep, planting corn). They were shown strategies for getting the children to predict future events in the stories, retell the story they'd heard with events in the correct order, summarize, and tell a similar story back to their parents so the parents could transcribe the children's words for future reading. Story kits also came with art materials so that children could recreate the story in another medium and personalize it. At the time that Anziano wrote the article (1991), the parent program had been implemented for only 4 months so there were no data on its effectiveness. Parents were positive about the benefits of the program and felt that the art materials maintained both their own interest level and that of the children. Anziano stated that one of the largest factors contributing to the success of the program was taking it to parents in their own homes.

Navajo educators, parents, caregivers and students value the contributions of the home toward early reading:

> Teachers, the school principal, the parents, and the students themselves stressed the importance of the home environment in literacy development. Direct instruction, particularly at school, was given scant credit for these children becoming successful

readers. Rather, learning to read was portrayed as a relatively easy and natural accomplishment for these readers and one that was developed primarily at home. The majority of the students and their parents believed that the children learned to read easily because they had been read to. The few students who believed that they learned to read at school thought it was a difficult process. (Hartle-Schutte, 1993, p. 647)

High Expectations

Two articles highlight the need for schools and teachers to have high expectations for students. Holm and Holm (1995) argue that "Navajo education is characterized by relatively low expectations. And too many students rise only to the level of those expectations. Thus the vicious cycle of expectation-lowering continues (p. 158)." Although the Navajo literature is full of descriptions of potential risk factors in children's lives (e.g., language difference, limited access to printed materials, lack of access to running water and electricity in some parts of the Navajo Nation, isolation and limited contact with people outside their immediate area, health issues for both parents and students, etc.), Hartle-Schutte (1993) repeatedly emphasizes that the label "at-risk" is a dangerous one. Navajo students who have risk factors associated with limited success in learning to read can and do learn to read. The challenge for educators is to find ways to value the abilities students' bring to school, whatever they might be, rather than making unfavorable comparisons between Navajo students and majority students who live off of the reservation. Viewing Navajo students only for what they lack leads to students having a low opinion of their own reading abilities.

Two of the specific reading programs described previously, Rock Point and Fort Defiance, made a concerted effort to set high expectations for students in both Navajo and English (Holm & Holm, 1995). As an example, Rock Point staff wrote criterion referenced objectives in the content areas for both the Navajo and the English language. High expectations for student behavior were also clearly communicated. All students were expected to show that they knew what they were doing in school and why they were doing it. These high expectations contributed to what the educators and community viewed as successful programs.

Hartle-Schutte (1993) sums up this need for viewing Navajo student's literacy abilities positively by saying:

> We need to recognize that there is not a single path to literacy, but multiple paths. No single set of materials, no single scope and sequence is adequate to capture the interests and meet the literacy development needs of all of the children, particularly children of different ethnic and sociocultural backgrounds. If schools can only meet the needs of children who have had the 'school-valued' experiences, then the schools have failed. (p. 652)

Implications for Teaching Reading

As previously mentioned, the Navajo research literature does not provide detailed empirical studies that evaluate the effectiveness of literacy programs and teaching methods based on extensive quantitative or qualitative data. The authors, some of whom are Navajo themselves, define successful programs and methods in other ways. In the face of dwindling numbers of Navajo speaking children, one measure of success was getting a Navajo language program

running in a school and seeing the numbers of Navajo speakers rise. Parents asked for such programs and were pleased to see them implemented. Another measure of success was gaining community involvement in promoting the Navajo language and culture at a school level so that Navajo students learned about their heritage and traditions, grew in their self-understanding, and saw advantages in being bilingual and bicultural. Furthermore, some extremely limited outcomes data from standardized assessments indicated that students participating in two language programs who had uninterrupted teaching in Navajo had increases in their academic achievement in English.

A consistent message that appears in the Navajo research literature is evident in the advice of Hartle-Schutte (1993):

> We are faced with large numbers of children who do not experience success in the school setting. We know that large differences among the participant structures…the interaction patterns…, and the environment and the values of home and those of the school can cause difficulties for children when they come to school. It appears that we have two options: Either we continue the status quo, blaming the students for what we perceive as their deficits and lack of readiness for performing according to the school expectations, or we actively restructure the school curriculum so that the literacy knowledge and experiences that each child brings to school are valued and built upon. (p. 652)

Russian Early Literacy and Instruction

Studies Included in Literature Review

Twelve research articles have been incorporated in the literature synthesis of Russian reading development studies. Table 12 indicates of these articles, listed from most recent to oldest, 3 were published in peer-reviewed sources. Five of the articles (Korotayeva & Sutyrina, 2000; Ippolitova, 1999; Komissarova, 1995; Ippolitova, 1987 were translated from the original Russian into English and five articles were written in English. The remaining two were in Russian. A native Russian-speaking staff member who is fully proficient in both Russian and English was able to use all of the articles in their entirety when writing this section.

Table 12. Peer Review Status of Russian Articles

Author & Date	Journal Name	Peer Review
Korotayeva & Sutyrina (2000)	*Russkii Yazyk v Shkole*	Unclear
Murashov (2000)	*Russkii Yazyk v Shkole*	Unclear
Starzhinskaya (2000)	*Voprosy Psikhologii*	Yes
Embulayeva (1999)	*Russkii Yazyk v Shkole*	Unclear
Ippolitova (1999)	*Russkii Yazyk v Shkole*	Unclear
Kiul'moia & Mel'tser (1997)	*Rusistika*	Unclear
Elaev (1996)	*Russian Education and Society*	Yes
Komissarova (1995)	*Russkii Yazyk v Shkole*	Unclear
Blagova, Koreneva, & Rodchenko (1993)	*Metodika i Opyt*	Unclear
Kamolov (1991)	*Russkii Yazyk v Shkole*	Unclear
Berezhkovskaya & Varentsova (1990)	*Voprosy Psikhologii*	Yes
Ippolitova (1987)	*Russkii Yazyk v Shkole*	Unclear

For more information on the articles, see Appendices E and G. An analysis of the scientific design of the Russian full text, peer reviewed articles is provided in Appendix F. One article is pre-experimental in nature and does examine a reading intervention.

Main Findings for Russian

The main findings from the review of Russian literature are summarized here. Those findings that come from at least one peer-reviewed journal are marked by (PR). More detailed descriptions of findings follow.

- Measures aimed at increasing student's reading speed are a primary part of the reading curriculum.

- Articulation elimination exercises help students to take in text purely through visual means, without vocalizing sounds while reading. Reading without any articulation increases reading speed.

- Recording and comparing reading speed (the number of words read per minute) helps to monitor students' current reading abilities and their further progress.

- Memorizing commonly occurring consonant and vowel patterns in texts helps students in learning to process texts and to create their own. Students should not try to memorize specific spelling patterns. (PR)

- In the upper elementary school level, some educators have started emphasizing "active reading". This concept, which encourages varying reading speed according to the purpose and the structure of the text, uses non-traditional methods of working with texts. One activity involves students' formulating questions about the text that are to be answered while reading. No data on the effects of active reading are available.

- Literacy instruction in two languages that are closely related (e.g., Russian and Belorussian) should be approached differently than literacy instruction in two unrelated languages (e.g., Russian and Tajik). When the two languages are similar, students should be taught the similarities and differences between them as well as how and when to use each one. (PR)

Context of the Country/Language/Education System

The Russian Language

Russian is an Indo-European language that belongs to the Eastern Slavic subgroup. It is a language spoken by more than 200 million people, many of whom are monolingual (Viira, 2000). Alongside English, French, Spanish, Chinese, and Arabic, Russian is one of the six official languages of the United Nations. Apart from Russian, there are more than 140 other languages and dialects spoken in the country.

Of the 150 million people in the Russian Federation, about 125 million are native Russians, with many members of other nationalities speaking the language with varying degrees of fluency. About 30 million Russians also live in the Newly Independent States (NIS) that were once part of the Soviet Union, with the numbers by country as follows: Ukraine - 12 million; Kazakhstan - 8 million; Belarus - 3½ million; Uzbekistan - 2½ million; Latvia - one million; Kyrgyzstan - one million; Moldova - 600,000; Azerbaijan - 500,000; Turkmenistan - 400,000; Lithuania - 350,000; Armenia - 50,000. Latest figures also show 250,000 Russian speakers in the United States and 40,000 in Canada (World Language, 2002b).

Russian is derived from a predecessor called the Common Slavic language but there are no records of the characteristics of that alphabet. No signs, inscriptions, historical documents or even short glosses remain from the Common Slavic language. Slavs did not have writing when they lived together and spoke their Common Slavic language (Indo European Database [TIED], 2000a)

Russian is written in the Cyrillic alphabet, whose origin dates from the 9th century. Its creators were two missionaries from Greece who based it largely on the Greek system. A number of letters are written and pronounced approximately as in English such as *A, K, M, 0, T*, while

others, though written as in English, are pronounced differently, for example, *B = V, E = YE, Ë = YO, H = N, P = R, C = S, X = KH* (World Language, 2002b).

The Russian alphabet consists of 33 letters: 21 consonants, 10 vowels, and two letters without sound – a soft sign and a hard sign (see Table 13).

Table 13. The Russian Alphabet

Russian Letter	Name Pronunciation	Vowel	Pronunciation	Phonetic Symbol
А а	ah	**+**	a in bar	ah
Б б	beh		b in bit	b
В в	veh		v in vine	v
Г г	geh		g in got	g
Д д	deh		d in do	d
Е е	yeh	**+**	ye in yes	yeh
Ë ë	yo	**+**	yo in yonder	yoh
Ж ж	zheh		zh in measure	zh
З з	zeh		z in zero	z
И и	ee	**+**	ee in see	ee
Й й	ee kratkoyeh		y in toy	y
К к	kah		k in kite	k
Л л	ehl		l in love	l
М м	ehm		m in move	m
Н н	ehn		n in no	n
О о	o	**+**	o in pot	o
П п	peh		p in pen	p
Р р	ehr		r in red	r
С с	ehs		s in say	s
Т т	teh		t in tip	t
У у	oo	**+**	oo in zoo	oo
Ф ф	ehf		f in fine	f
Х х	khah		ch in loch	kh
Ц ц	tseh		ts in sits	ts
Ч ч	chyah		ch in chip	chy
Ш ш	shah		sh in shop	sh
Щ щ	shchyah		sh+ch	shchy
ъ	tvyordiy znahk		symbol – separates two sounds	
ы	i	**+**	i in ill	i
ь	myakhkiy znahk		symbol – makes preceding consonant soft	
Э э	eh	**+**	e in met	eh
Ю ю	yoo	**+**	u in Utah	yoo
Я я	yah	**+**	yah in yard	yah

Of 43 Cyrillic letters, 24 are Greek uncial symbols[8].   Other letters denote specific Slavic sounds. Due to the Greek influence, some symbols of the Greek alphabet were used even though there were no corresponding sounds in Slavic. For example, **ω**, **θ**, **s**, **i**, had no corresponding Slavic sounds and were later excluded (**i** is used in Ukrainian and Belorussian languages). The Old

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[8] The term uncial refers to a type of large rounded letters used in Greek and Latin writing between 300 and 900 A.D.

Church Slavic language, the first one that used Cyrillic, also introduced many diacritics to it, including: stress markers, aspiration markers etc. There was no aspiration at all in Slavic.

Cyrillic became the first official Russian alphabet in A.D. 988 and, due to the influence of Christian missionaries, was also used to represent the languages of Bulgaria, Croatia, Serbia and Moravia during the 10th and 11 centuries. The oldest texts and inscriptions in Cyrillic date from the 10th century (Bulgaria), from the 11th century (Russia), and from the 12th century (Bosnia and Serbia). Over time the number of letters, the shape of them and sometimes the pronunciation changed slightly, together with changes in languages. Latin letters replaced Cyrillic in Europe: since the 16th century Czech and Polish kingdoms and the Lithuanian principality have used the Latin alphabet. Romania also changed to the Latin alphabet in the mid-1800s (Indo European Database [TIED], 2000b).

Nowadays, Cyrillic is used in Russia, Bulgaria, Yugoslavia, Ukraine, Macedonia, Bosnia, and Belarus. Many alphabets of Asiatic nations, formerly USSR republics, are also based on Cyrillic, because it is relatively easy to learn. Therefore, Kazakhstan, Uzbekistan, Kyrgyzstan, and Mongolia write in Cyrillic letters; earlier, it was also in use in Azerbaijan, Tajikistan, and Turkmenistan.

Russian System of Education
The Russian Federation (see Figure 6) is a member of the Commonwealth of Independent States (CIS). Its population is roughly 146 million. In addition to Russians, the country is inhabited by more than 150 nationalities. Russia's educational system has produced nearly 100% literacy. About 3 million students attend Russia's 519 institutions of higher education and 48 universities. As a result of great emphasis on science and technology in education, Russian medical, mathematical, scientific, and space and aviation research is generally widely respected (U.S. Department of State, 1998).

Historically, the Russian education system of the country has gone through a number of transformations. In the Soviet period, education was highly centralized, and indoctrination in Marxist-Leninist theory was a major element of every school's curriculum. The underlying philosophy of Soviet schools was that the teacher's job was to transmit standardized materials to the students, and the student's job was to memorize those materials, all of which were put in the context of socialist ethics which stressed the primacy of the collective over the interests of the individual. The need to reform the whole system of the USSR's education system was recognized by its leaders in the 1980s. The existing social and political context, however, did not allow for the possibility of reform at that time (European Training Foundation, 2001).

Figure 6. Russian Federation and other Newly Independent States (NIS)

In August of 1991, the main obstacles were removed. The first Decree of Russia's first President Yeltsin spoke of "the immediate steps on the development of education in the Russian Federation." The drafting of the "Federal Law on education," which was enacted in 1992, marked that period. Yeltsin's determination of objectives was the first step in a series of reforms.

Between 1992 and 1993, Russian education moved to the second "technological" stage of the reform. In 1994 the Government of the Russian Federation approved the Federal Program entitled "the Development of Education within the Russian Federation," the implementation of which during 1994-1995 provided for the carrying out of a large-scale transformation of the educational system. The 1996 amendment adumbrated six governing principles:

(1) The humanistic character of education, the priority of universal human values, human life and health and the free development of the personality; the guiding spirit of citizenship, diligence, and respect for human rights; love of family, environment, and the motherland;
(2) A unified federal, cultural, and educational 'space' which protects and develops ethnic and regional cultures and identities within the multinational state;
(3) Universal access to education, and adaptability of the system to student needs;
(4) The secular character of education in state and municipal educational institutions;
(5) Freedom and pluralism of education;
(6) Democratic state control together with institutional autonomy. (Alexander, 2000)

The third stage of reform started in 2000 via the adoption of the "National Concept of Education," which stipulates objectives and main directions of educational development up to

2005. Simultaneously, the Federal program for the development of education up to 2005 was amended and promulgated as the Federal Law (European Training Foundation, 2001).

The Russian Federation's system of learning provides for two types of educational program: basic (main and further) and professional (main and further). The first includes programs of pre-school (nursery) learning, elementary, basic and secondary (complete) education. Professional education consists of the programs of basic, secondary, higher-school and graduate learning. Education is compulsory and free of charge to all children between the ages of seven and seventeen. Numbers of both students and institutions are well above the levels of 1990-91. With demand for commercially oriented qualifications outstripping the modest growth in state higher education institutions, private schools offering courses in economics, business, accountancy, and law have expanded rapidly.

Russian parents have the option of sending their children to preschool until age seven, when enrollment in elementary school becomes mandatory. Because the majority of mothers have full-time employment, many preschool facilities are located on the premises of businesses. As businesses become increasingly profit oriented, however, many have ceased or reduced their support of such facilities.

Basic general education lasts for nine years. Graduates of this level may continue their education at senior high school to receive secondary (complete) general education. They may also enter an initial vocational school or non-university level higher education institution (Higher Education Systems Database, 2001). Although the 1992 Law on Education lowered the upper age of the compulsory education range from seventeen to fifteen, in the mid-1990s, more than 60 percent of students remained in school for the previously required ten years. Among Russia's educational reforms is a regulation authorizing school officials to expel students fourteen years of age or older who are failing their courses (Library of Congress, 1996).

State education is free, but by 1992 several state higher-education institutions had begun charging tuition. As public schools debated what to do with their new academic freedom, private schools and preschools became centers of innovation, with programs rediscovering pre-Revolutionary pedagogy and freely borrowing teaching methods from Western Europe and the United States. Serving largely Western-oriented families intent on making progress up the newly reconstructed social ladder, private schools emphasize learning English and other critical skills.

A Typical Lesson in Russian
When examining the research literature on reading instruction, it is helpful to understand the nature of a typical reading lesson in Russian. An average class consists of 25-30 students who are usually seated at desks in pairs, facing front. They stand up when the teacher enters the classroom and sit only after the teacher instructs them to do so. Throughout the lesson, the teacher usually remains standing at the front of the classroom (Alexander, 2000). Students are constantly instructed on what they should do; if a student has a question or an answer to the teacher's question, the student is expected to raise his or her hand. The following are characteristic features of a lesson in reading:

Lessons are constructed within fixed timeframes (overall duration is 45 minutes) and generally have a predictable and formulaic structure.

Lessons usually have three, or at most four main stages: introduction, development (sometimes subdivided), and conclusion.

Introductions and conclusions are instructional, with little or no time spent on procedures, which are matters of clearly understood routine.

The central stages of lessons consist of a single task or a sequence of several tasks. In this respect, they are unitary or episodic (Alexander, 2000).

Class activities involve reading, retelling, discussion, writing, memorization, etc. (Berezhkovskaya & Varentsova, 1990; Murashov, 2000). Ippolitova (1987) lists several other reading class activities:

- Finding examples similar to those given in the text
- Finding a different part of this text that may supplement the paragraph that we just read
- Describing the new information that we learn from this part of the text
- Making a short summary of the text/paragraph thesis
- Finding a part in the text that answers a certain question
- Reading the first part of this text and creating a title for it

These reading tasks are aimed at the students' skill in familiarizing themselves promptly with the text and locating the most essential information. These exercises are only useful if performed in a fast and effective manner.

A dialog lesson is another type of reading lessons at the elementary school level in Russia. Researchers single out four conditions for a practical implementation of a dialog lesson. First, a positive psychological environment must be created in order to transfer a 'student-teacher-text' type of a dialog into a 'student-text' one. To establish a most favorable environment, students must be seated in a circle facing one another. Second, a number of textual pieces containing dialogs should be selected in advance. These can be short stories of a psychological or dramatic character. Third, students should get familiarized with specific techniques of understanding dialogical texts. Such techniques are anticipation – prediction of events depicted by the author, and reception – recollection of a previous idea and reflection on it. Fourth, the teacher should outline the structure of a dialog lesson, which includes seven steps:

1. Thinking over the title of the literary work under study.
2. Reading the text.
3. Identifying the semantic structure of the text. Making up an outline.
4. Analysis of characters through discussion of their deeds and characteristics.
5. Outlining most important points.
6. Thinking over the title of the text for the second time.
7. Creative interpretation of the text. (Bibko, 2000).

Russian teachers use various linguistic exercises. Antonova (2000) singles out three types of exercises employed at reading lessons: analytical, analytical-synthetic, and synthetic. Analytical exercises involve team communication with the author of the text. Children lean how to

comprehend textual information and try to identify the author's communicative goal. Analytical-synthetic exercises include several texts and train children's ability to critique, organize, and control communication. Synthetic exercises are designed to teach students how to create texts independently. Such exercises develop the ability to understand the idea of the text, retain information presented in the text, and explain the means that the author uses to communicate his or her ideas.

Regional Aspects of Teaching Russian
The dissolution of the USSR resulted in the appearance of the following 15 countries: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

The new Russia of the 21st century is in the process of structuring a new educational system, which would satisfy the diverse population of the country. The education of linguistic minority students reached a challenging stage. On the one hand, legislation allows, perhaps for the first time ever, the possibility of implementing a viable multilingualism and multicultural system reflecting the human diversity of the Russian Federation. On the other hand, lack of funds and technical difficulties make it a very difficult goal to fulfill. Insulation and poor collaboration of Russian minorities inside the country, isolation from the international community and insufficient information on language preservation and development in the world community create barriers to the ethno linguistic processes in the Russian Federation. Such barriers are in contrast to significant progress in the field of cultural and linguistic heritage preservation in the world.

The following are just some of the minority languages of peoples inhabiting the Russian Federation (Minority Languages of Russia on the Net, 2002):

- Indo-European languages: Belorussian, German, Ossetian, Romany, Ukrainian
- Caucasian: Adyge, Chechen, Ingush, Kabardyan
- Mongolian: Buriat, Kalmyk
- Paleoasian: Itelmen, Koryak, Nivkh, Yukaghir
- Samoyedic: Enets, Nenets, Selkup
- Manchu-Tungus: Evenki, Nanai, Orok, Ulch
- Turkic: Altai, Bashkir, Chuvash, Tatar
- Finno-Ugric: Erzya, Estonian, Finnish, Karelian, Udmurt

Apart from numerous minority languages, Russian itself has several dialects characterized by geographical and ethnic homogeneity. The heritage of the Soviet Union preserves Russian as an influential language in the former Soviet republics and Eastern European countries of the post-socialist block.

Relationship of Research to Original Literature Review Questions

Compared to western researchers, Russian scholars tend to follow the patterns of post-Soviet research, mainly literature analysis and empirical (experiential) thought pieces, which differ in

nature from western qualitative and quantitative research approaches. This is mainly due to the isolation of the former Soviet Union, where assessment and evaluation were rarely used, and the fact that conservative traditions of scholars allow for little flexibility and novelty in research methods.

Reading research has shown that children must develop an understanding of concepts that underlie the act of reading before they actually learn to read and write. For example, they must learn that written speech represents one's thoughts; that reading is used for the purpose of communicating something meaningful; that there is a difference between literary language and colloquial speech; that a printed message is constant and is read the same way each time; and that a book contains print and pictures but the print is the major source of information.

While mastering reading, children also must learn specific literacy skills that enable them to decode and encode words. These involve metalinguistic skills, such as breaking a word into component sounds (phonemic awareness) and recognizing letters and the sound each of them represents (sound-to-symbol correspondence). Children must learn to visually discriminate between different letters and how to form these letters when they write.

Russia is a federation inhabited by numerous nations. Therefore, the issue of teaching Russian as a second language, as well as teaching minority languages, is a major subject in the literature. On the one hand, the Russian culture stimulated educational progress among other ethnic groups, especially those in the Asian part of the country. On the other hand, the problem of national and cultural revival of ethnic minorities, such as Buriats, for example, is becoming especially urgent (Elaev, 1996). When taking into account the regional aspect, different methods are applied in teaching reading: reproductive methods (replicating reading content in textbooks and dictionaries); problem seeking methods; and communicative methods (which are based on live communication) (Blagova, Koreneva, & Rodchenko, 1993).

The influence of the Russian language, as the official language of the former Soviet Union, remains significant in many NIS. Several researchers discussed the phenomenon of bilingualism with Russian being one of the languages in the following countries: Belarus (Starzhinskaya, 2000), Tajikistan (Kamolov, 1991) are discussed in primary studies. Lithuania (Zavyalova, 2001), and Estonia (Ots, 1997) are mentioned in supplementary information.

Methodology of Teaching Reading
Reading is considered to be an important component of teaching the Russian language and it is defined as a process of perception and understanding written language. Reading is also viewed as a means of communication involving at least two participants – the author (addresser) and the reader (addressee, recipient) – who act in accordance with their goals and motives (Embulayeva, 1999). Some researchers refer to reading as a vital means of achieving educational goals, because it constructs children's knowledge about the life of society and nature (Kamolov, 1991).

Methodologists pose various questions for an elementary reading teacher, such as which methods are to be prioritized in reading instruction; how and when does the teacher demonstrate the act of reading; when does the child's willingness to read become stable; what are the quantitative identifiers of expanding the child's reading outlook, etc. (Ushichsky & Svetlovskaya, 2000). To

answer these questions and gain effective results, teachers need to be proficient and selective in terms of methodology. Korotayeva and Sutyrina (2000) suggest that due to the multifunctional nature of reading, there is a need to find new ways, means, and methods that are able to activate the reading process. The activation may apply to individual functions, such as perception and memorization, as well as to the entire process of perceiving and processing text.

Methodological studies on teaching Russian identify two principal linguistic and methodological conceptions: linguocentric (concentrated on the language) and anthropocentric (concentrated on the human being). Now, however, methodologists consider a third, logocentric, concept of teaching Russian. In the linguocentric concept, the language system is a linear and open one and is characterized by hierarchic subordination of levels and units, whereas in the logocentric concept, the language system becomes a closed one, with the word as a main unit (Sidorenkov, 1997).

Researchers suggested that the most essential elements of effective reading are high reading speed without enunciating the text (Ippolitova, 1987; Korotyeva & Sutyrina, 2000). This, in turn, requires the ability to automatically process the content of a printed text, and reading flexibility, i.e., the ability to read at various speeds depending on the particular speech situation.

As a major format of information delivery, text is a foundation of any study material. Most teachers working with texts use traditional methods in their everyday teaching, such as reading, retelling, forming and answering questions related to the text, dividing the text into logical sections, defining a thesis for each section and the entire text, outlining, heading, interactive reading, text memorization, stylistic analysis, etc.

In order to enable students to solve a wide range of communication problems in the process of reading, teachers need to introduce various reading methods to them. Ippolitova (1999) describes three major reading methods: scanning, familiarizing, and studying. This classification is based on reading goals (e.g., how the reader will apply the information acquired during reading) that determine the required depth of readers' understanding of the content. The method of reading called "scanning" is used when the reader's goal is to get an overall general understanding of the content. Such a directive may apply to reading a news publication, an article, etc. "Familiarizing" is used when the reader's goal is to capture the general meaning of each individual part of a text, or to extract the information from texts that is most useful for performing major communication tasks (e.g., determining the most important parts of the text that are relevant to the reader's study subject). Finally, "studying" is used when the reader needs to obtain a comprehensive and precise understanding of the entire text and of all of its individual elements, which will enable him or her to apply this knowledge in accordance with his or her study goals (Ippolitova, 1987).

Mastering the studying (analytical) method of reading helps students develop the most important communication skills and general study skills, especially the skill of working with study texts independently and effectively. Reading study texts requires that students analyze a text's meaning at a deep level, to comprehend the presented concepts, and to develop a profound understanding of the connections and relationships between facts and events that more or less reflect the real world (Ippolitova, 1999).

Recently, at the upper elementary school level, some educators have started incorporating a concept of "active reading" in their work. This concept uses non-traditional methods of working with texts, such as emphasis on the structural algorithms of the text and paragraphs, development of semantic guesswork, widening of the field of vision, elimination of text articulation during reading, etc. "Active reading" is a collective term that includes fast and dynamic reading, as well as slow and emotional reading that allows deep immersion into the text's meaning. Active reading helps students adjust their reading speed according to their reading goals and the structure of the text. It also provides a faster orientation to the text and firm memorization of acquired information. Korotayeva and Sutyrina (2000) indicate that the method of active reading will be successful as long as the following conditions are met:

- Relative continuity and regularity of the study course: One lecture a week and one hour of autosuggestion exercises daily;
- Learning responsibility: Students need to be active in their studying, which means they are not only expected to mechanically perform but also understand the nature of the assignments given to them;
- Gradual increase in the complexity of the assignments and gradual acceleration of the students' progress in acquiring active reading skills; as a general rule, students should not start working on new study material until they have mastered the current subject;
- Exclusive individual approach: The rate of acceleration of a student's progress should be determined by each student's individual temperament, acquired cognitive skills, his or her cultural background, etc.; and
- Positive environment for learning: The teacher should create an emotionally nurturing environment to build the students' confidence in their own success (p. 14).

Another technique that is used by Russian pedagogues in teaching reading is measuring students' reading speeds. The teacher keeps track of students' progress by checking the number of words they process per minute. Similar to any kind of monitoring, this technique entails continuity, comparability, and objectivity. To obtain a complete idea of the quality of reading in certain grades the teacher should take into account such factors as the speed of reading, correctness, distinctness, and retention (Korneyeva, 2000). It is suggested by methodologists that in order to obtain a complete understanding of the reading quality in certain grades and at school, teachers should keep track of students' progress using the following criteria: reading speed, correctness, distinctiveness, and comprehension.

Some methodologists (Korotayeva & Sutyrina, 2000) believe that much attention should be paid to coping with articulation. Articulation is the action of mentally pronouncing the text during reading, which triggers the work of the vocal organs, therefore causing the reader to "hear" himself or herself during reading. In the traditional reading process, our perception of the graphically presented material, such as text, is realized via three channels – auditory, motor-speech, and, the most productive of the three, the visual channel. In order to make the reading process more dynamic, it is necessary to "turn off" the auditory and the speech mechanisms and concentrate only on visual perception. Articulation elimination exercises not only get rid of pronunciation during reading but also form a new code of inner enunciation by which the reader

primarily perceives the text through visual recognition. As a result, the reading speed doubles. The articulation elimination methods include the following:

- Mechanical prevention (e.g., holding objects like a pacifier or a dry cracker in the mouth while reading, or reading with a wide open mouth);
- "Speech distraction" (e.g., counting the words or numbers, reciting poems while reading); and
- "Sound distraction" (e.g., listening to music or taping while reading).

Korotayeva and Sutyrina (2000) note that these methods are fun and easy enough for students to practice both in the classroom and at home.

Spelling Awareness
A distinctive feature of Russian is the discrepancy between the spelling and phonetic systems. In the process of acquiring spelling proficiency, it is essential for students to develop basic orthographic skills, which in teaching methodology fall under the umbrella term "orthographic awareness." In other words, this is the skill of finding spelling patterns in written words and anticipating them in spoken words (Komissarova, 1995).

Spelling rules cannot always be applied because there are numerous exceptions in the Russian language. Murashov (2000) suggested that inborn literacy skills are more important than automatic memorization of rules, which are not always applicable and sometimes misleading. Therefore, the concept of an "identifiable spelling pattern attribute" is actually a general orthographic term that indicates a common ground for different types of spelling patterns. A clear understanding of this concept allows for a well-coordinated and organized program by which students' spelling awareness can be developed.

Researchers suggest that in order to use orthographic skills correctly in writing or during auditory perception of a text, students need to learn to identify various types of spelling patterns (Komissarova, 1995). The vowel patterns are represented by an unstressed vowel (e.g. *рекá, в лóдке*) and a vowel positioned after a sibilant consonant and *ц* (e.g. *чаща, чёрный, панцирь, птицы*, etc.). The consonant patterns are represented by a consonant positioned at the end of a word (e.g. *хлеб, год*), confluent consonant combinations (e.g. *салазски*), and positioning *н* at the end of a word before a vowel (e.g. *каменный, взволнованный*), etc. Similar identifiable attributes exist for each of the seven kinds of spelling patterns. Knowing these identifiable attributes helps students to recognize the type of spelling pattern, but not to define a specific pattern, since one type of pattern may contain several different spelling patterns that have a common attribute.

Komissarova (1995) described certain exercises that are crucial in honing students' abilities to locate the identifiable attributes of various types of spelling patterns during writing or auditory perception. Such exercises can be simple text copying (e.g., copying without skipping letter combinations), educational dictations with or without form changes, selective dictations (e.g., visual, preliminary, commented, or explanatory), as well as self-corrected dictations. The text copying with skipping letter combinations (so-called complex copying) in this case is not effective, because the spelling patterns are already defined (i.e., the skipped letters).

Based on his years of experience, Totsky (1991) concluded that it is important to nurture articulatory memory on the basis of orthographic reading in elementary school. The methodologist has designed a system of developing spelling awareness, which involves students' repeating words after the teacher.

Minority Languages and Bilingual Instruction

Researchers believe that the concept of language in Russia as a cultural and historical phenomenon benefits the uniqueness of a national mentality in its time and spatial definiteness (Blagova, Koreneva, & Rodchenko, 1993). Therefore, teaching minority languages and regional components alongside the standard Russian is prioritised in the policy of the reform. Within the framework of the school educational program, teaching the regional variations of Russian is considered to be a concretizing part of content areas, including teaching reading on the elementary level. Thus, implementing regional language aspects helps to ignite an interest in and a respectful attitude toward the native language and culture. The Russian pedagogues suggest the following teaching methods and techniques to enrich traditional reading instruction:

1. Familiarizing students with structural and functional peculiarities of the Russian language in the Kolsk North;
2. Boosting students' vocabulary using local language materials;
3. Broadening students' knowledge about history, culture, and traditions of local cultures; and
4. Demonstrating phenomenalism of the Russian language via comparison to the languages of neighbouring nations to highlight the ways of mutual linguistic enrichment. (Blagova, Koreneva, & Rodchenko, 1993, p. 18)

The geographic dispersion has had an impact on the dialectal diversity of minority languages, which, for example, pertains to the Buriat language. The territorial magnitude of the Russian Federation and the influence of the major language make it difficult to sustain the uniqueness of the Buriat language. However, as Elaev noted, over the past decade, definite progress has been made in reviving the Buriat culture. More than 100 schools have come into being providing profile classes offering intensive studies of particular subjects. Specialized and vocational institutions, such as gymnasiums, lyceums, and colleges, are being opened; the network of so-called alternative general education schools is being expanded; and a variety of different syllabus options are being offered for the mass secondary schools by the Ministry of Education of the Russian Federation, in which plans call for increasing the amount of time spent studying the native language (Elaev, 1996).

The status of the Russian languages in the countries that used to be annexed by the Soviet Union varies from a second national language (e.g., Kazakhstan) to a minority language (e.g., Ukraine). Russian remains an influential language in the NIS and teaching Russian as a second language is a much-discussed issue in the methodological literature. In some countries, however, Russian lost its significance:

A Russian visitor to rural Moldova or Uzbekistan might have a fine conversation with a person over 35—but a 20-year-old will greet him with blank stares. "If before more than 90 percent of the people in the Soviet territories spoke Russian, now less than half do," says Vladimir Neroznyak, a Moscow linguist who helps advise the Russian government on language policy. Within the decade, he predicts, that figure will have fallen to one in 10 (Conant, 2002).

Belorussian is rooted in the same Eastern Slavic linguistic subfamily as Russian. The political orientation of Belarus toward Russia increases the prominence of the Russian language even more. The close relationship of Russian and Belorussian requires specific approaches to teaching Russian in Belarus.

Bogush (1990) mentions several conditions of teaching a closely related language to elementary school children: mastering language phenomena; developing a sense of a second language; constant controlling children's speech in a second related language; cooperation in teaching a language between the kindergarten, school, and family; and monitoring the process of language acquisition. Researchers suggest that a course of a closely related language for elementary school children should be spontaneous and non-intentional on the one hand, and systematic and generalizing on the other hand (Starzhinskaya, 2000).

Teaching Russian in Tajikistan is approached differently from teaching Russian in Belarus because Russian and Tajik are not related languages. Teachers lead elementary school children through several steps of mastering reading in Russian: identifying letters → syllables → words → word combinations and sentences. Kamolov (1991) differentiates among several types of mistakes Tajik students make while learning Russian:

- Phonetic mistakes, due to the phonetic differences in Russian and Tajik: e.g., *"рад" (ряд)*
- Morphological and synthetic mistakes: e.g., *"исмелый" (смелый)*
- Mistakes in stressing: e.g., *"хоро́шйй" (хоро́ший)*
- Mistakes in pronunciation: *се братом*

To cope with these mistakes, teachers practice such methods as reading aloud, explaining unfamiliar words, reading Russian text and its translation in Tajik, taping students while they read, and analyzing mistakes (Kamolov, 1991).

Several factors determine bilingualism, including (1) the degree of bilingualism (coordinated and subordinated/mixed); (2) the degree of difference between languages; (3) the age of a second language learner; and (4) attitude toward a second language (Arsenian, 1970, cited in Zavyalova, 2001). And even though attitudes toward the Russian language vary from nation to nation, large percentages of Russian minorities in many countries of the world continue to maintain the influential support of the language.

In Estonia, one of the three Baltic countries now independent of the Soviet Union, the Russian population makes up about 40% of the whole and is concentrated in Tallinn, the capital city and the north-eastern industrial region (Ots, 1997). Russian can be and is taught in educational

institutions in Estonia even though the importance of the language lessened due to the increased interest in English (Kiul'moia & Mel'tser, 1997), Finnish, and German.

Implications of Findings for Teaching Reading

The Russian Federation has undergone major political, economic, and social changes. The educational reform in the country has stimulated researchers' search for new teaching approaches, which are combined with some of those of the Soviet educational system. The Russian scholars are interested in generating new methods of teaching reading, particularly at the elementary level. In terms of organizing reading sessions in class, a teacher should ensure the following:

- Before taking on a reading assignment, students need to clearly understand their communication task, i.e. the reading purpose.
- Since the communication task defines the choice of a reading method, the teacher needs to conduct proper training to help students master skills in the appropriate reading method.
- The teacher should find appropriate forms of control corresponding to the reading task and the chosen reading method.

One of the most important reading methods applied in Russian schools is the studying (or analytical) method of reading, which helps students reach deeper levels of understanding, as well as develop more complete and accurate comprehension and greater ability to memorize texts. The studying method should always be supported by practical examples and it requires that students be taught the skills to include newly acquired facts and practical examples in the text perception process.

One of the techniques that comprise the studying method is formulation of questions either before or after reading. This method is most effective, because it helps students to: (a) conscientiously alter the sequence of text blocks during their re-telling of the text; (b) compare the text content to previously learned material; (c) determine causal relationships between occurrences; and (d) perfect their reasoning skills and learn to make independent conclusions. Such skills develop by working on special exercises that include the following tasks:

- Making a short summary of a sentence, paragraph or the entire text;
- Finding sentences with explanatory detail words and reading them with and without these words, then noting the differences in meaning;
- Underlining words in the text that may be omitted without compromising the meaning; and
- Locating words, word combinations or sentences that can serve as the thesis of each paragraph.

The Russian spelling system requires special attention in reading instruction. In organizing a program to hone the student's ability to identify spelling patterns in written words and to anticipate them in spoken words, it is necessary to include in the existing spelling curriculum the

study of the "identifiable spelling pattern attribute" concept, the study of various types of these attributes in correlation with the pattern types, and the overview of their place in the conditional system of choosing a certain pattern (Komissarova, 1995).

Existence of a substantial layer of polysemantic lexical units implies application of the following supporting materials:

- Visual aids, such as drawings demonstrating the existence of polysemantic and monosemantic words in the Russian language, accompanied by their definitions
- A text that introduces various ways of representing different lexical meanings of words in dictionaries
- Exercises that develop the skills of working with dictionaries
- A text that explains the origins of polysemes

Because Russia and the Newly Independent States are home to a great deal of ethnic and linguistic diversity, teaching reading in more than one language is common and highly valued. Sometimes reading instruction in two languages happens at the same time and sometimes it happens several grades apart. However, teaching methods for related and unrelated languages should be different. When related languages are taught together, teaching methods should emphasize the sociolinguistics of when, where and how to use each one.

Overall, teaching reading is a fundamental component of the Russian educational system. Research findings indicate that Russian methodologists are engaged in the constant process of improvement of teaching strategies and the school system continues to maintain high literacy rates.

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Appendix A
Searches

Search Terms Used in English Searches

International Literacy
Native Language Literacy
Cross Cultural Literacy
Second Language Literacy
Bilingual and Reading
Bilingual Literacy
Second Language Acquisition
Literacy and Cross-Cultural Studies
Specific Country (i.e., Russia) and education (add reading to narrow)
Specific Language (i.e., Vietnamese) and education (may add reading)
Specific language and literacy
Specific Country and literacy
Specific Language and reading
Specific Country and reading
Specific Language and teaching (may add reading)
Specific Country and teaching (may add reading)
Specific Language and instruction (may add reading)
Specific Country and instruction (may add reading)
Second Language Acquisition and Specific Language
Second Language Acquisition and Specific Country
Literacy Programs and Country
Literacy Practices and Country
Educational Programs for reading (by country, by language)
Literacy programs in (by country)
Teacher education and reading (by country)
Country and comparative education

With some databases we also included the additional search term "bibliography" if this proved to be an effective strategy for a specific website.
These terms were refined along the way with additional terms such as 'preschool,' 'elementary,' and 'children,' and language specific terms such as 'Pinyin' and 'Zhuyin Fuhao.'

Websites Searched

Literacy websites
http://www.reading.org/
http://www.literacyonline.org/
http://www.literacyonline.org/ili.html
http://search.asiaco.com/Vietnam/Education/
http://www.nfer.ac.uk/pubs/profile.htm

http://www.namviet.net/cgibin/seek/seek.cgi?Terms=Literacy&search.x=20&search.y=3&howmuch=ALL&Range=All&x=&db=&go.x=12&go.y=13
http://www.literacyonline.org/explorer/defliteracy.html
http://www.readingmatrix.com/journal.html
http://www.literacyonline.org/products/ili/webdocs/contents.html
http://www.literacyonline.org/search/country.html (where found Asian Regional Lit. Forum articles-searched by area)
http://www.indianeduresearch.net/
http://www.hmongcenter.org/fulbibofhmon.htm
http://www.nlc.gov.cn/english.htm
http://library.ust.hk/
http://ftp.hku.hk/lib/HongKong/hongkong.html
http://www.accu.or.jp/literacy/nocead/toppage.htm
http://www.vps.org/eindex.htm
http://www.nfer.ac.uk/risheets/iea.htm
http://www.ncbe.gwu.edu/links/langcult/vietnamese.htm
http://www.accu.or.jp/litdbase/

TESOL/Linguistics websites
http://www.sil.org/lingualinks/literacy/OtherResources/NotesOnLiteracy/Contents.htm
http://www.cal.org/links/linglang.html
http://aaal.org/
http://www.aila.ac/
http://linguistlist.org/issues/
http://www.cal.org/
http://www.nabe.org/

Refugee websites
http://www.cal.org/rsc/links.htm
http://www.bodley.ox.ac.uk/rsc/

Journals Searched using C-ERIC

The following journals from Hong Kong, Mainland China and Taiwan were included in the search of the C-ERIC database. There are seventeen of them.

Hong Kong
1. Asian Journal of Counselling
2. Curriculum Forum
3. Education Journal (formerly known as *Studium*)
4. Educational Research Journal
5. Journal of Basic Education (formerly known as *Journal of Primary Education*)
6. New Horizons in Education (formerly known as *New Horizons*)
Chinese Mainland
1. Acta Psychologica Sinica
2. Applied Linguistics (Yuyan Wenzi Yunyong)

3. Curriculum, Teaching Material and Method
4. Educational Research
5. Journal of Beijing Normal University (Social Science Edition)
6. Journal of East China Normal University (Educational Science Edition)
7. People's Education

Taiwan
1. Bulletin of Adult and Continuing Education (formerly known as *Bulletin of Social Education*)
2. Chinese Journal of Science Education
3. Distance Education
4. Journal of Education and Psychology
5. Journal of Educational Media and Library Sciences

The C-ERIC also provides abstracts of an estimated 110 postgraduate dissertations and theses of
The Chinese University of Hong Kong
1. Certificate Diploma in Education
2. Master of Arts in Education
3. Master of Education
4. Master of Philosophy in Education
5. Doctor of Education
6. Doctor of Philosophy in Education

Appendix B. Chinese Literature

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Anderson (1995) *Reading Horizons* **Peer reviewed**	30 parents of K-2 children (10 Chinese-Canadian, 10 Euro-Canadian, 10 Indo-Canadian	Punjabi Chinese English	British Columbia, CANADA	All data obtained via interview. Reading instruction methods favored by immigrant parents varied: Chinese-Canadian – direct instruction (e.g., teaching proper printing technique and correct spelling, checking understanding of reading); Euro-Canadian – demonstrating and encouraging literacy (e.g., child sees others reading and writing, books and writing materials in home), as well as reading to the child; Indo-Canadian – participation in literacy activities with child (e.g., reading to child, listening to child read or tell stories)
Anderson, Gaffney, Wu, Wang, Li, Shu, Nagy, Ming (2002) *Chinese children's reading acquisition: Theoretical and pedagogical issues* Book	42 grade 1 students	Mandarin	Beijing, People's Republic of China (PRC)	Children in 'shared reading' approach learned a substantial amount of vocabulary in comparison to control group. Follow-up study showed students that knew words at 2 weeks retained the new vocabulary at 8 weeks. Teachers and children were enthusiastic about the 'shared reading' approach.
Bai & Shen (1996) *Psychological Science* **Peer reviewed**	150 students, 30 each in grades 3, 5, 7, 10, & college	Unclear	PRC	Senior students used more selective rereading of text. Younger students reread from the beginning more often and with more single unit word jumps rather than visually grouping characters while reading.
Feurer (1996) *RELC Journal: A Journal of Language Teaching & Research* **Peer reviewed**	60 elementary children	Naxi	Naxi Autonomous Region, Yunnan, PRC	Naxi speaking children in the "bilingual" classes performed better than their counterparts in a regular Chinese-only classroom based on final fall semester grades. Authors concluded that first language literacy skills transferred to second language.
Gottardo, Yan, Sieger, & Wade-Wooley (2001) Journal of Educational Psychology **Peer reviewed**	65 children (14 grades 1 & 2; 24 grades 3&4; 15 grades 5&6; 12 grades 7&8)	Cantonese	Canada	Phonological skills correlated with both first and second language standardized reading test performance. There is cross-language transfer of phonological processing in L2 for ESL students.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Ho & Bryant (1997a) *Reading Research Quarterly* **Peer reviewed**	90 children (45 grade 1, 45 grade 2)	Cantonese	Hong Kong, PRC	Students used phonetic components to figure out sound of characters. This ability helps with script-sound correspondences. Regular characters were named more accurately than irregular ones. Most errors were phonetic.
Ho & Bryant (1997b) *Developmental Psychology* **Peer reviewed**	100 3 yr olds followed through grade 1; attrition to 45 at grade 1	Cantonese	Hong Kong, PRC	Visual measures predicted word reading in young children. Later, phonological measures predicting word reading.
Hsia (1992) *Applied Psycholinguistics* **Peer reviewed**	45 students, mean age 4.10	Mandarin and English	United States	Sensitivity to syllable and word boundaries seemed to help young students segment boundaries within words. Chinese students learning English did better than Chinese-only students in segmenting syllables.
Hudson-Ross & Dong (1990) *The Reading Teacher* **Peer reviewed**	Not Applicable	Unclear	PRC and U.S.	Steps to learning Chinese are alphabet letter learning, phonetic alphabet learning, syllable recognition, and use of Pinyin. Teachers usually teach character analysis and decompose it for meaning and sound. Stories related to characters are often told to help memorization. Whole Language not useful.
Jiang & Peng (date unclear) *Acta Psychologica Sinica* **Peer reviewed**	60 children, grades 3-6	Chinese	Beijing PRC	Development of phonetic awareness in Chinese and English speakers is similar and shows similar pattern across grades.
Li, Anderson, Nagy & Zhang (2002) *Chinese children's reading acquisition: Theoretical and pedagogical issues* Book	**400 1st grade** 400 4th grade	Chinese	Beijing, PRC	Both morphological awareness and phonological awareness are important in learning to read Chinese; morphological awareness is most important of the two.
Li, Fu, & Lin (2000) *Acta Psychologica Sinica* **Peer reviewed**	84 students in grades 1, 3, & 5	Unclear	PRC	Orthographic awareness, the basis of character knowledge, develops gradually. Only 1st graders were affected by structure type when judging false and true characters. All students were sensitive to left/right structure types, as opposed to up-down and semi-encircled structure types.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Li, Zhu, Dodd, Jiang, Peng & Shu (2000) *Acta Psychologica Sinica* **Peer reviewed**	129 children Kindergarten (age 1.4-4.5)	Chinese (Cantonese, Mandarin)	Unclear	There are norms for the development of phonological awareness in young Chinese children. These norms can be useful in diagnosing children with phonological impairments.
McBride-Chang & Ho (2000) *Journal of Educational Psychology* **Peer reviewed**	109 children ages 3-4 years (65 male, 44 female)	Cantonese	Hong Kong	Speech perception appears to be associated with phonological awareness across languages.
Miller, Frosch, Kelly & Zhang (2002) cited in Miller (2002) ***Chinese children's reading acquisition: Theoretical and pedagogical issues*** Book	80 children: Age 4 – 20 English; 20 Chinese Age 5 – 20 English; 20 Chinese	Chinese (not specified) English	Beijing, PRC and Champaign-Urbana, IL, USA	Chinese students performed best on tasks requiring them to choose one character of three that was incorrectly rotated or flipped. English speakers performed best on similar tasks using words written with the English alphabet. Awareness was limited to writing that students saw in the environment.
Mo (1998) Acta Psychologica Sinica **Peer reviewed**	334 grade 2, 4, 6, & 8 Study 1 64 children Study 2 270 children	Unclear	PRC	Senior students tended to retain more of what they had read in the natural and comprehension conditions groups, and Junior students tended to retain more information about text expression in the natural and memory reading conditions.
Mo (1999) *Psychological Science* **Peer reviewed**	210 children Study 1 90 grade 6 Study 2 120 grade 6	Mandarin	PRC	Expectation of content had obvious impact on scores of fast reading but no obvious impact on normal reading. Under the condition of well matched titles to content, the dependency of fast reading on information of reading materials decreases and the quality of reading comprehension drops if readers are not given appropriate expectations about content.
Mo & Chen (1997) *Psychological Science* **Peer reviewed**	180 children, 60 each in grades 6, 8, & 10	Unclear	PRC	Regular ability students when given no reading instructions tended to retain points from the body of a text. When students were given instruction, they retained the beginning and end of texts (parts with main points and conclusions).

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Nagy, Kuo-Kealoho, Wu, Li, Anderson, & Chen (2002) *Chinese children's reading acquisition: Theoretical and pedagogical issues* Book	240 grade 1	Chinese (unspecified)	Beijing, PRC	One year morphological awareness intervention increased students' performance on tasks reflecting morphological awareness and reading and writing tasks focusing on what students know at the character-level. Explicit instruction showing children how the sounds of their language are reflected in their writing systems is helpful.
Pine, Huang, Huang, & Zhang (1999) *Yearbook/Claremont Reading Conference* **Peer reviewed**	30 children, 10 each in grades 1, 2, & 3	Unclear	PRC	Chinese students used 10 general categories of strategies to conclude whether a character was correct. The most common strategy reported was structural analysis. Linking a character's shape to meaning was rarely used.
Polland (1993) Yearbook/Claremont Reading Conference **Peer reviewed**	85 children ages 2-4 (44 U.S., 41 PRC)	Chinese, English	PRC, U.S.A.	Subjects were given "Right side up test" and asked to correctly orient, pictures, English letters and Chinese characters. Chinese children correctly positioned characters 67% of time; U.S. children correctly positioned letters 71% of time. Chinese children correctly positioned letters 43% of time; U.S. children correctly positioned characters 34% of time.
Shu & Anderson (1997) *Reading Chinese Script: A Cognitive Analysis* Book	Study 1: 143 students (2nd, 4th, 6th grade) Study 2: 220 students (1st, 3rd & 5th grade) Study 3: 113 students (2nd, 4th, 6th grade)	Chinese	PRC	Chinese children have a working awareness of the relationship between radicals and a character's meaning. This awareness develops into the upper grades and the level of awareness has a relationship to reading ability.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Shu & Anderson (1999) *Reading Research Quarterly* **Peer Reviewed**	children Study 1: 220 elementary students (grades 1-5) Study 2: 72 third and fifth graders (39, 33)	Chinese (not specified)	Beijing, PRC	The ability to break down a compound character into its component parts and analyze the meaning of the parts is a skill that first graders do not yet have, but third and fifth graders do have. Older children were able to choose the correct radical component of an unfamiliar character, if they were familiar with the character used in the radical. Better readers could analyze the compound characters more easily than poor readers.
Shu, Anderson, & Wu (2000) *Journal of Educational Psychology* **Peer reviewed**	113 children (42 grade 2, 36 grade 4, 35 grade 6)	Mandarin	Beijing, PRC	Character familiarity and regularity influenced ability of students to represent the pronunciation of phonetic compound characters in Pinyin. Second graders were better at regular characters than irregular or those with bound phonetics. Higher grades had an increase in phonetic-related errors and showed that phonetic regularity influenced their performance.
Shu, Anderson, & Zhang (1995) *Reading Research Quarterly* **Peer reviewed**	332 children, 162 grades 3 & 5 in China; 85 grade 3 & 85 grade 5 in U.S.	Chinese English	Beijing, PRC & U.S.	Both groups learn vocabulary incidentally while reading. Factors that influenced acquisition were conceptual difficulty, contextual support, morphological transparency, and amount of out of school reading. Children's ability level and difficulty of the text were not influential factors.
Shu, Li, Anderson, Ku, & Yue (2002) ***Chinese children's reading acquisition: Theoretical and pedagogical issues*** Book	545 students and parents: 276 grade 1 269 grade 4	Unclear	Beijing, PRC	Parent involvement and parent-child reading activities had most important relationship to reading achievement in 1st graders. Availability of reading materials in home had slightly less significant relationship to reading proficiency but contributed to types of shared reading activities. Child-related literacy activities and parent education level more important for reading success in 4th grade children

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Shu & Li (1994) *Psychology Development & Education* **Peer reviewed**	150 children, grades 1 & 2	Unclear	Unclear	Students in lower grades can use phonetic symbols and context clues somewhat to overcome difficulties with new words. High language ability students use more kinds of clues. Degree of difficulty in word concept is an important factor.
Shu & Zeng (1996) *Acta Psychologica Sinica* **Peer reviewed**	113 children in grades 2, 4, and 6)	Chinese	Unclear	Students make more systematic mistakes in writing phonetic representations of characters as they get older. Regular characters are easier to write phonetically.
Shu, Zeng, & Chen (1993a) *Psychology Development & Education* **Peer reviewed**	68 children in grades 1 & 2	Mandarin	PRC	Positive but limited effect existed between Pinyin and learning of new words. Pinyin helped children learn words already in their oral vocabulary. Findings cannot be generalized because children came from Mandarin-speaking areas
Shu, Zeng, & Chen (1993b) *Psychological Science* **Peer reviewed**	220 students, 67 grade 1, 71 grade 3, 82 grade 5	Mandarin	PRC	Children used information in pictographic components to remember old characters and learn new ones. This ability increased with age. Children who used this information well did better with finding out the meaning of unfamiliar characters.
Shu, Zhou & Wu (2000) *Acta Psychologica Sinica* **Peer reviewed**	288 children (72 each grades 4, 6, 8, and college)	Chinese	Unclear	Children shown pairs of characters (one familiar, one not) incorrectly judged those with similar radicals to sound similar more often than in pairs where the radicals were different. Effect more pronounced for older children.
So & Siegel (1997) Reading & Writing: An Interdisciplinary Journal **Peer reviewed**	196 children (48 grade 1, 48 grade 2, 50 grade 3, 50 grade 4); 52 poor readers & 144 normal readers	Cantonese	Hong Kong, PRC	Word recognition correlated highly with phonological skills and semantic processing, and phonological skills were very important to reading in Chinese, especially in early stages of acquisition. Moderate relationship between word recognition and syntactic knowledge and working memory. Poor readers had significant lag in development of these skills, and difficulties similar to poor English readers.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Song, Zhang & Shu (1995) *Acta Psychologica Sinica* **Peer reviewed**	142 students <u>Study 1:</u> 75 in grades 3, 5, college <u>Study 2:</u> 67 in grades 3, 5, college	Mandarin	PRC	Ability to discern correct and incorrect characters of two kinds (same pronunciation but different forms and same form but different pronunciation) while proofreading increases with grade and language ability.
Stephanson, Pine, & Melzer (1990) *Yearbook/Claremont Reading Conference* **Peer reviewed**	217 children ages 2-6 Unclear number of parents and teachers	Unclear	PRC	Observation of schools and interviews with teachers, teacher trainers and parents indicated that Chinese classrooms had instruction parallel to Whole Language approach. Activities were varied and used all modalities. Homework involved copying and reviewing the same characters many times to develop quick recall and accurate writing. Most common problem among students was inadequate vocabulary to read required texts. Preschoolers asked to perform 10 print awareness tasks showed strong visual skills sensitive to fine details; they could draw things that looked like characters even though the drawings carried no meaning.
Tong & Zhang (1997) *Psychological Science* **Peer reviewed**	292 children in grades 3, 5, & 8	Unclear	PRC	Amount of reading was comparatively large. Children paid more attention to content and chose more materials based on their own interests with increasing age. The amount of extracurricular reading, the ways of reading and the time spent reading were important factors affecting children's reading.
Wu, Anderson, Li, Chen & Meng (2002) *Chinese children's reading acquisition: Theoretical and pedagogical issues* Book	480 1st and 4th grade students and their teachers	Unclear	Beijing, PRC	Morphological awareness instruction had a significant effect on 4th graders' performance on morphological awareness tasks. This effect was not found in 1st graders.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Yan (1999) *Psychological Science* Peer reviewed	80 students, 20 each in grades 5, 8, 11, college	Unclear	PRC	Older students could increase the size of the visual chunk that they read according to content. Also, with important content, they changed to more careful reading style with less "jumping ahead" of eyes while reading.
Zhang, Bao, Guan Yu, & Li (1999) *Psychological Science* **Peer reviewed**	160 grade 4 & 5 students	Mandarin	PRC	Schematic pedagogy was found to improve students' performance compared to regular pedagogy, with students in this group earnings higher study scores. This was especially true for higher grade elementary students (5th graders in latter half of the year).
Zhang, Ollila, and Harvey (1998) *Canadian Journal of Education/Revue Canadienne de l'Education* **Peer reviewed**	87 parents from 3 countries (31 Taiwan; 25 Hong Kong 31 PRC	Unclear	Victoria & Vancouver, British Columbia, Canada	Parents answered questionnaires. Home environments of immigrants supported and were conducive to learning to read. Most parents read to child at early age because they believed literacy skills emerge long before school starts. Educated parents started reading to the child earlier. Most children had concept of print before age 5. Parents had mixed feelings about Canadian schools.
Zhang, Zhang, Yin, Zhou, & Chang (1996) *Psychological Science* **Peer reviewed**	967 students in grade 5	Unclear	PRC	Reading difficulties exist among Chinese students. The identification of these students varies depending on criteria used. There were some gender differences. Females tended to score higher on the vocabulary assessment and males higher on the comprehension parts. Researchers found that the percentage of students identified as having reading difficulties changed depending on the criteria /measures used.
Zhou, Wu & Shu (1993) *Psychological Science* **Peer reviewed**	77 children (36 grade 3, 41 grade 6)	Chinese	Unclear	Effect of being shown characters with similar pronunciation but different tones prior to a target character may have negative impact.

Appendix C. Korean Literature

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
An (1996) *Journal of Moonkyongdae* Peer review unclear	Grade K children – number is unclear	Korean	Korea	Young children grow to recognize the concepts of language on their own. Teaching reading to young children should start in a situation-oriented manner.
Cho (1990) *Journal of Korean National Open University Research* No	58 prospective grade 1 students (24 beginning readers; 34 non-readers)	Korean	Korea	Significant differences were found in the reading readiness skills of beginning readers vs. non-readers in 1st grade. The author recommends explicit teaching of reading readiness skills.
Cho (1992) *Journal of Korea National Open University Research* No	12 grade K students	Korean	Seoul, Korea	Reading instruction is necessary in kindergarten to prevent frustration and failure in 1st grade. A combination of the Assisted Reading method and the alphabet-centered reading method proved most effective at helping non-reading students learn to correctly decode and pronounce words in context.
Chun (1992) *Korean Journal of Childcare & Education* **Peer reviewed**	37 5 year-old children	Korean	Korea	Five year-old children showed a developmental progression in stages of reading. Students in the highest stage had the highest IQ test scores, particularly on the vocabulary sections.
Chung (2000) *Korean Journal of Childcare & Education* **Peer reviewed**	19 5 year-old children	Korean	Korea	When writing, children imitate aspects of written language that they have read (e.g., punctuation, story construction), either in the environment or in picture books.
Hwang (1997) *Journal of Pusand Hyowon English Literature* Peer review unclear	None	None	Korea	English teachers in Korea need to increase students' schemata and teach them about the cultural beliefs and practices necessary to understand readings.
Joo (1992) *Journal of Educational Research* (Korean) **Peer reviewed**	59 grade K children (ages 3-5)	Korean	Korea	Students were exposed to a variety of print in the environment. The context in which the print appeared influenced the children's ability to read the print. Words and letters appearing out of context were the least likely to be recognized.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Kim, D. (1999) *Journal of Special Education* **Peer reviewed**	183 2nd graders; 30 1st through 6th graders with reading IEPs Total 213	Korean	Seoul, Korea	Curriculum based reading measures are useful in Korean classrooms for determining which students have reading difficulties. Such measures are easy to construct in Korean because of the highly regular sound-symbol correspondence of the alphabet.
Kim, J. (1998) *Korean Journal of Childcare & Education* **Peer reviewed**	4 years old – number unclear	Korean	Korea	Students receiving literacy-enriched play activities with interactive teacher involvement had a higher frequency of reading and better ability to recognize print in the environment than either children receiving the play activities without interactive teacher involvement or a control group.
Kim, M. (1999) *Yonsei Journal of Human Ecology* Peer review unclear	307 four and five year olds and their mothers	Korean	Korea	There were three types of literacy beliefs among mothers surveyed: traditional, emergent literacy, and a combination of the two. Mothers created different literacy environments in the home according to their literacy beliefs. In all types of mothers, beliefs about writing tended to be more skill oriented than beliefs about reading. All mothers created age-appropriate reading activities in the home for their young children. However, mothers with traditional reading beliefs tended to do more skill-oriented activities that involved drill and practice without meaningful contexts.
Kim, S. (1996) *Seoulkodae Elementary Education* **Peer reviewed**	None	None	Korea	Literature review relating to factors of effective reading instruction that teachers can apply in the classroom.
Kim & Lee (2001) *Studies in Language* Peer review unclear	146 elementary teachers	Korean, English	Korea	Study surveyed elementary teachers to ask about the best ways to improve the English reading skills of Korean children. Use of Internet and CD ROMs was highly recommended.
Kim & Shin (1999) *Korean Journal of Childcare & Education* **Peer reviewed**	6 and 7 year olds	Korean	Korea	Reading behaviors in teachers of young children tended to focus more on explanations of illustrations rather than on words used in reading. Children made a variety of predictions about the stories that were related to their experiences and/or when the stories had repetitive elements. Predicting motivated the students' interest in the stories but did not influence their inferential processes. Discussion of the story helped connect the children's experiences with the text and aided in understanding.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Kwon, J. (1993) *Inhondae Research* Peer review unclear	143 5 & 6 year olds and their mothers	Korean	Korea	Half of the homes surveyed had more than 100 children's' books in the home. These books were primarily fairy tales and some nursery rhymes. Mothers tended to read stories whenever children wanted to hear them but did not do any other activities related to the reading. Mothers overestimated the reading ability of their children. More interactive reading activities between parent and child are recommended.
Lee, C. (2000) *Korean Journal of Childcare & Education* **Peer reviewed**	None	None	Korea	A literacy pyramid is suggested as a framework for fitting objectives to instructional format in a kindergarten reading program. This model classifies 11 instructional events, which blended together, provide a helpful menu for beginning reading instruction.
Lee, K. (2000) *Korean Journal of Childcare & Education* **Peer reviewed**	205 & 6 year olds	Korean	Korea	There were differences in metacognitive strategy use in Korean children according to age and IQ level. Korean 6 year olds were most likely to use the strategies.
Lee, M. (1997) *Korean Journal of Childcare & Education* **Peer reviewed**	62 children (15 age 3, 23 age 4, 24 age 5)	Korean	Korea	Newly created Korean reading assessment that merged Sulzby's Classification Scheme and Wixon & Lipson's Informal Reading Inventory provided a way to assess both emergent and conventional reading behaviors in Korean children.
Lee, M. (1999) *Journal of Education* **Peer reviewed**	None	None	Korea	Literature review on the relationship of parental reading activities with child and the child's reading development.
Lee, S. (1999) *Journal of Joongangdae Research* Peer review unclear	24 children 3-5 years	Korean	Korea	Students participating in a non-directional, informal picture book reading activity for 9 weeks showed greater increases in reading ability than the control group.
Park (1991) *Journal of Jeonbookdae Education* Peer review unclear	32 kindergarten children	Korean	Korea	Kindergarten students with low reading and writing ability benefited from pre-reading and writing activities (e.g., picture-word matching, eye-hand coordination, eye movement exercises, shapes of letters; language experience) available twice a day for 20 days. Results included better hand-eye coordination in participants, higher levels of concentration, more interest in reading and more positive reading behaviors.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Shim, Kim, & Kim, (2000) *Korean Journal of Childcare & Education* **Peer reviewed**	40 4 year old students	Korean	Korea	A book lending program significantly increased the reading ability of both male and female students who participated in the program.
Shin, Ko, & Hong, (1997) *Journal of Jeonbookdae Education* Peer review unclear	250 teachers (71 public preschool, 84 private preschool, 95 elementary)	Korean	Korea	Teachers in private and public Korean preschools view early literacy teaching differently and also hold different views than elementary school teachers. There were gaps in reading instruction and expectations between types of schools and across levels. Elementary teachers in the primary grades tended to view children as having fewer literacy skills than preschool teachers. Most preschool and elementary teachers surveyed valued formal reading instruction in preschool.
Yoo, H. (1996) *Journal of Haejeondae* **Peer reviewed**	None	None	Korea	Literature review follows emergent literacy viewpoint to recommend reading and writing activities for home and Korean kindergartens. Literacy events should be functional, meaningful and child-initiated.

Appendix D. Navajo Literature

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Anderson Heiman (1977) Book	None	Navajo	None	Supplemental reading texts created from traditional Navajo stories told by elders encourage Navajo children to read more and enjoy reading. Importance of culture based curriculum.
Anziano (1991) *Early Education & Development* **Peer reviewed**	97 trainees	Navajo	New Mexico	Two promising lines of intervention are: (1) comprehensive instruction in child development for Head Start teachers; and (2) working with parents as children's "first teachers." Six families were introduced to specific parent behavior techniques for reading and asking questions: predicting, sequencing, summarizing, dictating. Very few data on the newly implemented parent program were available at the time of the publication. However, families were enthusiastic about the approach.
Dick, Estell, & McCarty (1994) *Journal of American Indian Education* **Peer reviewed**	None	Navajo English	Rough Rock, Arizona	Key features of English-Navajo Language Arts program are (1) cooperative classroom structures; (2) process-oriented language and literacy development strategies; and (3) criterion-referenced system to monitor and assess student programs. Qualitative assessments of English and Navajo writing showed students demonstrating control of vocabulary, grammar, and social uses of writing , as well as considerable content knowledge.
Fillerup (2002) *National Association for Bilingual Education (NABE) Newsletter* No	None	English Navajo	Leupp Public School , Navajo Nation (AZ)	Twenty three 2nd graders (17 LEP, 6 non LEP) in the Navajo Immersion program took the Stanford 9 achievement test. Non LEP students performed better than their non LEP peers in the district by 15.6 NCEs in Reading, 12.1 NCEs in Math and .9 NCEs in Language. LEP students performed better than LEP peers district-wide by .4 NCEs in Reading, 7.8 NCEs in math and 6.3 NCEs in Language. Data appear to show that the immersion program accelerates English proficiency.
Francis (1996/97) *Journal of Navajo Education* Peer reviewed	None	English	Southwest U.S., Latin America	Navajo is discussed within historical perspectives, and compares the relationship between Navajo and the national language to the relationship that exists among most indigenous languages in Latin America. Research from reservation communities and the Latin American continent is synthesized.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Hartle-Schutte (1993) *Language Arts* **Peer reviewed**	16 fifth-graders	Navajo	Navajo Nation	The importance of the literacy backgrounds of Navajo children is highlighted. Backgrounds provide valuable educational material that schools can develop and improve, but most schools fail to recognize and build upon Navajo students' cultural experiences.
Holm & Holm (1995) *Bilingual Research Journal* **Peer reviewed**	N/A	Navajo	Arizona	Several school program approaches are considered: no Navajo – school conducted in English only; Navajo as a means – Navajo used to enable students to comprehend instruction in English; Navajo as supplemental – Navajo added as foreign language elective; and Navajo as integral – language used for instruction.
McCarty (1993) *Language Arts* **Peer reviewed**	Approx. 130	Navajo	Rough Rock, Arizona	Many issues are discussed, including bilingualism and biliteracy, staff and materials development, and assessment. Primary implication is that Navajo students attain significant achievements on local and national measures while accumulating and developing their bicultural experiences.
McLaughlin (1989) *Anthropology & Education Quarterly* **Peer reviewed**	Junior high/senior high, adults	Navajo English	Navajo Nation	Data collected through a 2-year ethnographic study indicate that the use of Navajo print has spread beyond formal institutions such as the church and school to being used in the personal lives of young Navajo. Older secondary students and teachers see Navajo literacy skills as an avenue to self understanding and empowerment.
McLaughlin (1994) *Journal of American Indian Education* **Peer reviewed**	None	Navajo	None	Model for literacy program development operationalizes the critical notions of language, empowerment, and voice. Literacy for language minority learners is achieved via generative themes, theme analysis, activity/writing, writing/conferencing, revision/evaluation.
Wieczkiewicz (1979) *Journal of American Indian Education* **Peer reviewed**	12 upper elementary & jr high students	Navajo	Rough Rock Demonstration School, Chinle, AZ	A structured phonics program has merit in helping at-risk Navajo readers learn to read better. The use of multiple modalities for learning, over learning of Dolch sight words and phonics is recommended.

Appendix E. Russian Literature

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Berezhkovskaya & Varentsova (1990) *Voprosy Psikhologii* **Peer reviewed**	5 years old	Russian	Russia	Reading skills develop faster and more effectively if reading is taught at the level of kindergarten. Elementary school children experience fewer difficulties if they begin to master reading before entering school. The main approach recommended at this level is sound (phonetic) analysis of words.
Blagova, Koreneva, & Rodchenko (1993) *Metodika i Opyt* Peer review unclear	None	Russian	Murmansk, Russia	New Russian educational policy leans toward decentralization, and allows teaching of regional specifics of Russian. Fluency in the literary language can be enriched by the knowledge of regional components of Russian.
Elaev (1996) *Russian Education & Society* **Peer reviewed**	None	Buriat	Buriat Republic, Russia	Linguistic and cultural revival issues exist in the Buriat Republic. An overview is provided of the educational reform that the school system undergoes.
Embulayeva (1999) *Russkiy Yazyk v Shkole* Peer review unclear	None	Russian	Perm, Russia	The author describes obstacles to teaching reading and provides methods of coping with them. Several techniques of text perception are generated and classified.
Ippolitova (1987) *Russkiy Yazyk v Shkole* Peer review unclear	None	Russian	Moscow, Russia	Three types of reading are addressed: skimming, informative, and learning/analytical. Three procedures are identified as important during the reading process: (1) students should be given a distinctly outlined goal of reading before beginning; (2) teachers must master specific techniques of reading to meet the goals; and (3) teachers should apply forms of control that meet requirements of both the goal and type of reading.
Ippolitova (1999) *Russkiy Yazyk v Shkole* Peer review unclear	Middle school (est)	Russian	Moscow, Russia	Analytical reading is highlighted These reading strategies ensure deep understanding of text content and, therefore, memorizing of the content.
Kamolov (1991) *Russkiy Yazyk v SSSR* Peer review unclear	Elementary school	Tajik	Tajikistan, (rural)	Typical mistakes of Russian-as-a-second-language students are described and analysed. Methods to cope with these mistakes are outlined.

Authors, Type of Publication	Grade, Subject #	Language of Subjects	Study Setting	Main Findings
Kiul'moia & Mel'tser (1997) *Rusistika* Peer review unclear	None	Estonian	Estonia	Historical development of Russian in the Baltic state is presented, examining the language reforms and tendencies from beginning 18th century until now. Current instruction in Russian language from primary to higher education also is presented.
Komissarova (1995) *Russkiy Yazyk v Shkole* Peer review unclear	Grade 5, Age 10	Russian	Moscow, Russia	Distinctive features of orthograms are considered helpful in developing spelling skills. Knowledge of distinctive features allows students to distinguish between types and kinds of orthograms. Exercises to train orthographic skills are presented.
Korotayeva & Sutyrina (2000) *Russkiy Yazyk v Shkole* Peer review unclear	None	Russian	Yekaterinburg, Russia	Active reading combines fast, dynamic, and emotional reading and slow reading. Active reading is characterized by relative continuity, maximal individualized approach, constant increasing of intensity, and positive emotional tone in the classroom.
Murashov (2000) *Russkiy Yazyk v Shkole* Peer review unclear	None	Russian	Moscow, Russia	Because orthographic rules are not always applicable, intuitive spelling skills should be developed. Reviewing corrected papers and giving explanations for mistakes is recommended. Each mistake should be analyzed and its origin identified.
Starzhinskaya (2000) *Voprosy Psikhologii* **Peer reviewed**	Preschool elementary	Russian	Belarus	The conditions of teaching a closely related second language to pre-school children are realization of linguistic phenomena by children, development of a second closely-related language skills, availability of a literary language sample, constant speech control, and cooperation of a kindergarten, family, and school. The psychologically correct approach of teaching Belorussian as a second but native language along with Russian combines subliminal language acquisition in everyday use and organized language instruction.

КАЗАКСТАН РЕСПУБЛИКАСЫНЫҢ
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25 декабря 2001 г.

США, Миннеаполис
Университет Миннесоты
Национальный
образовательный Центр
г-ну Кристофер Джонстону

Уважаемый господин Кристофер Джонстоун!

Министерство образования и науки Республики Казахстан на Ваш запрос от 7 декабря 2001 г. об опыте Республики Казахстан по обучению грамоте детей от 0 до 6 лет сообщает.

В Республике Казахстан с основами грамоты и письма в объеме задач развития речи и обучения родному языку дети знакомятся с 5-6-ти летнего возраста. Такие программы в основном организуются в подготовительных к школе группах дошкольных организаций и предшкольных классах общеобразовательных школ.

В дошкольных организациях и предшкольных классах дети впервые начинают рассматривать речь как предмет изучения. Таким образом, с психологической точки зрения, начальный период обучения грамоте – это формирование нового отношения к речи т.е. предметом осознания становятся сама речь, ее внешняя звуковая сторона, словесный состав, в то время как раньше познание детей направлялось на обозначаемые в речи предметы.

Исходя из программы обязательной предшкольной подготовки детей содержание подпрограммы по ознакомлению детей 5-6 лет с основами грамоты и письма можно представить в виде следующих основных направлений:

1) Знакомство со звуками и буквами;
2) Знакомство с предложением, словом и слогом;
3) Подготовка руки к письму.

Курс ознакомления детей с основами грамоты и письма состоит из 48 занятий , которые проводятся в течение 32 недель. Длительность занятий 30-35 минут.

Занятия носят комбинированный характер, каждое включает в себя несколько программных задач. На занятиях детям предлагается как новый материал, так и материал для повторения и закрепления усвоенных знаний. Во время обучения широко используются игры, направленные на повторение, расширение и уточнение знаний, умений и навыков детей.

Курс подпрограммы по знакомству детей с основами грамоты и письма прилагается.

С уважением и надеждой
на дальнейшее сотрудничество,
Первый вице-Министр

Б.Жумагулов

Саймасаева Г.А.
333545

05960

14. Звуковой анализ слов, в которых буква *е* обозначает два звука — [й], [э]. Подбор слов со звуком [й].

15. Звуковой анализ слов с применением правил написания гласных букв и определением ударного слога. Словоизменение. Составление предложений из 3-4 слов.

16. Звуковой анализ слов с йотированными гласными. Составление предложений с использованием предлогов.

17. Звуковой анализ слов, словоизменение. Составление предложений, деление предложений на слова. Подбор слов определенной звуковой структуры.

18. Звуковой анализ слов, содержащих изученные случаи употребления гласных звуков. Составление предложений, деление предложений на слова. Подбор слов с заданным звуком.

19. Звуки [м], [м′] и буквы *м, М*. Звуковой анализ и подбор слов с данными звуками. Повторение правила об употреблении заглавной буквы. Чтение слогов и слов с изученными буквами.

20. Звуки [н], [н′] и буквы *н, Н*. Чтение слогов и слов с изученными буквами. Составление предложений.

21. Звуки [р], [р′] и буквы *р, Р*. Звуковой анализ слов, подбор слов с заданными звуками. Чтение слогов и слов с буквой *р* и другими изученными буквами.

22. Звуки [л], [л′] и буквы *л, Л*. Чтение слогов и слов с буквой *л*. Чтение предложения, ответы на вопросы.

23. Звуки [г], [г′] и буквы *г, Г*. Выкладывание предложений из букв разрезной азбуки. Знакомство с правилом употребления заглавной буквы в начале предложения, раздельного написания слов и постановкой точки в конце предложения.

24. Звуки [к], [к′] и буквы *к, К*. Составление и выкладывание предложений в соответствии с изученными правилами. Закрепление знаний о гласных буквах, обозначающих два звука.

25. Чтение слогов, слов и предложений с изученными буквами. Ответы на вопросы по прочитанным предложениям. Подбор слов определенной звуковой структуры и с заданным ударением.

26. Звуки [с], [с′] и буквы *с, С*. Выкладывание предложений с применением изученных правил. Закрепление знаний об йотированных гласных.

27. Звуки [з], [з′] и буквы *з, З*. Чтение слогов, слов и предложений с изученными буквами. Ответы на вопросы по прочитанному тексту.

28. Звук [ш] и буквы *ш, Ш*. Правило написания сочетания *ши*. Подбор слов с заданным звуком. Чтение слогов, слов и предложений.

29. Звук [ж] и буквы *ж, Ж*. Правило написания сочетания *жи*. Чтение слогов, слов, предложений, определение словесного ударения. Ответы на вопросы по прочитанному тексту.

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30. Звуки [д] и [д′] и буквы *д, Д*. Чтение слогов, слов, предложений. Озаглавливание и пересказ текста. Выкладывание предложения, постановка ударения в напечатанных словах. Знакомство с восклицательным знаком и его ролью в предложении.

31. Звуки [т], [т′] и буквы *т, Т*. Чтение слогов, слов, предложений. Выкладывание предложений. Знакомство с вопросительным знаком и его ролью в предложении.

32. Буква *ь* и ее функция показателя мягкости согласных звуков. Определение словесного ударения. Отгадывание слова по модели с помощью вопросов.

33. Закрепление знаний об изученных звуках и буквах. Составление и печатание предложений, чтение слогов, слов и предложений.

34. Звуки [п], [п′] и буквы *п, П*. Постановка ударения в напечатанных словах, чтение слогов с ударением. Выкладывание предложений с соблюдением изученных правил.

35. Звуки [б], [б′] и буквы *б, Б*. Чтение слогов, слов, предложений и текстов, ответы на вопросы по тексту. Выкладывание предложений, подбор слов различной звуковой структуры.

36. Звуки [в], [в′] и буквы *в, В*. Чтение слогов, слов, предложений. Выкладывание предложений, постановка ударения. Отгадывание слов по модели с помощью вопросов.

37. Звуки [ф], [ф′] и буквы *ф, Ф*. Чтение слогов, слов, предложений с изученными буквами. Выкладывание предложений, постановка ударения. Пересказ прочитанного текста.

38. Упражнения в словоизменении (ед. ч. — мн. ч.). Составление предложений, деление их на слова, слов на слоги. Звуковой анализ слов. Чтение текста и ответы на вопросы по тексту.

39. Звук [й′] и буква *й*. Чтение слогов, слов и предложений. Подбор слов с заданным звуком. Закрепление знаний о роли вопросительного и восклицательного знаков.

40. Звук [ч′] и буквы *ч, Ч*. Звуковой анализ слов. Чтение слогов, слов и предложений. Составление цепочки слов для превращения одного слова в другое путем замены одной буквы.

41. Звук [щ′] и буквы *щ, Щ*. Чтение слогов, слов, предложений. Правило о написании сочетаний *ча, ща, чу, щу*. Выкладывание предложений из букв разрезной азбуки.

42. Звук [ц] и буквы *ц, Ц*. Чтение текста, ответы на вопросы, обращение внимания на знаки препинания.

43. Звуки [х], [х′] и буквы *х, Х*. Чтение слогов, слов и предложений. Выкладывание предложений. Чтение текста. Превращение одного слова в другое (цепочка слов).

44. Разделительная функция мягкого знака. Звуковой анализ слов с разделительным мягким знаком. Повторение правила об употреблении заглавной буквы в именах, названиях, в начале предложения.

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45. Буква ъ и ее разделительная функция. Звуковой анализ слов с разделительным твердым знаком. Выкладывание предложений, чтение текста.

46. Составление и выкладывание предложений. Звуковой анализ слов с разделительными ь и ъ знаками. Чтение текста, ответы на вопросы.

47. Обобщение знаний о системе гласных звуков, их функциях. Составление и выкладывание предложений, чтение текста. Ответы на вопросы.

48. Обобщение знаний о системе согласных звуков, их функциях. Чтение текста, его пересказ. Подбор слов с заданным звуком, к заданной модели. Выкладывание предложений.

Планирование занятий по основам письма в группе детей 6—7 лет

Упражнения по ознакомлению с основами письма могут вводиться в занятия по обучению грамоте либо проводиться в качестве отдельного занятия 1 раз в 2 недели (из расчета 1 час в нед. — основы грамоты — 32 часа, 1 час в 2 нед. — основы письма — 16 часов). Для выполнения упражнений используются тетрадь в клетку и тетрадь в узкую линейку.

1. Повторение правил посадки при письме, положения тетради, руки, ручки и карандаша в руке. Повторение начертаний отдельных элементов (прямая горизонтальная и вертикальная, наклонная линии, овал (большой и маленький), волнистая линия). Составление узоров из известных элементов.

2. Повторение правил работы с трафаретом, правил штриховки. Составление узоров из геометрических фигур с помощью трафаретов, их штриховка разными способами (тетрадь в клетку). Объяснение разлиновки тетради в узкую линейку (рабочая строка, нерабочая строка). Обведение двух горизонтальных линий рабочей строки.

3. Печатание буквы *А* (тетрадь в клетку). Рисование бордюра «Салфетка». Начертание прямых строчных линий (тетрадь в линейку).

4. Печатание буквы *Я*. Начертание большой прямой линии. Рисование узора «Грибы» по образцу. Штриховка.

5. Закрепление начертания строчной и большой прямой линий (чередование). Печатание букв *А, Я*. Составление с помощью трафаретов рисунка Неваляшки (Снеговика, гусеницы), штриховка наклонными и волнистыми линиями.

6. Печатание буквы *О*. Письмо большой прямой линии с закруглением с одной стороны (влево или вправо). Рисование бордюра «Зонтики».

7. Печатание буквы *Ё*. Письмо строчной прямой линии с закруглением вверху или внизу. Рисование узора «Бабочки» по образцу, раскрашивание.

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8. Закрепление начертаний большой прямой линии с закруглением с одной стороны, строчной линии с закруглением вверху или внизу. Печатание изученных букв. Начертание горизонтальной плавной линии с закруглением слева.

9. Печатание буквы *У*. Закрепление начертания изученных элементов. Написание большой и маленькой линий с закруглением с двух сторон: вверху или внизу. Рисование больших и малых овалов. Рисование узора «Лебеди».

10. Печатание буквы *Ю* и других изученных букв. Написание маленькой линии с закруглением с двух сторон в положении на строке и над строкой.

11. Печатание изученных букв. Написание линии с петлей внизу. Рисование бордюра «Морковь» с дорисовыванием деталей.

12. Печатание букв *И, Ы*. Написание линии с петлей вверху. Рисование бордюра «Ягода».

13. Печатание букв *Э, Е*. Закрепление начертания двух вариантов линии с петлей. Рисование бордюра «Лилия».

14. Печатание изученных букв. Закрепление начертаний изученных элементов, их поиск в узоре и обведение.

15. Печатание изученных букв. Написание большой и строчной плавной линии с закруглением внизу. Рисование бордюра «Елочки».

16. Печатание изученных букв. Написание линий с овалом до середины строки. Рисование бордюра «Ножницы».

17. Печатание изученных букв. Написание овалов (больших и малых). Рисование бордюра «Шары».

18. Печатание изученных букв. Закрепление начертания овалов. Рисование бордюра «Фрукты».

19. Печатание буквы *М* и слогов с буквой *М*. Написание полуовала — правого и левого (строчного). Рисование бордюра «Чашка».

20. Печатание буквы *Н* и слогов с буквой *Н*. Написание больших полуовалов. Рисование бордюра «Репа».

21. Печатание буквы *Р* и слогов с буквой *Р*, слов с изученными буквами. Написание горизонтального полуовала. Рисование бордюра «Ежик».

Примечание. После изучения основных элементов букв воспитатель может вводить упражнения на написание букв. Но, на наш взгляд, это нецелесообразно, исходя, во-первых, из психофизиологических особенностей ребенка 6—7 лет, во-вторых, из необходимости осуществления принципа преемственности и перспективности между детским садом и школой, а также следует учитывать тот факт, что в программу подготовки воспитателей дошкольных групп не входит методика обучения письму.

На занятиях с 22 по 48 выполняются следующие упражнения:

— печатание букв в порядке их изучения, слогов, слов и предложений с изученными буквами;

— закрепление начертаний изученных элементов букв с перечислением элементов и проговариванием порядка их написания;

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— соотнесение печатной и письменной букв, составление письменных букв с помощью набора шаблонов элементов букв с их называнием (пример: строчная буква *а* состоит из полуовала и прямой линии с закруглением внизу);

— работа с трафаретами (составление различных рисунков, их штриховка и раскрашивание);

— рисование различных узоров и бордюров (подробнее см. в «Дидактическом материале»).

ПРИМЕРНЫЕ КОНСПЕКТЫ ЗАНЯТИЙ ПО ОЗНАКОМЛЕНИЮ С ОСНОВАМИ ГРАМОТЫ И ПИСЬМА ДЕТЕЙ 6–7 ЛЕТ

Занятие № 1.

ТЕМА "Повторение понятий «предложение», «слово», «звук»".

ЦЕЛЬ: повторять указанные понятия в процессе анализа языкового материала (гласные — ударные и безударные, согласные — твердые и мягкие); закреплять умение выделять предложение в речевом потоке, записывать его с помощью схем; умение делить предложение на слова, выделять в словах звуки; развивать умение анализировать, сравнивать, обобщать, делать выводы; повторять известные правила письма.

Демонстрационный материал: сюжетные картинки, красный и синий дома, красные, зеленые, синие и черные фишки.

Раздаточный материал: фишки разных цветов, полоски для составления звуковых моделей, указки.

Ход занятия:

1. Работа над предложением.

— Из чего состоит наша речь? (из предложений)

— Из чего состоит предложение? (из слов)

Составление предложений по сюжетной картинке «Осень» с опорой на схемы, данные в тетрадях.

Выбирается любое составленное предложение, повторяется.

— Назовите первое слово в предложении. (второе, третье)

— Сколько всего слов в предложении?

Воспитатель подводит детей к выводу о том, что предложение — это группа слов, связанных по смыслу.

2. Работа над словом, звуком.

— Из чего состоят слова? (из звуков)

Выбирается любое слово, и в нем последовательно выделяются звуки.

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— Какими бывают звуки? (если дети затрудняются, воспитатель произносит несколько гласных звуков и несколько согласных звуков и просит сравнить)

Вывод: звуки делятся на гласные и согласные (здесь возможно повторение характеристик согласных звуков — твердые и мягкие).

Игра «Рассели звуки в домики».

Воспитатель выставляет на наборное полотно три домика — красный, синий и зеленый; называет последовательно звуки, дети показывают соответствующую фишку и кладут в домик определенного цвета. Затем задание усложняется: дети сами по очереди называют звуки (либо работа проводится по тетради простым карандашом).

Звуковой анализ слов «пар», «пир».

Дети на местах (на полосках бумаги и с помощью фишек) и воспитатель на наборном полотне составляют сначала звуковую модель слова «пар», затем слова «пир».

— Произнесите слово. Сколько в слове слогов; звуков? Назовите ударный гласный звук (вспомнить, что в слове, состоящем из одного слога, гласный звук всегда ударный).

— Назовите первый звук, какой он (полная характеристика: согласный (твердый, мягкий), гласный (ударный, безударный) (второй звук, третий звук).

— Сколько гласных звуков в слове? (назовите)

— Сколько согласных звуков? (назовите)

— Если заменить гласный звук [а] в слове «пар» на звук [и], какое слово получится?

Звуковую модель слова «пир» один ребенок составляет у доски, остальные на местах (модель располагается под первой моделью).

Сравнение звукового состава слов «пар» и «пир».

— Что общего в этих словах? (по три звука: два согласных, один гласный, последний звук [р]).

— Чем они отличаются? (в слове «пар» первый звук — твердый, в слове «пир» — мягкий; разные гласные звуки). Обратить внимание детей на обозначение мягкости и твердости согласных звуков при составлении модели.

3. Физминутка.

4. Игра «Назови брата».

Воспитатель называет твердый или мягкий согласный звук, дети должны назвать его пару по твердости и мягкости, затем показать соответствующую фишку.

5. Письмо.

Повторение правил посадки при письме, положения тетради, руки, ручки и карандаша в руке.

Повторение начертаний отдельных элементов (прямая горизонтальная и вертикальная, наклонная волнистая линии, овал (большой и маленький).

Составление узоров из известных элементов.

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MINISTRY OF EDUCATION AND SCIENCE OF THE KAZAKH REPUBLIC
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#04-3/5595
12/25/2001

Ministry of Education and Science of the Kazakh Republic notifies about the following concerning your request of December 7 2001 about the Kazakh Republic's experience in teaching literacy to children from 0 to 6 years old.

In the Kazakh Republic, children begin to learn basics of literacy and writing by means of speech development tasks and learning the native language from the age of 5-6. Such programs are mainly organized in preparatory groups at preschool organizations and preschool grades at general education schools.

In preschool organizations and preschool grades, children begin to consider speech as a subject to study for the first time. Thus, from a psychological point of view, the initial period of teaching literacy is formation of a new attitude towards speech, i.e. the speech *per se*, as well as its outer sound side and vocabulary, become an object of realization, whereas before, children's perceiving was directed to subjects identified by the speech.

According to the program of required preschool preparation for children, the content of the subprogram about 5-6-year-old children's studying literacy and writing fundamentals can be presented by the following items:
1) Learning about sounds and letters;
2) Learning about the sentence, word, and syllable;
3) Preparation of children's hands for writing.

The course on children's studying literacy and handwriting consists of 48 classes, which are conducted within the period of 32 weeks. The duration of the classes is 30-35 minutes.

The classes are of a combined character each including several program tasks. In classes, children are presented new material as well as material for revision and corroboration of the gained knowledge. In the process of teaching, games are widely applied in order to revise, broaden, and shape children's knowledge and skills.
A subprogram course on children's studying literacy and writing fundamentals is attached.

Kindest regards
and hope for further cooperation
First Vice-Minister   B. Zhumagulov

Planning Literacy Fundamentals Classes in the Group of 6-7-year-old Children

Planning Writing Fundamentals Classes in the Group of 6-7-year-old Children

A Sample Outline of a Class on Literacy and Writing Fundamentals for 6-7-year-old Children

Class #1

Theme
Purpose
Visual aids
Handouts

Procedure

1. Learning about the sentence
2. Learning about the word and sound
Summary
Game "Settle the sounds in their houses"
Phonetic word analysis
3. A minute break for physical exercises
4. Game "Name a brother"
5. Writing

University of Minnesota
350 Elliot Hall
75 East River Road
Minneapolis, MN 55455

17.12.2001.
№. 1-09/7

Dear Sir,

In reply to your question about the processes taking place in Latvia in the area of literacy, we would like to inform you about the following. English as the first foreign language is introduced in the 3rd grade (at the age of 8/9).

The aim of compulsory education for foreign language teaching/learning is the ability to use foreign language in order to develop oneself and to co-operate and to live in a multicultural world.

The **aim** of the first foreign language taught at schools (English) results from the National Standards of compulsory education and is based on the peculiarities of the age group of students.
The aim for *grade 3* is the aptitude and the ability to perceive and to communicate in foreign language, to be interested in the culture of the states where this language is spoken.
The aim for *grade 4-6* is the skills and the ability to use language as a means of communication, intercultural awareness, and for realisation of one's personal needs.

Main **Objectives** for *grade 3*
- to be interested in the foreign language acquired
- to cognise oneself, others and the world around you
- to acquire foreign language by practical involvement
- to perceive mother tongue language and foreign language as a unity of creative self-expression in the study process

Main **Objectives** for *grade 4-6*
- to use foreign language mainly for communicative purpose – to receive and exchange information for communication and social co-operation
- to use foreign language in the process of formation basic linguistic skills
- to evaluate one's own and other students success in the study process, acting individually or in collaboration with others
- to be aware of foreign language as a definite system alongside with mother tongue language; to develop skills, to find out similarities and differences in these language systems; to understand the importance of languages among other arts

The **contents** of compulsory education for the first foreign language taught (English) grade 3 results from the students interests age 8/9, their surroundings and culture, considering national and regional peculiarities. The choice of themes acquired include the following range of interests:
- me in this wonderful world
- me, you and others
- I make my home
- I will take care of you
- I want it so and I can
- it is something new
- my treasure-house

Communicative integration area is formed according to the thematic, dialogue and text selection and later in the creative process based on the learning contents and range of interests acquired in mother tongue language and language spoken by minorities. It is viewed
- through oneself
- through oneself and others
- through surrounding world in its multisidedness and change

Language functions and necessity for knowledge states the selection of vocabulary and grammatical structures:
- to use language in various situations in the study process (listening to others, interacting with others) – **communicative skills**
- to discover oneself and world around us, develop imagination, fantasy and creative skills – **creativity and self–expression**
- to listen to and understand the ideas and emotions expressed by others, as well as to ask precise questions – **social (co-operative) skills**
- to understand the importance of non-verbal communication (gestures, facial expression, body language) in real life situations, interpret and make use of visual information, be able to find the most essential things and to formulate one's own emotional and intellectual attitude towards the information heard or read – **analytical and critical skills**
- to study individually or in collaboration with others by practical involvement, to acquire strategies for how to learn – **learning skills and practical application**

The **contents** of compulsory education for the first foreign language taught (English) grade 4-6 results from the students' interests age 9/10-12, their surroundings and culture, considering national and regional peculiarities. The choice of themes acquired include the following range of interests:
- me in this wonderful world
- me, you and others
- I make my home
- I will take care of you
- I want it so and I can
- it is something new
- my treasure-house
systematising and broadening language and learning experience.

Communicative integration area is formed according to the thematic, dialogue and text (social, literal, applied) selection and later in the creative process based on the learning contents and range of interests acquired in mother tongue language and language spoken by minorities. It is viewed
- through oneself

- through oneself and others
- through surrounding world in its multisidedness and change

It demands the needs for communicative language learning in the intercultural context.
- to study individually or in collaboration with others and acquire language and its usage – **learning skills and practical application**
- teaching contents should be authentic
- the contents of the first foreign language gives the possibility to communicate according to the situation and problems to be solved – **communicative skills**
- the contents of the first foreign language stimulates students to express their attitude, to justify and defend one's own world outlook in the given context both in oral and in written form – **analytical and critical skills**
- the contents of the first foreign language helps to understand the interconnections and differences of mother tongue language and foreign language in surrounding cultures, creating tolerance towards differences – **evaluative (moral and aesthetic) skills**
- the contents of the first foreign language stimulates to use creatively the knowledge and skills in the dialogue of culture – **creativity and self-expression**
- the contents of the first foreign language stimulates to acquire the knowledge experience value and attitude by working co-operatively in a team – **social (co-operative) skills**
- the contents of the first foreign language makes use of maths contents in language functioning (information acquired from tables, graphs, diagrams) – **mathematical skills**

We hope provided information can help your investigation.

Sincerely,

M.Krastiņš
Head of Centre for Curriculum
Development and Examination

Vītola 7814463

Appendix F.1. Study Approach, Design, and Questions (For Studies in English or Translated and Peer Reviewed)

Study Citation	Research Approach	Research Design	Teaching Intervention?	Control?	Research Questions
Chinese Gottardo,A., Yan, B., Siegel, L. & Wade-Wooley, L. (2001). Factors related to English reading performance in children with Chinese as a first language: More evidence of cross-language transfer of phonological processing. *Journal of Educational Psychology*, *93* (3), 530-542.	Quantitative	Correlational	No	Not Applicable	Are measures of English reading performance for bilingual children the same as predictors for monolingual English speaking children? Is performance on Chinese reading measures associated with English word reading? Is there cross language transfer of reading related skills from Chinese to English? What is the impact of L1 phonological skills on L2 reading skill?
McBride-Chang, C., & Ho, C.S. (2000). Developmental issues in Chinese children's character acquisition. *Journal of Educational Psychology, 92* (1), 50-55.	Quantitative	Correlational	No	Not Applicable	What is the nature of phonological awareness in a Chinese context? To what extent are phonological processing skills uniquely associated with Chinese character recognition? Is letter naming, as a measure of pairing visual symbols with their spoken referents, independently correlated with Chinese character recognition?
Shu, H., Anderson, R., & Wu, N. (2000). Phonetic awareness: Knowledge of orthography-phonology relationships in the character acquisition of Chinese children. *Journal of Educational Psychology, 92* (1), 56-62.	Mixed (primarily Quantitative)	Correlational Descriptive	No	Not Applicable	What are the effects of the familiarity and regularity of Chinese characters on Chinese childrens' pronunciation? Do these change over the elementary school years?

Study Citation	Research Approach	Research Design	Teaching Intervention?	Control?	Research Questions
Chinese Mo, L. (1999). An experimental study on the influence of reading anticipation on speed-reading comprehension. *Psychological Science, 2,* 197-201.	Exp1: Quantitative	Exp 1: Quasi-experimental. Non-random assignment to 3 groups based on test results. Three groups each receive 2 texts in counter-balanced order under speed and normal conditions – 3 (group) x 2 (speed) design	Exp 1: No	Exp 1: Yes	Exp 1: What are the effects of students' different reading anticipations of article content on speed-reading comprehension and on reading at normal speed?
	Exp 2: Quantitative	Exp 2: Quasi-experimental. Assignment to two groups based on speed reading comprehension pretest. Then assumed random assignment to subgroups. Design is 3 (title cues) x 2 (reading levels).	Exp 2: No	Exp 2: Yes	Exp 2: What are the effects of students' different anticipations of article content on the level of phrase and sentence processing in speed reading?
Pine, N., Huang, R., Huang,P., & Zhang, W. (1999). Learning strategies of children who know Chinese. Claremont Reading Conference, pp. 215-231.	Qualitative	Descriptive	No	Not Applicable	What do Chinese children say about how they recognize and remember characters?

Study Citation	Research Approach	Research Design	Teaching Intervention?	Control?	Research Questions
Chinese Zhang, X., Bao, Z., Guan, W., Yu, Z., & Li, X. (1999). The application of the schema theory in teaching elementary school reading comprehension and its effect on the language arts scholastic score. *Psychological Science, 22,* 136-139.	Quantitative	Quasi-experimental. Randomized (by class)	Yes (teacher training and classroom materials for experimental classes)	Yes	To what extent does changing teachers' approaches and materials to be consistent with schema theory affect students' performance on language arts scholastic scores that include reading comprehension?
Zhang, C., O'Llila, L.,& Harvey, C. B. (1998). Chinese parents' perceptions of their children's literacy and schooling in Canada. *Canadian Journal of Education*, *23* (2), 182-190.	Quantitative	Survey Research Descriptive	No	Not Applicable	How do Chinese parents perceive their child's literacy development in a multicultural society? How literate an environment have these Chinese parents provided for their child? What are parents' beliefs and values regarding their children's schooling in Canada?
Ho, C. S. & Bryant, P. (1997a). Learning to read Chinese beyond the logographic phase. *Reading Research Quarterly*, *32* (3), 276-289.	Quantitative	Correlational	No	Not Applicable	What is the significance of orthography-phonology correspondence (OPC) rules for children learning to read in Chinese? What is the connection between phonological awareness and knowledge of the OPC rules in reading Chinese?
Ho, C.S., & Bryant , P. (1997b). Phonological skills are important in learning to read Chinese. *Developmental Psychology*, *33* (6), 946-951.	Quantitative	Correlational Longitudinal	No	Not Applicable	Do Chinese children's visual skill predict their success in reading Chinese (and mathematics) or are phonological skills also important?

Study Citation	Research Approach	Research Design	Teaching Intervention?	Control?	Research Questions
Chinese Hudson-Ross, S., & Dong, Y., (1990). Literacy learning as a reflection of language and culture: Chinese elementary school education. *The Reading Teacher*, *44* (2), 110-123.	Neither	Observation Reflection	No	Not Applicable	What is typical Chinese education and reading instruction?
Shu, H., & Anderson, R. (1997). Role of radical awareness in the character and word acquisition of Chinese children. *Reading Research Quarterly*, *32* (1), 78-89.	Exp 1: Quantitative	Exp 1: Correlational	Exp 1: No	Exp 1: Not Applicable	Exp 1: Are elementary school children aware of the radicals in characters? Does radical awareness help children in remembering familiar characters? Is there a developmental progression over the early school years in the use of radicals?
	Exp 2: Quantitative	Exp 2: Correlational	Exp 2: No	Exp 2: Not Applicable	Exp 2: Does radical awareness help children in remembering familiar characters? How do children use the information in radicals to derive the meanings of unfamiliar characters? What differences are there between good and poor readers in using radicals to learn characters and words?
So, D., & Siegel, L.S. (1997). Learning to read Chinese: Semantic, syntactic, phonological and working memory skills in normally achieving and poor Chinese readers. *Reading and Writing: An Interdisciplinary Journal, 9*, 1-21.	Quantitative	Correlational	No	Not Applicable	What are the relationships among reading ability, phonological, semantic and syntactic skills and working memory? What are the developmental patterns in those skills? How do normal and poor readers compare on these skills?

Chinese Feurer, H. (1996). Bilingual education among minority nationalities in China: A study of the Naxi pilot project at Yilong, Yunnan. *Regional English Language Centre (RELC) Journal*, 27 (1), 1-22	Quantitative	Quasi-experimental. Parents selected condition (experimental or control group) For study, randomly selected which students would be tested.	Yes (Bilingual Naxi/Chinese instruction)	Yes	Does the biliteracy program in Naxi and (experimental condition) have a positive effect on the monolingual Naxi speaking participants?
Anderson, J. (1995). Listening to parents' voices: Cross cultural perceptions of learning to read and to write. *Reading Horizons*, 35 (5), 394-413.	Qualitative	Descriptive	No	Not Applicable	What are the perceptions of literacy acquisition held by parents from 3 cultural groups?
Shu, H., Anderson, R., & Zhang, H. (1995). Incidental learning of word meanings while reading: A Chinese and American cross-cultural study. *Reading Research Quarterly, 30* (1), 76-95.	Quantitative	Quasi-experimental. Students from two countries; reading ability of individuals assessment Repeated measures	No	Not Applicable	Do both American and Chinese children incidentally learn unfamiliar word meanings from written context? What are the similarities and differences among children in different cultures using very different writing systems?
Polland, M. (1993). Results from the right side up test: A cross cultural study of young children in the United States and China. Claremont Reading Conference, 151-160.	Quantitative	Descriptive	No	Not Applicable	What do U.S. and Chinese children know about elementary components of the writing system?

Study Citation	Research Approach	Research Design	Teaching Intervention?	Control?	Research Questions
Chinese Hsia, S. (1992). Developmental knowledge of inter and intraword boundaries: Evidence from American and Mandarin Chinese speaking beginning readers. *Applied Psycholinguistics*, *13*, 341-372.	Study 1: Quantitative	Study 1: Correlational	Study 1: No	Study 1: Not Applicable	Study 1: Do young beginning readers manifest a segmentation process over time? Is there a difference in segmentation behavior between Mandarin-speaking children learning to read in both Chinese and English and native-English speaking monolingual American children? Does the difference change with age for the bilingual students?
	Mixed	Study 2: Additional analyses	Study 2: No	Study 2: Not Applicable	Study 2: Do linguistic constraints affect segmentation?
Stephanson, J., Pine, N., & Melzer, T. (1990). Chinese semiotic development. *Claremont Reading Conference*, 219-230.	Qualitative	Observations of children in China performing tasks	No	Not Applicable	What imprints does the Chinese writing system make on preliterate Chinese children? (unclear questions)
Korean Kim, D. (1999) Developing reading inventories with curriculum-based measurement procedure: a perspective of technical adequacy. *Journal of Special Education, 6*,103-116	Quantitative	Correlational	No	Not Applicable	Is a curriculum-based measurement of reading ability a valid and practical way for Korean teachers to identify students with possible learning disabilities?
Navajo Francis, N. (1996/97). Language maintenance and vernacular literacy: An InterAmerican perspective. *Journal of Navajo Education*, *14* (1-2), 34-44.	Literature synthesis	Not applicable	Not applicable	Not applicable	What are some common ideas from research and practice in indigenous language teaching that educators can use to implement language revitalization maintenance programs?

Study Citation	Research Approach	Research Design	Teaching Intervention?	Control?	Research Questions
Navajo Holm, A. & Holm, W. (1995). Navajo language education: Retrospect and prospects. *The Bilingual Research Journal, 19* (1), 141-167.	Literature review	Not applicable	Not applicable	Not applicable	What are some lessons learned from the growth and development of bilingual education on the Navajo Reservation?
Dick, G., Estell, D. & McCarty, T. (1994). Restructuring the teaching of language and literacy in a Navajo community school. *Journal of American Indian Education*, 31-46	Qualitative	Case Study Descriptive	No – general school change effort	Not Applicable	What are the processes of educational change as realized in a Navajo community school with bilingual education?
McLaughlin, D. (1994). Critical literacy for Navajo and other American Indian learners. *Journal of American Indian Education*, 47-59.	Descriptive Paper	Not applicable	Not applicable	Not applicable	Is it possible that Navajo and other American Indians succeed in schools that reverse relations of power and domination that characterize dominant and minority groups?
Hartle-Schutte, D. (1993). Literacy development in Navajo homes: Does it lead to success in school? *Language Arts*, *70,* 642-654.	Qualitative	Descriptive	No	Not Applicable	What factors contribute to the success of at-risk Navajo 5th graders who successfully learn to read?
McCarty, T. (1993). Language, literacy, and the image of the child in American Indian classrooms. *Language Arts*, 70, 182-192.	Not applicable	Not applicable	Not applicable	Not applicable	How can findings from classroom based ethnography (observations, interviews, children's writing and quantitative assessments) help to restructure the learning and teaching of language and literacy?

Study Citation	Research Approach	Research Design	Teaching Intervention?	Control?	Research Questions
Navajo Anziano, M. (1991). Approaches to early intervention on the Navajo reservation. *Early Education and Development, 2* (1), 68-76.	Study 1: Quantitative	Study 1: Survey Descriptive	Study 1: Yes (training of Head Start teachers)	Study 1: No	Study 1: Are there benefits to training Head Start teachers?
	Study 2: Qualitative	Study 2: Preliminary Case Study	Study 2: Yes (structured approach to parent-child reading)	Study 2: No	Study 2: What is the effect of a structured parent-child reading intervention on the reading comprehension of a subset of geographically isolated Navajo preschool children?
McLaughlin, D. (1989). The sociolinguistics of Navajo literacy. *Anthropology and Education Quarterly*, *20*, 275-290.	Qualitative	Ethnography (included elementary and secondary teachers; junior and senior high students)	No	Not applicable	What are the uses for English and Navajo literacy in one small community on the Navajo reservation?
Wieczkiewicz, H. (1979). A phonic reading program for Navajo students. *Journal of American Indian Education*, *18* (3), 1-6.	Quantitative	Pre-experimental Pretest-posttest	Yes (structured phonics reading program during summer school)	No	Does a highly-structured phonetic approach to reading help Navajo students? Does it give young children decoding skills needed to read well later on? Does separating teaching of mechanics from teaching comprehension help?
Russian Elaev, N.K. (1996). The present and future of the Buriat National School. *Russian Education and Society*, 90-96.	Position paper	Not applicable	Not applicable	Not applicable	Can native language be maintained via bilingual education in Russian and Buriat?

Study Citation	Research Approach	Research Design	Teaching Intervention?	Control?	Research Questions
Russian Berezhkovskaya, E.L., & Varentsova, N.S. (1990). Teaching five year olds to read and write. *Psychology Issues*, (1), 33-41.	Mixed	Pre-experimental Pretest-posttest	Yes (phonetic analysis skills and beginning writing skills)	No control group, but comparison (reverse order)	Is there an effect on early reading and writing skills of teaching phonetic analysis skills and beginning writing skills in a particular order?

Appendix G
Annotations

Chinese Literature

Anderson, J. (1995). Listening to parents' voices: Cross cultural perceptions of learning to read and write. *Reading Horizons*, 35(5), 394-413.
Parents of elementary students in Canada (1/3 European-Canadian, 1/3 Chinese-Canadian, 1/3 Indo-Canadian) were interviewed to identify specific ways they helped their child learn to read and write. Items were open-ended; answers were categorized into broad themes indicating that children overall participated in a wide variety of literacy-related activities at home but that in some families parents had difficulty naming anything they did that helped students' literacy skills. Indo and Euro-Canadian parents tended to place a high priority on holistic literacy activities and shared reading experiences with their child while Chinese-Canadian parents, who had high literacy levels in this study, did not see shared reading as important as teaching their child correct performance (e.g., printing technique, letter formation, spelling, story comprehension). Many Euro-Canadians valued the creation of a literacy environment to encourage their child in reading and writing, while few Indo and Chinese-Canadian parents expressed these values. Thus, it seemed that Euro and Indo-Canadian parents gave significance to the social aspects of literacy while the Chinese parents valued the direct teaching of literacy.

Anderson, R., Gaffney, J., Wu, X., Wang, C., Li, W., Shu, H., Nagy, W. & Ming, X. (2002). Shared-book reading in China. In W. Li, J.S. Gaffney, J.L. Packard (Eds.), *Chinese children's reading acquisition: Theoretical and pedagogical issues (pp. 131-156)*. Boston: Kluwer Academic Publishers.
The design and implementation of a shared-book reading lesson in Chinese (Beijing) first grade classrooms are described. Chinese first grade teachers typically teach reading using intensive lessons that guide students through increasingly larger chunks of fairly short text, with the teacher modeling correct oral pronunciation in reading and students copying the pronunciation, rather than reading to students for pleasure. The shared-book approach by Holdaway (1979) includes the use of a large-size book for the teacher to hold up and read aloud before the students read it themselves. Research staff from the University of Illinois at Champaign-Urbana and from Beijing Normal University teamed up to create a series of culturally appropriate big books (and small photocopies for each student) for the 1st grade curriculum.

Bai, X., & Shen, D. (1996). 不同年级学生读课文时眼睛注视方式的研究 [Studies on eye fixation during text reading among different grades]. 心理科学 [Psychological Science], 19, 6-10.
Naturally-occurring patterns of eye fixations in 150 Chinese readers (30 each from grades 3, 5, 7, 10, and college) were examined. Students read six brief passages about daily activities while looking into an eye movement recorder. Results indicated four typical patterns of eye fixations: (1) reading the questions at the end of the text first, then going back to find the answers in the text; (2) reading from beginning to end without going back to read any parts a second time; (3) reading from beginning, but going back to previous parts if clarification was needed; and (4) no regular pattern, with eyes jumping back and forth between parts of the text. Patterns 1 and 4 were more common in older readers, and the amount of re-reading decreased in older students. When re-reading, students most often went back and forth between sentences rather than within one sentence.

Davidson, D., Tobin, J., & Wu, D. (1987). Preschool language interaction in China, Japan and Taiwan. *Yearbook/ Claremont Reading Conference*, 104-111.
Brief descriptions based on videotapes are provided of what preschool looked like in three Asian countries (Japan, Taiwan, China), focusing particularly pre-writing and pre-reading activities. In pre-schools in Kunming, China, there was a strong emphasis on oral language skills such as enunciation, recitation of memorized materials such as stories and poems, and singing of songs. Correct pronunciation, diction and poise were important to teachers. Most early reading and writing activities were in teacher-led groups. Some pre-reading activities were modeled after activities found in western IQ tests. This structured approach was in contrast to the little emphasis on reading or writing found in Japan, and the freedom and individualized choices emphasized in Taiwan.

Feurer, H. (1996). Bilingual education among minority nationalities in China: A study of the Naxi pilot project at Yilong, Yunnan. *RELC Journal: A Journal of Language Teaching and Research in Southeast Asia*, 27(1), 1-22.
Naxi-speaking minority children in "bilingual" classes were found to perform significantly better than their counterparts in a regular Chinese-only classroom, where the measure was final fall semester grades in Chinese literacy. It was concluded that L1 skills transferred to L2. However, when a uniform oral proficiency test was used with both groups, the same finding was not evident, apparently due to validity issues. There was also some indication students in "bilingual" classrooms wrote longer responses in Naxi than did Chinese-only classroom students.

Gottardo, A., Yan, B., Siegel, L., & Wade-Wooley, L. (2001). Factors related to English reading performance in children with Chinese as a first language: More evidence of cross-language transfer of phonological processing. *Journal of Educational Psychology*, 93(3), 530-542.
Similar phonological, syntactic, and orthographic measures in English and Chinese were administered to 65 Cantonese-speaking children. English measures used included rhyme and phonetic detection, phoneme deletion, rapid automatized naming, pseudo-word repetition, syntactic processing measure, and an orthographic-legality task. Chinese measures included word recognition, pseudo character reading, rhyme and tone detection, rapid automatized naming, pseudo word repetition, syntactic processing task, and an orthographic legality task. The phoneme deletion task correlated with other phonological-awareness tasks in English, such as rhyme and phoneme detection, and the oral cloze task. The Chinese rhyme detection measure was the only one to correlate significantly with the standardized English word reading measures; it also correlated with the English rhyme and phoneme deletion task. Half of the sample received the English measures first, and the other half received the Cantonese measures first. Results showed a positive predictive relationship of phonological-processing to standardized reading tests in both L1 (English) and L2 (Chinese), even when the child's L1 did not have an alphabetic orthography. It was suggested that L2 (English) measures could be used for children learning to read in English and for children without much exposure, and that similarly constructed L1 measures would be helpful for early screening of students at risk for reading difficulties.

Ho, C.S., & Bryant, P. (1997a). Learning to read Chinese beyond the logographic phrase. *Reading Research Quarterly*, 32(3), 276-289.
The role of phonology in Chinese children's character reading was examined by administering six tasks in grades 1 and 2, including two phonological tasks (onset detection and rhyme detection). Other tasks included Chinese word reading, pseudoword reading, etc. Overall, regular Chinese characters were named more accurately than irregular ones, and most errors were phonetic related. It was suggested that first and second graders use phonetic components for figuring out the sound of characters, and this helped them with script-sound correspondences. It was suggested that educators use correspondences between orthography and phonology in instruction to help students who may not be reading well.

Ho, C.S., & Bryant, P. (1997b) Phonological skills are important in learning to read Chinese. *Developmental Psychology*, 33(6), 946-951.

A 4-year longitudinal study tested Chinese students on visual and phonological abilities with ongoing outcome measures (e.g., Chinese single-character reading test, two-character tests, IQ, reading pseudo characters). Results showed that the visual measure predicted word reading, but only in sessions 3 and 4; a shift occurred later, with phonological measures predicting word reading in sessions 4 and 5. It is suggested that not all Chinese students are taught the same way (for example, in Hong Kong students are not taught pronunciation of characters with systems such as Pinyin in China or Zhu-yin-Fu-Hao), and that Chinese children use the phonetic component in Chinese characters even though not taught. It is also argued that Chinese readers first begin to process Chinese text visually, and then move to a phonological phase, and that there is a reliable relationship between students' phonological skills and ability to read later on.

Hsia. S. (1992) Developmental knowledge of inter and intraword boundaries: Evidence from American and Mandarin Chinese speaking beginning readers. *Applied Psycholinguistics*, 13, 341-372.

Results from two studies examining interword and intraword boundaries (using a coin/word sentence retelling task in which students said a sentence and moved a coin to represent each word, and a syllable segmentation task) are presented. The coin/word task was completed by three groups of children (American, Chinese, and Chinese learning both English and Chinese) for comparison across Times 1 and 2. Some young beginning readers were found to have begun to develop sensitivity to syllable and word boundaries, which seemed to help in segmenting boundaries within words. It was suggested that students might benefit from early training on word stress, vowel length, etc., especially bilingual children from a syllable-timed language, such as Chinese, who are learning English. In the second study the same groups were asked to segment syllables in 12 sentences (characterized by their similarity to adult patterns in segmenting). Differences were found between the Chinese and American students, with those having non-adult-like segmenting patterns having had Mandarin phonetic segmentation instruction. Differences were much smaller between American and Chinese students learning both Chinese and English, with Chinese and English group showing more native adult patterns in segmenting as opposed to usual Chinese preferences for CV (consonant/vowel) patterns and open vowels (not CVC) in spoken Chinese.

Hudson-Ross, S., & Dong, Y. (1990). Literacy learning as a reflection of language and culture: Chinese elementary school education. *The Reading Teacher*, 44(2), 110-124.

Two teachers' views of each other's elementary education (China and America) are presented, with minimal focus on reading and character instruction. Steps to learning Chinese were described as alphabet letter learning, phonetic alphabet learning, syllable recognition, and use of Pinyin. Students need to memorize the character's shape, way of writing it, meaning, pronunciation, and Pinyin. The Chinese teacher indicated that Chinese students must learn a different system with fewer helpful cues related to what they already know, resulting in Whole Language being less available than in English, although character-meaning-sound relationships do help with guessing of meaning in context. A concentrated method is used so that students learn 300 characters (like "sight words" in English), then additional characters organized by sound, shape or meaning. Teachers usually teach how to analyze a character and decompose it for meaning and sound. Stories related to the characters are often told to help with memorization. Whole classes are taught for pacing, with slower students on the edges or getting after school help in clubs or programs.

Jiang, T., & Peng, D. (1999). 汉语儿童的语音意识特点及阅读能力高低读者的差异 **[Characteristics of phonetic awareness and differences of reading ability among Chinese children].** *心理学报[[Acta Psychologica Sinica]*, 31(1), 60-67.

This study examined awareness of syllable, initial-rhyming word, and phonemes in 20 grade 3-5 Chinese (Beijing) children, balanced for high and low ability and gender. Results indicated that phonetic awareness increased with increasing grades; awareness of syllable and initial-rhyming words developed earlier than that of phonemes. Students of different reading ability performed differently on the test of phonemic awareness and had different development speeds in phonetic awareness. The development of phonetic awareness in children speaking Chinese was found to have the same trend as for children speaking English; the degree and development trend among different grades and different reading ability were consistent.

Li, W., Anderson, R., Nagy, W., & Zhang, H. (2002). Facets of metalinguistic awareness that contribute to Chinese literacy. In W. Li, J.S. Gaffney, J.L. Packard (Eds.), *Chinese children's reading acquisition: Theoretical and pedagogical issues (pp. 87-106).* **Boston: Kluwer Academic Publishers.**

The relationship between aspects of metalinguistic awareness (e.g., phonemic awareness, morphological awareness) and learning to read in Chinese was examined by administering a battery of Chinese reading tests to grade 1 and 4 students in the People's Republic of China. Some groups were tested early in the school year as a pre-test and others were tested at the end of the school year. About half of the sample was low income students and the others were middle income students. Measures used in both grades were tests of: tone discrimination, morpheme discrimination, radical form, radical meaning, sentence comprehension, and the Chinese version of Raven's Standardized Reasoning Test. Additional Grade 1 measures included tests of: syllable reversal, onset deletion, morpheme transfer, vocabulary, and Pinyin comprehension. Additional Grade 4 measures included tests of: morpheme meaning, radical explanation, sentence simplification, cloze comprehension, and passage comprehension. Overall, test reliabilities were lower for first graders who were just beginning to read. Path analyses using LISREL indicated that both morphological and phonological awareness had significant relationships to reading, although morphological awareness had the strongest relationship to Chinese reading ability.

Li, J., Fu, X., & Lin, Z. (2000). 学龄儿童汉语正字法意识发展的研究 **[Studies on development of orthographic awareness of Chinese language among school children].** *心理学报 [Acta Psychologica Sinica]*, 32(2), 121-125.

The effect of structure types on the development of orthographic awareness was examined in 84 students (grades 1, 3, 5, and some college-age) using a task of judging true and false characters. Ninety characters were used that varied in correctness (30 true, 30 wrong, 30 non-characters) and structure type (left-right, up-down, semi-encirclement). True characters were common characters. Wrong characters had a changed part, so that the structure of the character was complete, though they were false. Non-characters had two parts of a true character exchanged, making the structure of the characters incomplete. Results indicated that children's orthographic awareness is based on knowing characters, knowledge that gradually develops. Grade 1 students were affected by structure types when they judged false and true characters, and all students were sensitive to left-right structure types but not up-down and semi-encirclement structure types.

Li, W., Zhu, H., Dodd, B., Jiang, T., Peng, D., & Shu, H. (2000). 说普通话儿童的语音习得 **[Phonological acquisition of Mandarin-speaking children].** *心理学报[[Acta Psychologica Sinica]*, 32(2), 170-176.**

A naming task in which 129 children (1.5-4.5 years) named and described target items in pictures was used to examine speech data. Findings based on the onset, nucleus, and coda parts of Chinese words were: (1) Children speaking Cantonese learn the nucleus part earlier than those speaking Mandarin; (2) English has many coda parts, so children speaking English are slower for this part than those speaking Chinese; and (3) Most children younger than 1.5 years attain the ability to recognize and master tones. Children seemed to do better with the nucleus and coda than the initial/onset part. Three mistakes most evident were assimilation, ignoring or dropping the part, and substitution. The findings supported a universal tendency to drop a part; also children from different locations and countries substituted different things for certain parts and exhibited similar strategies and trends in learning language.

Lin, Jing. (1997). Policies and practices of bilingual education for the minorities in China. *Journal of Multilingual and Multicultural Development*, **18 (3), 193-205.**
China's bilingual education policies in the mid-1990s are described. Ethnic minority groups spread throughout the country, but concentrated in five provinces (designated as autonomous minority national regions), make up about 8% of the total population in China. Bilingual programs are implemented differently across the country because of differing status and differing amounts of contact with the majority culture. College is a goal for most students and since all college entrance exams are given in Chinese, there is a high emphasis placed on becoming skilled at using Chinese language at an early age. Some parents and educators do not want bilingual programs for this reason. In some places native language is used in early elementary school with a shift to Mandarin Chinese as the language of instruction in upper elementary. In other places, Mandarin is introduced right away with the native language used to support and explain the Mandarin. Minority language schools are at a disadvantage since they have to teach more content than majority schools (translated national curriculum plus Mandarin). Minority schools in some areas suffer from high dropout rates among students who do not see a use for Mandarin, a shortage of quality native-language textbooks, poor academic achievement in students not fully proficient in Chinese, and a lack of qualified bilingual teachers. A change in education policies to require all majority students to learn a minority language is recommended as a way to increase the status of minority languages. Flexible policies that allow for early teaching in the native language where a minority group is dominant are also encouraged.

McBride-Chang, C., & Ho, C.S. (2000). Developmental issues in Chinese children's character acquisition. *Journal of Educational Psychology*, **92(1), 50-55.**
Relationships among phonological processes (demonstrated through several measures) and character recognition are examined. Of syllable deletion, vocabulary, short term verbal memory, speech perception, speeded naming, letter naming, and Chinese character recognition, letter naming and syllable deletion were the two primary predictors of character recognition, with syllable deletion being the strongest. The findings suggest that speech perception is associated with phonological awareness across languages. It is also noted that an appropriate task for predictive uses with Chinese learners may be one with visual paired associates where tasks pair "arbitrary visual stimuli with meaningful vocabulary."

Miller, K., Frosch, C., Kelly, M., & Zhang, H. (2001) What words look like: Preschool children's understanding of orthographic regularities in Chinese and English. Unpublished manuscript. University of Illinois at Urbana-Champaign.
Monolingual Chinese and English speaking 4 and 5 year olds in Beijing and Illinois were presented with sets of 3 Chinese characters (with one of the characters either upside down or reversed), and with 3 sets of valid words in both Pinyin (phonetic system commonly taught to beginning readers in elementary school) and English (where one of the words was either upside down or reversed). Students were asked to identify the word or character that was oriented incorrectly. Results showed significant effects that differed by language and age. In general, students were aware of orthographic characteristics of their own language prior to receiving formal reading instruction. They tended to perform best on tasks that involved the orthography of the language in their environment. Chinese 5-year-olds performed significantly better on

the tasks with spatially-transformed characters than all other students. Chinese children tended to perform at chance or lower levels on tasks involving English and Pinyin.

Mo, L. (1998). 不同年级学生自赞然 阅 读 过 程 信 息 加 工 活 动 特 点 研 [**The characteristics of information processing of students from different grades in natural reading].** 心 理 学 报 [Acta Psychologica Sinica], **30(1), 43-49.**
Characteristics of natural reading information processing in students from different grades were probed in two experiments. Experiment 1 included 64 students from 4 grades (16 each in grades 2, 4, 6, and 8) who read two articles, one under the condition of natural reading and one under the condition of comprehensive reading. Students retold the content of the readings, with the option to re-read the articles if needed. Results showed that junior students needed more time to re-read the original text than the seniors when asked to retell the text, leading to the hypothesis that junior students were mainly encoding the language while the seniors were able to carry on both the task of encoding and organizing what they had read in the natural reading activity. In Experiment 2, controls were introduced for the differences in capacities to retain information that may have affected the Experiment 1 results. Ninety students (grades 4, 6, and 8) were assigned randomly to three groups (natural reading, comprehensive reading, and memory reading). Results showed that in natural reading, a significant difference in ability to retain text existed between junior and senior students. Senior students retained more in natural and comprehension conditions while junior students retained more information about text expression in natural and memory reading. These results suggested that Experiment 1 findings were not due to a difference in the ability of the junior and senior students to retain information, but rather to differences in their abilities in the natural reading task, the study's main information processing activity.

Mo, L. (1999). 阅 读 预 期 对 块 速 阅 读 里 鰊 的 影 响 的 实 验 研 究
[**Impact of content expectation on fast reading comprehension].** 心 理 科 学 [Psychological Science], **2, 197-201.**
Impact of content expectation on comprehension ability and the process of fast reading was examined in two studies. Study 1 looked at impact of different expectations on fast reading and normal reading comprehension with 90 grade 6 students randomly selected from one elementary school in Guangzhou. According to their scores, students were assigned to three groups: (a) prompting with positive (matching) titles, (b) prompting with neutral titles, and (c) prompting with negative (mismatched) titles. Students read two articles in two minutes (fast condition) and four minutes (normal condition) and took a test about the content. Study 2 looked at impact of different expectations on the processing of words and sentences in fast reading. According to the scores of the pretest, 60 students with high reading ability and 60 students with low reading ability each were divided into 3 groups. Students read the two articles with the some wrong characters and then took a test to recognize and correct them. Results of the two studies were: (1) the content expectation had an obvious impact on the scores of fast reading but no obvious impact on normal reading, (2) under the promotion of content expectation, the dependence of fast reading on information of the reading materials decreases, and (3) quality of reading comprehension will drop if readers cannot build up appropriate content expectation.

Mo, L., & Chen, X. (1997). 不 同 阅 读 过 程 文 章 信 息 保 持 特 点 的 实 验 研 究 [**Experimental Study: Characteristics of information retention during different reading processes].** 心 理 科 学 [Psychological Science], **20, 481-484.**
Characteristics of students' information retention when they read naturally or read under some specific tasks were examined with 240 students in grades 6, 8, and 10 (60 students per grade plus an additional 60 grade low-language-ability grade 6 students) were assigned to either the task-reading group (Group A) or the natural reading condition (Group B). Results indicated that when students read naturally, their

information processing is selective retention (consistent with the effect of main points); when they read under specific tasks, processing is connective retention (consistent with the effect of beginning-end parts). The effect of main points means that students had the effect of information retention of the main points or middle position of the article when they read naturally. The effect of the beginning-end position means that students had the effect of better information retention of the beginning part and the end part in the article than of the middle part.

Nagy, W.,Kuo-Kealoha, A., Wu, X., Li, W., Anderson, R., & Chen, X. (2002). The role of morphological awareness in learning to read Chinese. In W. Li, J.S. Gaffney, J.L. Packard (Eds.), *Chinese children's reading acquisition: Theoretical and pedagogical issues (pp. 59-86).* **Boston: Kluwer Academic Publishers.**
A two-part study was conducted to examine whether morphological awareness and Chinese reading ability have a reciprocal relationship that develops over time. Participants were eight classes of Beijing 1st graders (n= 240) and eight classes of 4th graders (n=257). Students in each grade were divided into four groups that received different interventions: (1) morphological awareness, where a teacher guided students in analyzing the structure of a new character and comparing it to other characters with similar components; (2) shared-book intervention; (3) both morphological and shared-book interventions; and (4) no reading intervention outside of normal classroom instruction (control group). Pre and post tests of morphological and grapho-morpholgical awareness were given before and after interventions. For both grades, the morphological awareness intervention affected measures of grapho-morphological awareness that were directly related to the structure of characters, and also had an effect on reading tasks that involved knowledge of individual characters. Grade differences emerged for the effects of the morphological awareness intervention on vocabulary and on ability to produce characters in a set amount of time; both were significant only for 4th graders, probably related to their larger vocabularies that included more regular characters. First graders were not yet fluent at writing and knew fewer characters. Contrary to expectations, students receiving the combined morphological and shared-book intervention had lower means than those receiving only the morphological awareness intervention, a finding that may be reflect the difficulty in implementing two new interventions at the same time.

Pine, N., Huang, R, Huang P., Zhang W. (1999). Learning strategies of children who know Chinese. *Yearbook/Claremont Reading Conference***, 215-231.**
In a project that examined how Chinese students learning Chinese use strategies for character learning, students were given two tasks: (1) identify whether a character was correct and if not, say why, and (2) pretend to teach a younger student how to write two characters. The tasks were conducted interview-style in Chinese, with a native Chinese speaker. Ten categories of strategies emerged (e.g. associating similar characters or parts, stroke order and names, structural analysis, shape/meaning relationship, kinesthetic means such as finger writing, character story, dissecting character into parts, general knowledge statements 'just know' or hasn't learned it, and aesthetic comments). The most common strategy was structural analysis; shape to meaning was rarely used. Suggestions for teachers instructing Chinese students in English included using students' developed analytic abilities to teach decoding or constructing words, and using structural information to identify root words. It was also suggested that students may require explicit instruction on how to decode English phonetically. Another point of note was that stories or analogies can be used in English similar to Chinese strategies (e.g., when two vowels go walking the first does the talking).

Polland, M. (1993). Results from the right side up test: A cross cultural study of children in the United States and China. *Yearbook/Claremont Reading Conference***, 151-160.**
Preschool students' early knowledge of their native writing system before formal language instruction was examined in 85 children ages 2-4, half in the U.S. and half in China. Children were asked to turn sets of 10 pictures, letters, and Chinese characters to the correct upright position. Results showed high rates of success (94-99%) with pictures, indicating that children understood the task. Chinese children identified

the correct position for the characters more than half of the time (67%) and U.S. children were successful positioning letters at a slightly higher rate (71%). Because Chinese children often learn a phonetic system of representing characters with a Roman alphabet script, they often (43% of time) also could place English letters in the correct position. American children had less success with Chinese characters (34% correct positioning). There appeared to be systematic improvement in correct positioning of Chinese characters as U.S. children aged, which could be due to some internal logic to the orientation of Chinese characters or that orientation was suggested by line width and direction of strokes.

Shu, H., & Anderson, R. (1999). Learning to read Chinese: The development of metalinguistic awareness. In J. Wang, A. Inhoff, and H. Chen (Eds.), *Reading Chinese script: A cognitive analysis.* *(pp. 1 -2*2**). New Jersey: Lawrence Erlbaum Associates.**
Multiple studies on Chinese reading development are presented that address character background, and radical awareness and role in reading. For characters taught in elementary schools, most of those learned after first grade are 'standard compounds.' The percentage of these characters with regular pronunciation increases through grade 4, then levels off in successive grades. Only a small percentage of characters in grade 1 have a predictable structure and regular pronunciation, so first graders have few opportunities to acquire patterns of internal structure. A study to examine awareness of compound characters included 143 students across grades 1, 2, 4, and 6. Findings showed that 1st and 2nd graders were able to identify ill-formed structure of characters, but the ability to differentiate ill-formed components increased gradually with age. Well-formed items were difficult to differentiate from pseudo-characters even for 6th graders. Radical awareness and its role in reading was addressed in two studies that involved 220 students across grades 1, 3, and 5. These studies showed that morphology was important to recently learned characters (but not very important for familiar characters). Transparent morphology mainly helped the older students. Grade 3 and 5 students used radicals to derive unfamiliar characters and to learn and remember recently introduced ones. High ability children had more specific character knowledge and more readily decomposed complex characters. The second study also looked at conceptual difficulty and found that morphology was of greater value with the easier concepts. Character and word acquisition was enhanced when students could use different sources of information. Both studies indicated that Chinese children have a working awareness of the relationship between radicals and a character's meaning, an awareness that develops into the upper grades and is related to reading ability. Another study with 113 students in grades 2, 4, and 6 indicated that character familiarity had a stronger effect than regularity. Second graders relied more on familiarity and did not use phonological information even for students with high ability; sixth graders were more influenced by regularity in the characters, and even low ability students made some use of phonetic cues.

Shu, H. & Anderson, R. (1997). Role of radical awareness in the character and word acquisition of Chinese children. *Reading Research Quarterly,* **32(1), 78-89.**
This article summarizes research from two studies relating to Chinese children's awareness of the information provided by radicals in compound characters. The first study examined whether children knew about the function of radicals. Two hundred and twenty elementary students (1st through 5th grade) in Beijing participated. Students were given compound characters that they had heard before; some of which they knew in written form and some of which they did not. In the compound characters one of the parts was replaced with Pinyin. Students were asked to select the correct character to represent the Pinyin from a list of four that had similar sound components but different radicals. The second study examined the ways in which children used radicals to derive the meaning of characters they had just encountered and whether there were any differences between good and poor readers in radical analysis tasks. Seventy two third and fifth graders (39 third; 33 fifth) participated in the second portion of the study. They were given a multiple choice test similar to the one in the first experiment, but using only unfamiliar characters from textbooks several grade levels above the students. Results showed that the ability to break characters apart into their components and to analyze the components developed over time. First graders

did not show evidence of having this ability, while third and fifth graders did.   The third and fifth graders could frequently choose the correct character to replace the Pinyin, even when the entire compound character was unfamiliar to them. However, their ability to do so was impacted by whether they were familiar with the character used in the radical. Good readers were found to be better at choosing the correct radical than poor readers. The authors state that poor readers may either not have the knowledge necessary to analyze the radicals and choose the correct one, or they have the knowledge and don't know how to use it. Explicit teaching of morphological analysis is recommended.

Shu, H., Anderson, R., & Wu, N. (1992). Knowledge of orthography-phonology relationships in the character acquisition of Chinese children. *Journal of Educational Psychology***, 92(1), 56-62.**
This study of phonetic awareness development found that 2nd graders more accurately represent the Pinyin (pronunciation) of regular characters than irregular ones or ones that are bound. Over successive grades, development in awareness is shown by more phonetic-based errors and phonetic regularity in how older students are using the information to deal with compound characters. It is noted that Chinese does not offer as many consistent or reliable pronunciation cues as other languages. For example, existing cues are less likely to accurately forecast the pronunciation of characters not taught. The orthography-phonology relationship does provide a basis for encoding characters, so that students who can take apart the radical components of compound characters may benefit in retrieving pronunciation and meaning. By 6th grade, students' level of analysis goes beyond the general rule that a character's right side gives the pronunciation cue, to more sophisticated use of information about related characters that use similar radicals or "neighbor" information.

Shu, H., Anderson, R., & Wu, N. (2000). Phonetic awareness: Knowledge of orthography-phonology relationships in the character acquisition of Chinese children. ** *Journal of Educational Psychology*, 92(1), 56-62.**
This study examined the development of phonetic awareness in young grade 2 Chinese readers. Results indicated that 2nd graders could most accurately use the phonetic system of Pinyin to represent the pronunciation of regular characters, but had more difficulty using Pinyin to represent the pronunciation of irregular and bound characters (i.e., characters that only appear as part of another complex character). Over grades this awareness develops, shown by more phonetic-based errors and phonetic regularity in how older students were using the information to deal with compound characters.

Shu, H. Anderson, R., & Zhang, H. (1995) Incidental learning of word meanings while reading: A Chinese and American cross-cultural study. *Reading Research Quarterly, 30 (1),* **76-95.**
This study examined whether and how aspects of Chinese and English writing systems might influence learning word meanings from context, focusing particularly on incidental learning of unfamiliar word meanings from written context. Groups of American and Chinese elementary students were given narrative texts in their native language, half taken from English textbooks and half from Chinese. Educators identified words that were possibly unfamiliar to children. One week prior to looking at the texts, students completed checklists indicating whether they knew the targeted words and other general words. Half of each class then read a Chinese story in the native language and half read an English story in the native language. A multiple choice vocabulary test was then given that examined the target words both in the story that was read and one that was not read. Findings indicated that Chinese and American children can incidentally acquire word meanings from context. Four factors influenced vocabulary acquisition: (1) conceptual difficulty; (2) strength of contextual support, (3) morphological transparency (meaning of whole is related to meaning of parts); and (4) amount of out-of-school reading. The child's ability level and the difficulty of the text did not influence vocabulary acquisition.

Shu, H., & Li, B. (1994). 音 在 小 学 低 年 级 儿 童 早 期 阅 读 中 作 用 的 研 究

[Studies on roles of phonetic symbols in the early stage reading of lower graders in primary schools]. 心理发展与教育*[Psychology Development and Education]*, **3, 11-15.**
The role of phonetic symbols in the early stages of Chinese reading was studied with a sample of 150 students in grades 1 and 2 who were asked to pick the correct graphic among four presented, according to their understanding of a new word given in context. Twenty-four new words were put into sentences that had either strong contextual prompting or weak contextual prompting, and the sentences were presented in one of three ways: characters only, phonetic symbols, and characters with phonetic symbols. Results indicated that students in lower grades use phonetic symbols to some extent, along with context clues to overcome difficulties with new words in reading. Students with high language ability use multiple clues to learn new words. Degree of difficulty in word concept does affect children's independent reading in the early stage.

Shu, H., Li, W., Anderson, R., Ku, Y., & Yue, X. (2002). The role of home-literacy environment in learning to read Chinese. In W. Li, J.S. Gaffney, J.L. Packard (Eds.), *Chinese children's reading acquisition: Theoretical and pedagogical issues (pp. 207-223).* **Boston: Kluwer Academic Publishers.**
The role of home literacy in the literacy development of young Chinese students was examined with 574 Beijing-area children who were from both working and middle class families. Reading proficiency test was measured at the beginning of the study, followed by a parent questionnaire on specific home literacy factors. Results of a simple regression showed that while most typical predictors for 'home literacy environment' were important (e.g., parents educational level, literacy resources, parent/child literacy activities, and child's reading), one factor directly affected the beginning of reading development – the age at which parents began teaching Chinese characters to their children at home. Later and ongoing literacy development appeared to be more influenced by parent education level and a student's own independent literacy activities. Interrelationships of home literacy factors was recognized as a caution in interpreting findings.

Shu, H., Zeng, H., & Chen, Z. (1993a). 字形输出与再认音学习生字词的实验研究
[Experimental studies on learning of new words with Pinyin among lower grade students]. 心理发展与教育*[Psychology Development and Education]*, **1, 18-22.**
The effect of Pinyin on children's learning of new characters and words and influential factors in the process were examined in 68 Chinese students in grades 1 and 2. Specific research questions were: (1) Is there a difference in the process of learning when new words appear with Pinyin or without Pinyin; (2) Is there a difference in children's learning with Pinyin when learning familiar or unfamiliar words in their spoken Chinese; and (3) Is there a difference when the number of new characters in new words are different. Research design was 2 (grades) x 3 (high, medium, and low language abilities) x 2 (with and without Pinyin) x 2 (familiar and unfamiliar) x 2 (one or two new characters in a word). Results indicated a positive but limited effect between Pinyin and children's learning (Pinyin helps children learn new words that are familiar in spoken-Chinese), and the use of many kinds of cues, Pinyin being only one of them. Because all children were from a location where Mandarin is the major language, the results cannot be generalized beyond similar students.

Shu, H., Zeng, H., and Chen, Z. (1993b). 小学儿童的汉字形旁意识的实验研究
[Experimental studies on the awareness of pictographic components of Chinese characters among elementary school children]. 心理科学*[Psychological Science]*, **3, 172-174.**
Two questions were the focus of this study involving 220 students in grades 1 (n=67), 3 (n=71), and 5 (n=82): (1) Can elementary children remember familiar characters and learn new ones using information provided by pictographic components? and (2) How does the awareness of pictographic components develop in different grades? Students were assigned to three groups according to their language abilities (high, medium and low) and asked to choose the correct characters for different words according to their meaning. Results indicated that children use the information provided by pictographic components to

remember old characters and learn new ones. The ability to use this information increases with age, and differs for children different language abilities.

Shu, H., & Zeng, H. (1996). 儿童对汉字结构中语音线索的意识及其发展 **[Awareness of children for the phonological cues in pronunciation of Chinese characters and its development].** *心理学报 [Acta Psychologica Sinica]*, **8(2), 160-165.**
Chinese students' pronunciation of characters with both semantic and phonetic components was examined with 113 students in grades 2 (n=42), 4 (n=36), and 6 (n=35) assigned to three groups according to their language abilities (high, medium and low). Students were required to write down the phonetic symbols in Pinyin for 30 familiar characters and 30 unfamiliar ones. Results indicated that students performed better on regular characters than both irregular ones and ones with unfamiliar phonetic components. Students used many phonological cues, showing a difference in their language abilities. Analyses of mistakes indicated that the percentage of unsystematic mistakes decreased by grade while similar mistakes increased. Performance was affected by whether characters shared a phonetic component with the same pronunciation.

Shu, H., Zhou, X., and Wu, N. (2000). 儿童汉字读音声旁一致性意识的发
[Utilizing phonological cues in Chinese characters: A development study]. *心理学报 [Acta Psychologica Sinica]*, **32(2), 164-169.**
Chinese children's awareness of Chinese orthographic structure and their ability to use phonological cues was examined with 288 students assigned to three groups by language abilities (low, medium, high). A homophone judgment task involving 120 pairs of Chinese characters was used in which children were presented with one familiar and one new character and asked to guess the pronunciation of the second character and decide whether the character was a homophone based on their awareness of the orthographic structure of the two characters and their phonological knowledge. Results indicated that children were influenced by the consistency with which radicals provided cues to the pronunciation of whole characters; pairs with consistent radicals were judged as non-homophones less often than pairs containing inconsistent radicals. This tendency was greater with increasing age of the subjects.

So, D.,& Siegel, L. (1997). Learning to read Chinese: Semantic, syntactic, phonological and working memory skills in normally achieving and poor Chinese readers. *Reading and Writing: An Interdisciplinary Journal, 9*, **1-21.**

The relationship between phonological skills and ability to read in Chinese was examined with students in grades 1-4 who were normal or poor readers. The students were given several word recognition, phonological, semantic, syntactic, and working memory tasks. Results showed that phonological skills were very important to reading in Chinese and that poor readers in Chinese seemed to have similar difficulties to poor readers in English. Poor readers were consistently lower than normally achieving readers on all measures. Significant differences between each grade were found for normal readers on reading tasks, oral cloze, working memory, and syntactic awareness. Grades 3 and 4 students had significantly higher scores than grade 1 and 2 students on tasks dealing with meaning processing. Word recognition was highly related to children's phonological skills and semantic processing, and was less related to syntactic knowledge and working memory. No significant difference was found on tone and rhyming for normal readers across grades. It was noted that for normal readers 6-10 years old, the "ability to read words may be highly correlated with child's ability to use system of tones to pronounce individual characters and to distinguish heterographic homophones with variations in tone." For poor readers, significant delays were noticed in the development of these skills with the majority of the problems in the phonological and semantic areas.

Song, H., Zhang, H., & Shu, H. (1995). 在中文阅读中字音字形的作用及其发展转换 **Functions and development of characters' pronunciation and forms in Chinese language reading comprehension.** 心理学报 *[Acta Psychologica Sinica* **], 27(2), 139-143.**

Chinese children's ability to use a character's pronunciation as well as its form to identify incorrectly written characters was examined in two experiments. In experiment 1, 37 grade 3 and 38 grade 5 students were assigned to three language ability groups (high, middle, low) and asked to proofread an article, picking out incorrectly written characters (either characters with the same pronunciation but different form or characters with the same form but different pronunciation). In experiment 2, 36 grade 5 and 31 college students also proofread an article containing the same kinds of incorrect characters. Results indicated that (1) discernment in proofreading correct characters increases with age and language ability, and (2) there is some development and change in the process of discernment. Readers who just began to learn Chinese used the characters' pronunciation as the major tool in identifying correct and incorrectly written characters, while adult readers used the form of characters more often.

Stephanson, J., Pine, N., & Melzer, T. (1990). Chinese semiotic development. *Yearbook/Claremont Reading Conference*, **219-230.**

This study showed how Chinese preschoolers who had not had any literacy instruction still had internalized some of the visual elements of the written language. The Chinese language uses thousands of characters, and these are made up of a common set of a small number of elements such as hooks, lines, angles, and dots. Young Chinese children who were shown sets of 10 identical characters that had a small piece missing from one character were able to identify the different character in spite of their lack of formal training in character writing. Those children who did not immediately identify the different character employed a systematic strategy of comparing pairs of characters stroke by stroke until they identified the different one. The children's visual sensitivity was so finely developed that they frequently noticed tiny spots created by photocopiers and identified those as the errors. It is noted that these pre-literacy skills are different from those of American preschoolers because of the differences in the structure of the languages. American ESL teachers are encouraged to keep in mind that children who "begin life in a Chinese linguistic environment" may have unique perceptions of how print works and these may make the learning of English reading and writing more difficult.

Tao, L., & Li, Z. (1997). Oral reading practice in China's elementary schools: A brief discussion of its unique roots in language, culture, and society. *The Reading Teacher,* **50(8), 654-665.**
This article examines the impact of social, cultural and linguistic factors on the practice of oral reading in Chinese elementary schools. It is suggested that teachers students from other countries can benefit from reflecting on their own literacy behaviors as well as those of their students. The Chinese system of character writing and the Pinyin system of phonetics are described, along with a typical Chinese elementary school language lesson. All aspects of language are emphasized, including reading of phonetic symbols and characters in context, correct writing of characters and correct pronunciation and intonation of characters in order to ensure a particular meaning. Students all learn from the same textbook and are not encouraged to read their own materials silently. The importance of oral reading practice is noted. Since many Chinese students only learn and speak Mandarin at school, sustained oral reading practice ensures that students learn correct pronunciation. Since many characters use the same sounds and meaning is conveyed through changes in intonation, correct pronunciation of characters while reading helps students connect the sound and meaning that must be memorized together. It also helps them look up words in certain types of dictionaries where pronunciation of a word is indicated through use of other characters with similar sounds.

Tong, A., & Zhang, H. (1997). Important impact of extracurricular reading on children's reading comprehension. 心理科学 *[Psychological Science],* **20, 450.**
With a random sample of 292 students in grades 3 (n=101), 5 (n=102), and 8 (n=89), this study addressed two research questions: (1) What are the basic characteristics of children's extra-curricular reading? (2) What impact does the amount of extracurricular reading have on the understanding of words, content and related knowledge of children at different ages? Students completed a survey and a test about reading comprehension. Teachers also evaluated the students' reading ability. Results indicated: (1) amount of extracurricular reading was comparatively large, and the ways of reading were varied; (2) Children paid more attention to the content with increasing age and chose reading materials based on their own interests; (3) Independence and goals for reading appeared to develop gradually; and (4) amount of extra-curricular reading, the ways of reading, and the amount of reading time were important factors affecting children's reading ability.

Wu, X., Anderson, R., Li, W., Chen, X., & Meng, X. (2002). Morphological instruction and teacher training. In W. Li, J.S. Gaffney, & J.L. Packard (Eds.), *Chinese children's reading acquisition: Theoretical and pedagogical issues* **(pp. 157-174). Boston: Kluwer Academic Publishers**
A morphological awareness intervention was implemented in four Beijing primary schools. Traditional reading instruction involved one of three approaches: (1) concentrated character learning where students memorize categories of related characters (e.g., direction words); (2) diversified learning in which the students learn new characters in the context of text that varies in length from a word to a paragraph; and (3) learning with the phonetic system Pinyin, which has been used since the 1980s. Rote learning and recitation are a part of all of these reading approaches. For the study, a three-step process of introducing the morphological aspects of a new character and teaching students to analyze the structural components formed the reading intervention. Half of the classes involved in the study implemented a morphological awareness intervention alone and the other half implemented it along with Shared Book Reading. Prior to implementation, teachers received 10 days of intensive training about the morphological awareness intervention, and continued to attend weekly training sessions throughout the implementation. A significant effect of morphological instruction for students in grades 1 and 4 was found for morphological awareness tasks. Students' positive attitudes toward reading and their understanding of the structural characteristics of Chinese characters also were increased. The combined approach of both morphological instruction and Shared Book Reading did not produce significant results at either grade level. Interviews with teachers six months after the intervention had been completed indicated positive reactions toward the training sessions.

Wu, X., Li, W., & Anderson, R. (1999). Reading instruction in China. *Journal of Curriculum Studies*. **31(5), 571-586.**

Reading education in China, both at present and in previous years, is described. The description includes methods used (e.g., Concentrated, Diversified, Pinyin), typical class activities in primary grades, and teaching requirements. Chinese reading instruction is dominated by the National Curriculum Guide and textbook series, and tends to be uniform with some text and lessons given at the same pace along with some room for teacher initiative. There are divergent opinions within China on how characters should be organized when they are taught (e.g. by category, by radical, by similar sound) and on comprehension objectives at each grade (1st and 6th). The strengths and weaknesses of traditional classroom practice are addressed in light of current reading research, with the following suggestions: (1) explicitly teach the structure of Chinese characters and words; (2) increase the volume of extensive reading in and outside of class; and (3) teach in a way that allows students to problem solve.

Yan, G. (1999). 不 同 年 级 学 生 阅 读 科 技 文 章 的 眼 动 研 究 **[Eye movement when reading scientific articles among different graders].** 心 理 科 学 **[Psychological Science], 22, 226-228.**

An eye movement machine was used to look at eye movement characteristics of 80 students in grades 5, 8, 11, and college when reading scientific articles. Students read four scientific articles containing four paragraphs per article. From grade 8 to college age, students gradually knew how to decrease the distance of eye jumping according to the importance of the content (i.e., with important content, they read more carefully). Results indicate that: (1) the number of glances at articles decreases with increasing age; (2) higher grade students adjusted their eye movement according to the importance of the content; and (3) with increasing grades, the percentage of ongoing rereading (where students go back to read from the beginning of the paragraph or sentence) decreased, while the percentage of selective re-reading (where students go back to read the content they do not understand) increased.

Zhang, X., Bao, Z., Guan, W., Yu, Z., & Li, X. (1999). 图 式 理 论 在 小 学 语 文 阅 读 理 解 中 的 应 用 及 其 对 语 文 习 成 级 的 影 响 **[The application of the schema theory in teaching elementary school reading comprehension and its effect on the language arts scholastic score].** 心 理 科 学 **[Psychological Science], 136-139.**

The effects of schema theory based pedagogy and regular pedagogy on students' reading scores were examined in a one-year study involving 160 students in grades 4 and 5 from an elementary school in Songyuan, Jilin province of China. Students were randomly assigned to the schematic pedagogy (EC) condition or the regular pedagogy control condition (CC). Results indicated the schematic pedagogy was beneficial to the improvement of students' performance, especially for students in higher elementary grades. Students in the EC group generally improved their scores over pretest, especially grade 5 students in the latter half of the year, while CC students' scores had decreased.

Zhang, C., Pinyinlila, L., & Harvey, C.B. (1998). Chinese parents' perceptions of their children's literacy and schooling in Canada. *Canadian Journal of Education*, **23(2), 182-190.**

A survey was conducted of Chinese immigrants to California (within the past 6 years). While 78% of Chinese immigrant parents read to their children before they entered school, the amount of reading and the age at which parents started reading varied according to the parents' education level. Parents with post-graduate or University degrees started reading to their child at an average age of 2.47 or 2.86 years. Parents who completed high school or primary education started reading to their child at 3, 9, 7 or 4.17 years old, a statistically significant difference. Of 82 parents, 40 said their child showed interest in reading and writing before age 2 or 3; 29 parents said it was later at 4-5 years old. Home environments were seen as "supportive of and conducive to learning." Most parents placed high value on children becoming literate in both English and Chinese, and also believed their children learned much about reading, writing, and print prior to formal schooling.

Zhang, C., Zhang, J., Yin, R., Zhou, J., & Chang, S. (1996). 关 于 我 国 学 生 汉 语 阅 读 困 难 的 研 究 **[Studies on difficulties encountered by Chinese native speakers].** *心 理 科 学 [Psychological Science],* **19(4), 222-226.**
This study looked at whether Chinese students encounter reading difficulties, and concluded that reading difficulties do exist among Chinese students. Difficulties were found in vocabulary and in reading comprehension. Gender differences also were found. A Chinese version of the English "Evaluation Form of Quantity on Reading Comprehension Achievement" (which addresses vocabulary, reading aloud, and comprehension) was created and administered to 987 students from 9 elementary schools (ratio of male to female – 1:1.08). Results indicated that 4.55% of students had reading difficulties according to one definition (matching IQ to reading score and gauging whether they performed lower than expected), and 7.96% of students had reading difficulties according to a second definition (scoring two grades below average). Male and female students had difficulties on different parts. Of students with reading difficulties, there was no difference between males and females; however, females tended to score higher on the vocabulary and males higher on the comprehension. Females generally had higher reading speeds on the Reading Aloud test, with the same number of mistakes as others who read slower.

Zhou, X., Wu, N., & Shu, H. (1993). 语 音 与 词 义 激 活 的 相 对 时 词 进 程 来 自 儿 童 发 展 的 证 据 **[The relative time in the process of phonological and semantic activation in Chinese learning: Evidence from development of children].** *心 理 科 学 [Psychological Science],* **21, 498-501.**
This study looked at the relative time in the process of phonological and semantic activation in Chinese learning. Forty-eight characters were categorized into four kinds of characters to help students' activation: character with similar meaning (semantic), with same pronunciation and same tone, with the same pronunciation and different tone, and without any relationship (control factor). Using technology to calculate the time from the appearance of a character to the student's response), the researchers compared the performance of students in grade 3 (n=43, 7 of whom were later dropped) and 6 (n=41). Results indicated that students in both grades had phonological and semantic activation, but there was no significant difference between the semantic activation and activation of same pronunciation. The activation of the same pronunciation and different tones may be negative for learning.

Korean Literature

An, B. (1996). 유아를 위한 상황중심 문자지도 프로그램 개발에 관한 연구 **(Study on development of situation-oriented reading and writing teaching program model for the young children).** *문경전문대학연구논문집 (Journal of Moonkyongdae)***, 1, 177-209.**
Current literacy educational problems in preschools in Korea are identified, including focusing on character or word teaching (formal reading and writing education), and ignoring children's interest, experience, and intent. It is suggested that, based on the literature, there should be a situation-oriented reading and writing teaching program, followed by actual application of the program in practice. A situation-oriented reading and writing teaching program premises that young children grow to recognize the concepts of language themselves and their reading and writing abilities are developed in the situation and process used. Therefore, teaching reading and writing to young children should also start in a situation-oriented way, focusing on the meaning. Practical examples that teachers can apply in their teaching are presented.

Cho, C. (1992). 효과적인 읽기 지도방법에 관한 연구; 전혀 글을 읽지 못하는 유아를 대상으로 **(A study on effective reading instructions for young children who do not know how to read).** *韓國放送通信大論文集 (Journal of Korea National Open University Research)***, 14, 507-531.**
The effects of two reading instruction approaches, systematic alphabet-centered (focusing on skills and phonics) and word-sentence-centered (meaning and holistic) were examined with 12 young non-readers (who scored zero on the Reader-nonreader test (Humphrey-Cummings, 1982). Students were randomly assigned to one of four groups (systematic alphabet-centered, word-sentence-centered, a combination of the two, and a control group). No significant differences existed at pretest among the four groups in terms of age, IQ, or performance on a target words test (with ½ words form familiar stories and ½ from non-familiar stories). Intervention were implemented for four weeks. Based on the findings, it is concluded that reading instruction should integrate both systematic alphabet-centered and word-sentence-centered instruction for non-readers in preschools.

Cho, C. (1990). 유치원에서의 **Reader**와 **Non Reader**간의 읽기준비도 능력의 차이에 관한 연구. **(Differences in the acquisition of reading-readiness abilities between readers and nonreaders in kindergarten).** *韓國放送通信大論文集 (Journal of Korea National Open University Research)***, 11, 539-559**.
The effectiveness of three methods of teaching reading to non-reading kindergarten students in Seoul, Korea was the focus of this study. One method was alphabet-centered, in which students copied letters and words, practiced spelling patterns, and learned to distinguish unfamiliar letters visually. Another method was "Assisted Reading," which focused on the meaning of words and phrases in the context of a reading (teacher read aloud to students repeatedly and asked them to repeat certain words and phrases from the text, then as they recognized these words and phrases in print, different words and phrases were introduced; the child progressed toward reading on own and receiving help from the teacher only when new or unfamiliar words were encountered). The third method was a combination of the alphabet-centered approach and Assisted Reading. Korean kindergarteners (n=12) who scored zero on a Reader-nonreader test (Humprhey-Cummings, 1982) modified for Korean were randomly assigned to three experimental groups to receive different reading instruction (systematic alphabet-centered instruction, word-sentence-centered instruction, combination of the two) and a fourth control group that received regular reading instruction. For pre- and post-tests, students read text aloud that contained pre-selected words for which they were given points if they were pronounced correctly. No significant differences existed in pretest scores for the four groups. Experimental group students received 20 minutes of reading intervention a day for four weeks. Post-test results indicated that the 3 experimental groups scored higher than the control group, although no differences in effects among the three intervention methods. However, students in the combination alphabet-centered and Assisted Reading group scored highest on the unfamiliar texts. It is suggested that reading skills should be taught at the kindergarten level to prevent failure in first grade, and that teachers must individualize instruction based on the child's strengths and weaknesses.

Chun, Y. (1992). 유아의 읽기 발달과 지능과의 관계 **(The development of reading and intelligence in the 5-year-old classroom).** *幼兒教育論叢 (Korean Journal of Childcare & Education)***, 2, 123-133.**
The relationship between reading skills development and intelligence in 5-year-old Korean kindergarteners was examined. Nonverbal IQ assessments were given to 37 five year olds and measures of reading ability were obtained through individual interviews with children in which they responded to questions about a story book. Content analysis of interview comments indicated that there was a developmental progression of stages in reading among five year olds that started with a complete lack of understanding written text and progressed through understanding pictures, understanding the concept of print but not knowing how to read text, and finally reading text. Students in the highest developmental stage who were able to read text on their own had the highest IQ scores of the group, particularly in vocabulary. Individualized reading instruction rather than group instruction is recommended.

Chung, N. (2000). 유아의 읽기와 쓰기발달간의 관계에 관한 연구 **(Interrelationship of reading and writing in the language development of children).** *幼兒教育研究 (Korean Journal of Childcare & Education)***, 20(4), 59-75.**
Case study methods were used to assess interrelationships between reading and writing in the language development of 19 5-year-olds in two kindergartens. Research questions were: (1) How do young children apply punctuations they saw in reading when they write? (2) How do young children apply conjunctions they saw in reading when they write? (3) How do young children apply unique expressions or phrases they saw in reading when they write? and (4) Hw do young children apply the sense (or understanding) of the story obtained in reading to their writing. Visual Que Writing Sample was used to test writing development. Results demonstrated that children incorporated punctuations, conjunctions, unique expressions or phrases, and a sense (or understanding) of story in their writing. It is recommended that "parents and teachers prepare various, qualitative environmental print, select various, high quality picture story books, and read them frequently to their children as they are very important reading resources for children's language development" (p. 75).

Hwang, K. (1997). 영어 읽기 교육에 대한 연구: 초·중등 영어교육을 중심으로 **(A study on English reading instructions: focused on elementary and junior high school English education).** *부산대효원영어영문학 (Journal of Pusand Hyowon English Literature)***, 15, 519-538.**
This literature view provides guidelines for teaching English reading to Korean elementary and secondary students. While phonics is emphasized more in elementary English reading education in Korea, it is argued that the instructional approach should be a Whole Language approach that includes all four modes of language (listening, speaking, reading and writing) in order to maximize English reading comprehension. For middle school English reading, schema theory is used to emphasize that pre-reading activities (e.g., reading factors, the genres and characteristics of texts) should be used with students to increase their comprehension, with the background, cultural, and social knowledge of the students also related to reading comprehension.

Joo, Y. (1992). 유아의 글자 환경과 읽기에 관한 연구 **(A study on literacy environment and reading in early childhood education).** *教育學研究 (The Journal of Educational Research)***, 30(4), 217-231.**
This study examined the home literacy environments of 59 3-5 year old Korean kindergarteners using a combination of observations and interviews to determine awareness of print in the environment and characteristics of the home literacy environment. Findings indicated that children were exposed to a variety of print in their environment and that the context within which the print occurred affected their ability to read it. When print was seen within a context, the majority (68.6% of 3 year olds, 80% of 4 year olds, and 82.5% of 5 year olds) could read it. When print was not viewed in a context, most of the children could not read it (16.7% of 3 year olds, 21.4% of 4 year olds, and 47.0% of 5 year olds). Recommendations included providing effective home literacy environments as well as providing reading instruction, taking into account individual child characteristics.

Kim, D. (1999). Developing reading inventories with curriculum-based measurement procedure: a perspective of technical adequacy. *특수교육연구 (Journal of Special Education)***, 6, 103-116.**
This study examines the concept of curriculum-based reading assessments (CBAs) for Korean students as a more objective means of determining students at-risk for reading difficulties. Korean teachers have traditionally relied on observation for determining which students needed special education services in reading. Kim argues that CBA is as applicable to a Korean educational context as it is to an American context. The study involved 213 2nd graders from randomly selected elementary schools in Seoul, Korea plus 30 students with reading IEPs who were in grades 1-6. To examine the effectiveness of CBAs four different types of reading measures were used: 1) two oral reading passages on which, due to the nature of the Korean language, correctly pronounced syllables were used as the indicator of oral reading

performance; 2) a cloze-type passage in which every seventh word was deleted and replaced by a multiple choice option which included the deleted word and two distracters; 3) a timed reading probe taken from students' texts with comprehension questions afterward; and, 4) a standardized Korean reading achievement test. Results for each students were supplemented by teacher readings of reading performance. Due to time issues, only 50 regular education students and 30 students with IEPs participated in all 4 components of the CBA. Results indicated that scores from the oral reading measures and the teacher ratings had the highest correlation with standardized reading achievement results. Scores from the oral reading measure also "produced a substantial discrimination (regular education students/ students with reading IEP)" (p. 112). Kim states that CBA measures are well suited to the Korean language because it is based on an alphabet rather than on characters.

Kim, E., & Moon, Y. (1998). 그림책을 이용한 총체적 언어접근법이 유아의 읽기 흥미와 발달단계에 미치는 효과 **(The effects on children's interest and developmental stage in reading when whole language approach through books are applied).** *釜山女子大學論文集 (Journal of Geumsandae Research)***, 19, 409-423.**
This study examined the effect of a Whole Language approach using picture books with 67 4 and 5 year old kindergarten students from the Pusan area of Korea. Students were assigned to either an experimental group that received the intervention for 10 weeks (n= 34) or a control group (n=33). A pretest-posttest design using a reading interest (Primary Pupil Reading Attitude Inventory by Askov) and a reading development assessment (developed by Sulzby; the test was modified in the manner of Choi, 1993) were given before and after the invention. Results indicated that children who received the Whole Language intervention had higher interest in reading and were at a higher developmental reading stages after the intervention than the control group.

Kim, H., & Shin, E. (1999). 이야기책 읽어주기의 효과적인 접근법 모색: 예견하기와 토론과 표상하기를 사용하는 상호전략 **(Effective approaches to reading storybooks to preschoolers: interactive strategies by using prediction, discussion, and representation).** *한국영유아보육학 (Korean Journal of Early Childhood Education)***, 19, 149-176.**
This study explored the effects of interactive strategies of prediction, discussion, and representation as approaches to reading storybooks to 13 4-year-olds. Students were assigned an experimental group (n= 7) or control group (n=6); all had the same mean score on a reading attitude test (Chae, 1996 adapted from Saracho, 1988) and similar previous experiences with language. The treatment using the interactive strategies was implemented for five weeks. Videotapes of the experimental group were analyzed for the effects of the treatment on children's reading behavior and also to see how prediction, discussion, and representation approaches could be applied as effective strategies for reading storybooks to young children. Findings indicated: (1) Reading behaviors observed in the experimental group focused on using illustrations more than words; (2) A variety of children's predictions were observed when stories were related to their own experiences and when the structure of the stories was repetitive and cumulative; (3) The strategy of predicting motivated children's interest in a story's contents; however, it did not influence their inferential (or reasoning) processes; (4) Children's motivation to represent a story was promoted when they discussed stories from memory after the reading; and (5) Children's representation activities that were motivated by discussion included human characters, plots, events, background, and solutions of problems in the story.

Kim, H. & Lee, C. (2001). 초등영어 읽기 지도방안 향상에 대한 연구 **(The effective ways to improve reading skill for elementary school students).** *언어연구 (Studies in Language)***, 17(1), 77-100.**
Elementary teachers (n=146) were surveyed about their perceptions and practice in reading instruction of English as a second language to elementary students. The questionnaire had 42 items about teachers' background, perception of importance of reading instruction, pre-reading activities, reading activities, post-reading activities, reading processes, cultural background knowledge, materials and types of

assignments preferred by students, types of reading, reasons for ineffective reading instruction, and factors taken into account in the reading process. Based on the survey results, several teaching methods were recommended, including using modern multimedia (e.g., Internet. CD-ROMs). A complementary strategy of correlating cultural backgrounds in reading instruction of English is emphasized.

Kim, J. (1998). 문자가 풍부한 극화놀이 영역에서의 놀이경험이 주변 환경의 문자읽기에 미치는 영향 **(Effects of literacy-enriched play experience on word reading in the environment).** 한국영유아보육학 *(Korean Journal of Early Childhood Education)***, 14, 277-303.**
The effects of both literacy-enriched play and teachers' interactive involvement with children on a child's frequency of reading and environmental letter reading were examined. Three groups of students (total n=87) were formed at random in classes of Korean 4 year olds to receive: (1) literacy-enriched play with no interactive teacher involvement; (2) literacy-enriched play with interactive teacher involvement; (3) no intervention control group. Interventions were implemented for 3 weeks. No differences were found among the three groups in pretest scores of the children's frequency of reading activities and word reading in the environment. Post-test results indicated that students with literacy enriched play and interactive teacher involvement had a higher frequency of reading activity than control group students and also a better ability to recognize letters and words in the environment.

Kim, M. (1999). 4-5세 아동의 읽기·쓰기 발달에 대한 어머니의 신념과 가정의 문해 환경에 대한 연구 **(Mother's belief in the reading and writing development of young children and home literacy environment).** 延世大生活科學論集 *(Yonsei Journal of Human Ecology)***, 13, 120-131.**
In this study, 307 mothers of 4 and 5 year old Korean kindergarten children in Seoul filled out questionnaires indicating their beliefs about reading and writing development of young children. Research questions were: (1) What are mothers' beliefs about the reading and writing development of young children? (2) What are some home literacy activities, both reading and writing, that mothers do with their young children and how do these relate to the mothers' literacy views? (3) What differences are there in home literacy environments of children and how do these differences relate to the mothers' views on literacy? Surveys contained both open-ended and closed questions. Content analyses revealed three major findings. First, mothers could be classified into 3 types according to their literacy beliefs: those who held traditional literacy beliefs, those who held literacy beliefs in line with theories of emergent literacy, and those whose beliefs were a combination of the two. Second, mothers with all types of literacy beliefs provided developmentally appropriate reading activities for their children at home. All mothers tended to have more skill-oriented perspectives toward writing. However, mothers who held the traditional perspective of literacy tended to focus more on skill-oriented writing activities such as repeatedly writing isolated words and sentences. Third, there were differences in home literacy environments that corresponded to the type of literacy beliefs held by the mother.

Kim, S. (1996). 읽기 지도 요소에 관한 연구 **(A study on factors of reading instruction).** 서울교대초등국어교육 *(Seoulkodae Elementary Education)***, 6, 69-96.**
This literature review and discussion identifies two primary issues in reading education: (1) what to teach (contents), and (2) how to teach (methods, not materials), but focuses on "what to teach" elementary students. After a literature review on definition of reading, reading process and model, and variables of texts and readers, 13 factors of reading instruction that teachers can apply in their practice are presented. They are: characteristics of reading, principle of writing composition, letter decoding, vocabulary learning, structure of writing, factual reading, inferential reading critical reading, appreciative reading, strategic reading, interest and attitude of reading, and internalization of reading. It is suggested that these factors are helpful in solving current problems of reading instruction, in selecting learning materials, in a study of textbooks, in the development of teaching process and model, and in educational activities such as teaching and evaluating.

Kwon, J. (1993). 읽기를 위한 가정환경요인과 동화책읽어주기에 따른 유아의 읽기발달 **(Home reading environmental factors and fairy tale book reading on reading development of early children).** *仁山專門大論文集 (Inchondae Research)*, **11, 66-77.**
This descriptive study presents survey results from the mothers of 143 middle class kindergarteners (5 and 6 years) on home reading environmental factors and the mother's role in young children's reading development. Based on the survey results, it was recommended that reading instruction can be applied at home as informal reading instruction (e.g., having question and answer time between mother and child, not simply reading fairy tale books). It is suggested that more research on informal reading instruction methods in home environments is needed, including more studies on the role of the father.

Lee, C. (2000). 초기 읽기의 지도의 개념적 모형 **(A conceptual framework for beginning reading instruction).** *幼兒教育研究 (Journal of Early Childhood Education)*, **20(1), 5-25.**
Guidelines are provided for the development and implementation of a balanced, comprehensive reading program in kindergarten. Commonalities of instructional components that are necessary for a beginning reading program were identified from a review of the literature. Based on the commonalities, a structure, organization, and direction is presented for teachers to use in developing a reading program for kindergarteners. The model includes 11 instructional events that are blended together to provide a helpful menu for beginning reading instruction. A literacy pyramid is also suggested as a framework for fitting objectives to instructional format.

Lee, K. (2000). 유아의 읽기에서의 초인지 활용에 관한 고찰 **(A study of metacognitive strategies in reading comprehension for young children).** *幼兒教育研究 (Journal of Early Childhood Education)*, **20(2), 27-51.**
The degree of young children's metacognition usage in reading was explored in 25 children 5 and 6 years old. Research questions were: (1) Is there a difference in reading comprehension scores depending on young children's IQ score and age? (2) Do young children use metacognition in their reading comprehension? Children were divided into two subgroups for each age according to their IQ scores. After a teacher demonstrated to participants the use of metacognition in a reading lesson and read a fairy tale to each group, one-to-one individual interviews were conducted with the children to collect data on children's abilities in four areas: predicting, questioning and answering, identifying main ideas, and formulating questions. Results indicated no difference in predicting ability according to age or IQ level. However, a significant developmental difference emerged in questioning and answering ability among students in the lower IQ groups. For six year olds, questioning and answering scores were significantly different according to the child's IQ level; there were also significant differences in questioning and answering, and in identifying main ideas, between the higher and lower IQ children. No differences existed in the groups' ability to formulate questions. Content analysis revealed that six-year-old children were more likely to use metacognitive strategies. It is suggested that if teachers understand cognition and metacognition processes in young children's reading, they can apply various strategies in their teaching.

Lee, M. (1999). 부모-유아의 책읽기와 유아의 읽기발달에 관한 고찰 **(Family storybook reading and the child's reading development).** *教育研究 (Journal of Education)*, **33, 121-142.**
This literature review focuses on the relationship of parents' reading storybooks to young children and the children's reading development. Objectives to accomplish through reading activities were listed, including: developing oral language skills, learning about functions of print, learning about books, learning about story structure, learning about what readers do, applying reading strategies, and becoming an independent reader. With these objectives, 16 effective and practical ways in reading with young children are identified. In addition, 8 ways to incorporate parents' help in kindergarten are presented.

Lee, M. (1997). 만 3-5세 유아의 읽기 발달 단계 평가에 관한 일연구 **(A study on the assessment of 3 to 5-year-old children's developmental stages of reading).** 幼兒教育硏究 *(Journal of Early Childhood Education)*, **17(1), 87-103.**

This study examined a new way to evaluate children's emergent and conventional reading behaviors. In most research, assessing young children's reading development is conducted separately for emergent readers and conventional readers. However, some young children read emergently; others at the same age start reading conventionally. Therefore, it is argued that there is a need for an assessment tool that can evaluate both emergent and conventional reading behaviors of young children. Two instruments (Sulzby's *Classification* Scheme and Lipson and Wixon's *Informal Reading* Inventory) were combined to form a new assessment tool that can evaluate both emergent and conventional reading behaviors of young children, and 62 children were assessed (15 age 3, 23 age 4, and 24 age 5). Results indicated that Sulzby's *Classification Scheme* worked well when extended to have 14 categories rather than 11, providing the possibility of evaluating both emergent and conventional reading behaviors for young children.

Lee, S. (1999). 그림책 읽기 활동이 3-5세 유아의 읽기 능력에 미치는 영향 **(The effect of a picture book reading activity on the 3 to 5-year old children's reading ability).** 중앙대대학원硏究論集 *(Journal of Joongangdae Research)*, **18, 271-307.**

The effects of a picture book reading activity on the reading ability of young children ages 3 to 5 years old was examined with 24 children who were assigned to an experimental group (n=12) that participated in the non-directional, informal picture book activity for 9 weeks, or a control group (n=12). Using Sulzby's Classification Scheme test of emergent reading (1985, 1988) and Lee's Adapted Informal Reading Inventory (1997) as pre and post tests, no significant differences in pre-test scores were found between the experimental and control groups. Post-test results indicated that the experimental group showed more progress in reading ability than the control group, but that within the experimental group there was no significant difference in the amount of progress between those in the emergent stage of reading and those in the conventional stage of reading. Based on the results, non-directional, informal picture book reading activities were recommended for young children's literacy development.

Park, M. (1991). 비지시적 지도방법을 통한 유아의 읽기·쓰기능력의 신장 **(Enhancement of reading-writing ability of preschoolers through non-directive instruction methods).** 全北教育研究院研究月報 *(Journal of Jeonbookdae Education)*, **232, 94-98.**

A study is described that examined the effect of "non-instructive" reading teaching methods in developing a base of pre-reading skills for 32 Korean kindergarteners with lower reading and writing ability. Four types of reading and writing activities were made available to the children at different periods throughout the kindergarten class each day, usually with two or more opportunities per day during two semesters. During the first semester, activities focused on "visual and sensory exercises," work with matching picture and word cards, and art activities that focused on creating geometric shapes. In the second semester, activities were based on language experience approach. All children improved in their ability to differentiate objects and symbols, had better hand-eye coordination, higher levels of concentration, an improved ability to see relationships between pictures and letters, more positive attitudes toward reading and writing and greater evidence of reading and writing behavior. One of the keys to these improvements was sending home customized reading materials for each student to do with parents. No data or results of analyses were supplied for this study.

Shim, S., Kim, K., & Kim, N. (2000). 도서대여 프로그램이 유아의 읽기 능력 및 읽기에 대한 인식에 미치는 영향 **(The effects of book lending program on young children's reading ability and perception of reading).** 幼兒教育硏究 *(Journal of Early Childhood Education)*, **20(1), 81-100.**

The effects of a book-lending program on young children's reading ability and perception of reading was examined. A book-lending program was adapted from *Book Backpack Program* (Cohen, 1997) to fit

Korean situations and included a new letter to parents introducing the program with information about reading instructions for parents at home. Twenty 4 year olds were assigned to the experimental group and 20 to the control group. Three instruments were used: (1) Reading Ability Test (Sulzby, 1986), (2) Perceptions of Reading Interview format (Kim & Sim, 1996), and (3) home literacy environments test (Kwak, 1994). The book-lending program was employed for 14 weeks. In pretests of reading ability and perception of reading, the two groups were not different. Post-test results showed that the book-lending program significantly increased young children's reading ability in both genders. In addition, children's perceptions of reading in all three sub-areas (characteristics of reading, learning-process of reading, and objectives of reading) improved in the experimental group.

Shin, D., Ko, J., & Hong, S. (1997). 문자 교육에 대한 유치원과 초등학교 교사의 인식 조사 **(Research for the teachers' perceptions about literacy education in preschool).** *전북대교육대학원교육논총 (Journal of Jeonbookdae Education)*, **17, 59-98.**
This study explored perceptions of preschool and elementary teachers about literacy education, in part because of current educational problems in the sequence of literacy curriculum from preschool to the 1st grade. Survey questionnaires were used to collect data from 250 teachers (71 from public preschools, 95 from public elementary schools, and 84 from private preschools). Results indicated that private and public preschool teachers had different views on literacy teaching. Their views also contradicted those of elementary school teachers. Most of the elementary school teachers "recognized young children's literacy lower than preschool teachers" (p. 59). All of the teachers appeared to support formal literacy instruction at the preschool level. The authors recommend that there be a review of literacy curricula used by private and public preschools "to prescribe the level explicitly" (p. 59) and to make teachers' expectations of students more consistent between public and private preschools as well as between preschool and elementary school. Recommendations also include increasing the training of first grade teachers so that the teachers obtain similar training to preschool teachers as well as other in-service opportunities provided by the schools.

Yoo, H. (1996). 유치원과 가정에서의 유아의 읽기와 쓰기**(Preschoolers' reading and writing at kindergarten and home).** *彗田專門大論文集 (Journal of Haejeondae)*, **14, 267-289.**
This literature review provides practical guidelines for reading and writing instruction, with an emphasis on the connection between home-based and kindergarten-based literacy events. From the perspective of emergent literacy, literacy events such as reading storybooks, dramatic play, and thematic fantasy play are recommended; the events should be functional, meaningful, and child-initiated. Literacy-rich environment, including environmental print, should also be provided to early children. It is noted that if kindergarten literacy instruction follows home-like teaching methods, this will integrate home-based and kindergarten-based literacy events, thus providing functional, meaningful, and child-initiated literacy events for early children. Examples of reading and writing activities that can be applied in kindergarten (e.g., news activities, guest story reader, art gallery, bakery play, and making a class album) are presented.

Navajo Literature

Anderson Heiman, L. (1978). *The development of supplemental reading texts for Navajo students in elementary education*. **Logan, UT: Utah State University.**
Developing elementary-level supplementary reading materials in Navajo that are relevant to the Navajo culture is highlighted, with an analysis indicating that Navajo children are motivated to read in Navajo and enjoy using Navajo-based reading materials. It is recommended that additional reading materials be developed by Navajos with the aid and cooperation of Navajo parents, grandparents, and other community members.

Anziano, M.C. (1991). Approaches to early intervention on the Navajo reservation. *Early Education and Development*, **2(1), 68-76.**
A research and early intervention project that involved Head Start teachers and parents from remote areas of the Navajo Reservation is presented. Several social and environmental characteristics that are risk factors, affecting a child's later success in school, are identified: rapid growth in the size of the Navajo population; disproportionate number of Navajo children and their families who live in poverty without electricity, central heating, or telephones; and the extreme isolation of many families. The two-pronged early intervention strategy studies involved comprehensive instruction in child development and early childhood education for Navajo Head Start teachers (which allowed use of oral story telling as a precursor to writing papers, and which resulting in a Child Development Associate credential for teachers), and development of a "Parents as First Teachers" program that trained parents in structured parent-child reading activities (e.g., asking children to predict story events, to tell the story in their own words, to summarize the important points, and to dictate a similar story) and provided them with a story reading kit that included 10 fiction and nonfiction books with concepts familiar to Navajo life and art materials to use in creating something related to story events. At the time of publication there were no data available yet but parents were enthusiastic about the parent program.

Dick, G.S., Estell, D.W., & McCarty, T.L. (1994, Spring). Saad naakih bee'enootííljí na'alkaa: Restructuring the teaching of language and literacy in a Navajo community school. *Journal of American Indian Education*, **31-46.**
This case study describes a collaborative effort between the Rough Rock Community Elementary School on the Navajo Nation and the Kamehameha Early Education Program (KEEP) in Hawaii, a program developed to promote English language literacy and oral language skills development in Native Hawaiian children through the use of "culturally compatible instruction." The Navajo version of KEEP was called "the Rough Rock English-Navajo Language Arts Program" (RRENLAP). Examples are provided of student and community generated texts that relate to Navajo culture and experiences common to the Reservation, as well as details about the Teacher-Researcher study group that helped Rough Rock teachers connect the literature on literacy and bi-literacy development to their own professional experience. Initial data indicated that students who exited the program after 3 years achieved mean gains of more than 60 percentage points on criterion referenced tests measuring listening comprehension. Large gains in students standardized reading scores also were evident, although the majority of scores were still below the national norm.

Francis, N. (1996/97). Language maintenance and vernacular literacy: An Interamerican perspective. *Journal of Navajo Education*, **XIV(½), 34-44.**
Issues of bilingual education and language maintenance in the Navajo community are addressed, with comparisons drawn to situations with the indigenous peoples of Mexico. Non-native missionaries who lived among the Native peoples of Mexico in the early 1600s, and among the Navajo in the late 1800s, were the first to use the native language for academic purposes. Religious scholars were often the first to create a written form for the language, along with dictionaries and grammar books, which then allowed

the native peoples to learn to read and write their own language. Since those times, there have been periods where bilingual education in the majority language and the native language has been encouraged and times where native language maintenance has been discouraged. Members of the Navajo Nation today may use English in certain settings with members of the majority culture and Navajo in church and school settings with people from the Reservation. Studies have shown that Navajo young people tend to read and write in the Navajo language for personal reasons, such as writing letters, lists, notes and reading the newspaper or the Navajo Bible. Older Navajo students may view their Navajo language skills as a marker of their ethnic identity and a form of empowerment. It is suggested that in the mid-1990s, the Navajo Nation had a favorable set of conditions (large number of young children who spoke Navajo and who attended bilingual programs) for preserving the Navajo language, and example programs are described.

Gregerson, M. J. (1994). Methodological considerations in teaching reading to ethnic minority children. *Notes on Literacy***, 20 (3), 43-50.**
Methodological aspects of teaching reading to ethnic minority children are described, including Chiapas, Mexico, the Navajo Nation in the United States, Papua New Guinea, Thailand, and Vietnam. Rock Point School on the Navajo reservation highlights the Native American case. A description is provided of the school's approach to bilingual education (English and Navajo), where the percentage of instruction in the two languages varied by grade (e.g., instruction in Navajo comprising 70% in kindergarten, 50% in grades 1 and 2, 20% in grades 3 - 6. English was taught orally as a spoken language in kindergarten and Grade 1, but reading was in Navajo. Considerations for teaching methods are also provided. National test results at the end of grade 6 showed that the Rock Point children were equivalent to the 6th grade norm on the national level, and two grade levels ahead of children in Navajo schools that had an English only policy.

Hartle-Schutte, D. (1993). Literacy development in Navajo homes: Does it lead to success in school? *Language Arts***, 70, 642-654.**
Literacy experiences are described for two Navajo students who overcame obstacles (e.g., mobility, lack of financial resources, limited access to print materials, poor school attendance), to become successful readers in English. It is suggested that standardized reading test results were not good indicators of what the students could actually read and understand, and often led the students to underestimate their own reading abilities. Both students had caring, supportive family members in their lives that paid attention to their school work and looked after their physical and emotional needs, as well as support from a larger group in the community (e.g., school administrators, church group). It is recommended educators remember that there are multiple ways of achieving literacy and that schools need to acknowledge experiences outside of "school valued" literacy experiences.

Holm, A., & Holm, W. (1995, Winter). Navajo language education: Retrospect and prospects. *The Bilingual Research Journal***, 19(1), 141-167.**
Different approaches that Navajo Reservation schools have taken toward the use of the native language are described, including: (1) No Navajo – in the mid-1990s most schools serving Navajo students still used an English-only approach; (2) Navajo as a Means – native language used to enable students to understand content instruction in English, with Navajo phased out over time; (3) Navajo as Supplemental – Navajo added as a foreign language elective; and (4) Navajo as Integral – students taught Navajo literacy skills and expected to use Navajo to learn content (although English may be used for some subjects). The "two-language" program of Rock Point Elementary and the Navajo immersion program at Fort Defiance Elementary are described in detail. Examination of the profiles of the two programs suggested four lessons learned: (1) programs need to be selective in what they focus on and committed to doing the chosen things well, as well as focusing on student mastery of chosen priorities; (2) programs should involve as much of the whole school as possible (moving Navajo to a central position in school life raised the status of the language and thereby raised the achievement levels of students); (3) full-year

all-day programs; and (4) high academic expectations (and behavioral expectations) for both students and staff in Navajo and English.

McCarty, T. L. (1993). Language, literacy, and the image of the child in American Indian classrooms. *Language Arts,* **70 (3), 182-192.**
The collaborative relationship between the Kamehameha Early Education Program (KEEP) in Hawaii and the Rough Rock School on the Navajo reservation is described. Rough Rock school adapted KEEP's "contextualized reading strategies" to create the Rough Rock English Navajo Language Arts Program (RRENLAP) which is described in detail. A cohort of approximately 130 students identified by standardized tests as "limited English proficient" were followed to evaluate changes from the implementation of bilingual Whole Language pedagogy. Bilingual educators at Rough Rock used classroom-based ethnography – observations, interviews, children's writing, and quantitative assessments – to restructure the learning and teaching of language and literacy, thereby critiquing status quo assumptions about bilingual learners, curriculum, and pedagogy. Issues of bilingualism and biliteracy, staff and materials development assessment are addressed.

McLaughlin, D. (1989). The sociolinguistics of Navajo literacy. *Anthropology & Education Quarterly,* **20, 275-290.**
A two-year qualitative study of the uses for Navajo literacy in one Navajo community in Arizona is presented by the English Language Elementary Principal. Findings were similar to those of earlier researchers of Navajo literacy. Both the church and the school took a strong role in encouraging traditional Navajo culture and incorporating the Navajo language. The church developed Navajo reading materials as part of its outreach efforts and organized weekly Bible study sessions to explain the meaning of passages from the Navajo Bible. Members of the community were trained to perform most of the functions of the pastor during the Navajo language church service using Navajo texts. The school introduced initial literacy in Navajo in first grade and English literacy in second grade. Both languages were developed until children reached secondary school. Community members were involved in the creation of a school-wide curriculum that incorporated many aspects of the Navajo culture. Surveys of students and teachers also were analyzed – 75% stated that they valued the teaching of Navajo literacy, although reasons for valuing it varied. Younger students and less experienced teachers saw native language teaching purely as a way of maintaining cultural traditions. Older students and more experienced teachers also saw the learning of Navajo literacy skills as beneficial to students' understanding of their own identities. This study provided the first documentation that Navajo was used outside church and school settings (writing notes, letters, and reading newspaper articles).

McLaughlin, D. (1994, Spring). Critical literacy for Navajo and other American Indian learners. *Journal of American Indian Education*, **47-59.**
Critical theories that inform language minority schooling are discussed. It is argued that Navajo and other American Indian students succeed to the extent that schools reverse relations of power and domination that characterize dominant and minority groups as a whole. Four bodies of education theory that help explain Navajo students' high rates of school failure are presented: (1) deficit theory maintains that the problem for school failure is found within the student (e.g., low socioenomic status, limited English skills, lack of "mainstream cultural literacy") and early intervention with skill-based remediation is necessary; (2) effectiveness theory places the blame for low rates of achievement on the inefficiency of the school (e.g., poorly run, poor structuring of school system) and suggests that school restructuring is needed; (3) cultural differences theory looks at "cultural" differences in the interaction between the students and the school that cause miscommunication, and advises teachers to adapt to the interactional norms of the students and to adjust the curriculum accordingly; and (4) critical theory explains school failure in terms of unequal relationships between "dominated" and "dominating" groups in the larger society, and recommends that teachers create a curriculum meaningful to the issues encountered by students and empowering students who may not be empowered in the larger society. The critical theory is advocated,

with an emphasis on a writing process approach (e.g., reading, drafting, revising, and conferencing) and portfolio development publishing. Teachers could build from student-created materials to incorporate other content that students need to know.

Russian Literature

Berezhkovskaya, E. L. & Varentsova, N. S. (1990). Обучение пятилетних детей началам грамоты. [Teaching five-year-olds to read and write]. *Voprosy Psychologii.* **No. 1, 33-41.**
The author suggests that reading skills develop faster and more effectively if reading is taught at the kindergarten level. Elementary school children experience fewer difficulties if they start mastering reading before going to school. The main approach that is recommended at this level is sound (phonetic) analysis of words. An experimental study of two teaching models was conducted with preschoolers (5-5½ years). Results indicated that academic preparation during the last year of preschool (especially during the first semester) should be based on activities that motivate students to learn, constructively building on children's natural predisposition for group work and their emotional tendencies. While teaching individual activities is acceptable, the authors advise teachers to integrate these into a broader context that is both understandable and appealing to preschoolers.

Blagova, N. G., Koreneva, L. A., & Rodchenko, O. D. (1993). The concept of teaching Russian taking into account the regional component. *Metodika i Opyt.* **Vol. 4, 16-18.**
New Russian educational policy leans toward decentralization and allows for teaching regional specifics of Russian. It is believed that fluency in the literary language can be enriched by the knowledge of regional components of Russian, as well as being part of a general process of teaching Russian. It is seen as empowering the rising Russian nation.

Elaev, N. K. (1996). The present and future of the Buriat national school. *Russian Education and Society.* **No. 38, 90-96.**
Issues of linguistic and cultural revival in the Buriat Republic are highlighted. An overview is provided of educational reform efforts, and the impact of geographic dispersion on the dialectal diversity of the Buriat language, characteristics of the people's way of life, customs, and religion. It is argued that there has been definite progress in the development of the national school during the past decade, but still there is a need for qualified teachers and child care workers who are proficient in the native language and knowledgeable of history, literature, and arts.

Embulayeva, T. E. (1999). Обучать чтению на основе знаний о тексте. [Teaching reading on the basis of knowledge about the text]. *Russkiy Yazyk v Shkole.* **No. 4, 12-21.**
Obstacles to teaching reading in Russian are described, along with methods of coping with them. Obstacles are: (a) well-established tradition of not teaching reading systematically; (b) public opinion in support of teaching children how to speak correctly without incorporating reading, limiting the teaching of reading to elementary grades only; (c) justified difficulty of combining the teaching of reading and the teaching of other subjects; (d) dearth of methodological literature. Several techniques of text perception are generated and classified, and several stages of text analysis are identified: fluent expression of feedback, practicing certain approaches of analysis (question and answer analysis, monolog analysis, creative analysis). It is emphasised that successful teaching of reading depends on mutual cooperation of the teacher and the student.

Ippolitova, N. A. (1987). Виды чтения на уроках русского языка. [Methods of reading in Russian language classes]. *Russkiy Yazyk v Shkole.* **No. 2, 27-32.**
Several types of reading and methods of reading instruction in the Russian language are described, and distinctive features of good reading, such as high speed and flexibility, are outlined. Three types of

reading are singled out: skimming, informative reading, and analytical reading. Identified as important for organizing the process of reading were: (a) students should be presented with a distinctly outlined goal of reading before starting; (b) teacher should master particular techniques of reading that are aligned with different reading goals, and (c) forms of control should be applied that meet the requirements of the goal and type of reading. Regarding traditional instructional techniques, it is recommended that audio-visual aids, explanatory texts, exercises, and informative pieces on the emerging phenomenon should be presented and discussed in class. Texts of literary works are put into a special category. Such texts involve specially adjusted reading exercises. An illustration is provided of how to work with some passages, reinforcing that the type of text determines type of reading.

Ippolitova, N. A. (1999). Обучение школьников разным видам чтения. Изучающее чтение. [Teaching reading methods in school. The studying (analytical) method of reading]. *Russkiy Yazyk v Shkole*. **Vol. 1, 3-11.**
Some strategies are presented for teaching one of the most important types of reading – analytical reading, which is also a essential aspect of corresponding. It is suggested that acquiring strategies of analytical reading develops important communicative and learning skills. These strategies ensure deep understanding of the content of the text and, therefore, memorization of the content. Sample reading passages drawn from school textbooks in Biology, Geography, History, and Russian Literature are presented, along with the strategies for reading and analyzing each passage.

Kamolov, M. K. (1991). Обучаем чтению в начальной таджикской школе. [Reading instruction in Tajik elementary school]. *Russkiy Yazyk v SSSR*. **No. 5, 29-30.**
Teachers in Tajikistan lead elementary school children through several steps of mastering reading in Russian: identifying letters, syllables, words, word combinations and sentences. It is suggested that after students develop elementary reading skills, the teacher should continue shaping the process because reading positively influences the other speech activities of listening, speaking, and writing. Typical mistakes made by students for whom Russian is a second language (phonetic, morphological, and spelling) are described and analysed. Methods of coping with such mistakes at the elementary level include reading aloud, explaining unfamiliar words, reading Russian text and its translation in Tajik, taping students while they read, and analyzing mistakes.

Kiul'moia, I. & Mel'tser, S. (1997). О русском языке в Эстонии. [About the Russian language in Estonia]. *Rusistika*. **No. 16, 3-7.**
The evolution and current status of the Russian language in Estonia are explored, including (1) historical development of Russian in this Baltic state and language reforms from the beginning of the 18th century until the 1990s, and (2) current practices in Russian language instruction from primary school to higher education. Main language reforms as well as content changes in the process of teaching Russian are described, with the recognition that attempts to substitute the Russian language for the Estonian language were resisted by the Estonians and, therefore, were barely implemented. It is also noted that with English being the second most important language after Estonian, Russian has became less widely studied than during the time when Estonia was part of the USSR. However, according to the article, Russian remains one of the most widely taught languages in Estonia.

Komissarova, L. Y. (1995). Формированиые орфографической зоркости у учащихся V класса на основе опознавательных признаков орфограмм. [Developing spelling awareness of fifth-grade students through training on identifiable spelling patterns]. *Russkiy Yazyk v Shkole*. **No. 2, 13-18.**
Orthographic perception is defined as ability to identify orthograms in written words and in oral language. Distinctive features of orthograms help in developing spelling skills, and knowledge of distinctive features allows students to distinguish between types and kinds of orthograms. Several exercises are provided for training students in orthographic skills, including grouping words according to their

orthographic similarities, making up tables with different orthographic regularities and their examples, identifying orally orthographic features, identifying those features in writing, etc. The strategy of revising previously studied orthograms is highlighted.

Korotayeva, E. V. & Sutyrina, T. A. (2000). Техника активного чтения. [The active reading technique]. *Russkiy Yazyk v Shkole.* **Vol. 86, No. 1, 12-17.**
The active reading technique, a method of teaching comprehensive, continuous, and efficient reading, is highlighted in the article. This technique is presented as an approach that helps increase the speed of reading and improves information processing. With a foundation of the importance of acquiring and processing information and various methods of teaching reading, active reading is characterized as involving relative continuity, maximization of an individualized approach, constant increase in intensity, and positive emotional tone. Another important component of active reading is overcoming the articulation of words in the process of reading. Of all the key active reading skills, highest priority is placed on the ability to single out the main idea of a text and to recognize textual redundancy. Reading exercises that develop memory and attention are also discussed in the article.

Murashov, A. A. (2000). Абсолютная грамотность: риторические стратегии достижения. [Absolute literacy: Rhetoric strategies of its achievement]. *Russkiy Yazyk v Shkole.* **No. 3, 3-11.**
Achieving absolute literacy is presented as involving rhetoric strategies rather than simply focusing on orthographic rules. While Russian spelling makes it possible to draw general orthographic rules, spelling rules are not always applicable and often hinder skills of intuitive spelling approaches. The author provides examples of a number of typical mistakes made by students who over-rely on general orthographic rules. He also suggests that it is the teacher's task to nurture students' intuitive feeling of the language for them to be able to speak, read, and write correctly without overly reliance on linguistic rules. Rhetoric strategies include reviewing corrected papers and trying to explain why a mistake was made. According to rhetoric principles, each mistake should be analyzed and its origin identified. Rhetoric postulates are proposed, such as independent formulation of rules instead of automatic memorization, thorough scrutiny of the origin of each language regularity, and choosing the simplest formula for each language pattern. Actualization of visual mind by using reading pieces is recommended.

Starzhinskaya, N. S. (2000). Построение процесса усвоения близкородственного языка в дошкольном возрасте. [The construction of the acquisition process of a cognate language at the preschool level]. *Voprosy Psikhologii.* **Vol. 4, 45-50.**
Acquisition of the Belorussian language by preschool children in a bilingual Russian-Belorussian setting is described, including conditions of teaching a closely related second language to pre-school children as realization of linguistic phenomena by children, developing language skills in a second closely-related language, availability of a literary language sample, constant speech control, and cooperation of a kindergarten, family, and school. The psychologically correct approach of teaching Belorussian at the same time as Russian is taught combines subliminal language acquisition in everyday use and organized language instruction. The importance of preparatory classes with significant cultural and folklore background is emphasized, as well as differentiating between Belorussian and Russian in certain communicative situations.