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Phonological Awareness In Bilingual Students

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PHONOLOGICAL AWARENESS IN BILINGUAL STUDENTS

by

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B.S., Southern Illinois University, 2011

A Research Paper

Submitted in Partial Fulfillment of the Requirements for the

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Laura Garcia

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INTRODUCTION

Language has always been critical in civilization's success, allowing people to communicate with each other efficiently through oral sounds. This convenient method of expression facilitates the passing of knowledge among contemporaries and between generations, facilitating the organization of groups with more complex strategies. Without language, the achievements that led to today's modern global societies would probably not have occurred. The world continues to see the importance of language as people's ability to travel around the world has reached an unprecedented level, as have the economic and political connections. Because of globalization, the need to be able to communicate effectively is critical to the continued development of society.

Although there are several languages that are widely used around the world, there is not yet a language that is accepted and used universally. The current best candidate is Esperanto, with up to 10,000,000 speakers worldwide, found primarily in Europe (especially the former Soviet Union) and Eastern Asia, and to a lesser extent in the Americas and Africa; however, universal languages are almost always learned as second languages, and Esperanto has only about 350 documented native speakers (Bergen, 2001). Until the overall acceptance and implementation of a universal first language is realized, learning a second language remains very useful.

The world continues to see the importance of language as people's ability to travel around the world has reached an unprecedented level, and traveling through different countries can be difficult without a firm grasp on a widely-used language in that country. Globalization, the cultural connections and economic partnerships being established internationally accelerates

along with the need to be able to communicate effectively across communities and countries around the world.

The National Education Association (2007) determined that students who study a second language exhibit quicker progress in other academic areas and narrow “achievement gaps”, as well as develop better “basic skills”, “cognitive development”, “cultural awareness”, “competency”, and “higher order, abstract and creative thinking” (p. 1-4); learning a second language is also linked to better standardized test scores, higher college acceptance rates, more career advancement opportunities and “understanding and security in community and society” (p. 5-6).

For those reasons, it is important for researchers and educators to be able to identify ways of enabling people to learn new languages more effectively. Researchers are investigating different aspects of language in an effort to find a key to rapid language skills development. Most researchers agree that children learn languages quickly, much more quickly than adults, but the research results do not indicate why this process is so effective at younger ages. A part of the reason why children learn languages more easily could be because of differences in phonological awareness at different ages, which is further discussed in a later section, titled Importance of Age in Second Language Acquisition.

To understand the effect of phonological awareness in learning new languages, this literature review examines the nature of phonological awareness in its relation to bilingual students learning pace and capacity. Understanding second language students provides a distinct advantage in that it is possible to measure the acquisition of a second language more effectively. Understanding bilingual students also makes it possible to identify how the student’s phonological awareness affects his/her use of multiple languages.

This literature review examines the body of knowledge available in an effort uncover the potential effect of phonological awareness on language acquisition and use, so that educators may apply methods of testing and improving phonological awareness. This review will focus on bilingual students as a means of making comparisons between the usages of different languages from the same person. Doing so will provide clearer insights into the overall effect of phonological awareness. This literature review also examines the research available on phonological awareness, and attempts to identify several methods that educators can use to guide students in improving their language acquisition aptitudes.

DEFINING PHONOLOGICAL AWARENESS

According to Dixon, Chuang, and Quiroz (2012), phonological awareness is “the ability to analyse and manipulate units of sound in speech” (p. 372). Many languages around the world incorporate the same or similar sounds and techniques to develop systems of speech. Using these similar elements of language and language learning, it is possible for people to learn multiple languages by recognizing patterns among different languages. While there is not yet a widely-popular universal language used around the world, there is evidence that there are elements of language that can be associated among various different languages, especially among those with similar orthographic systems.

Phonological awareness is considered one of those elemental components applicable for all language learners. Research studies connecting English to other languages in bilingual student education show that a student’s phonological awareness can be transferred, by some extent, to another learned language. In the cases where this happens, teachers find that students appear to be more gifted in mastering early level language skills, and there also appears to be a correlation

between the two languages on the same level of phonological awareness (De Sousa, Greenop, & Fry, 2010).

According to the model proposed by Wagner and Torgesen (1987), phonological awareness is a principal component of the three-part process of phonological processing, or “the use of phonological information (i.e., the sounds of one's language) in processing written and oral language,” which is essential in successful language development, especially in the area of reading (p. 192). The three components of phonological processing are phonological awareness, phonological memory and rapid naming. The focus for this research review is the correlation of phonological awareness and bilingual learners’ language skills, as well as the transference of skills from one language to another.

The relationship of the cognizance of the phonetic structure of language to language learning could be discussed by the phrase “linguistic awareness,” while the now commonly used phrase is “phonological awareness,” defined by Wagner and Torgesen (1987) as the “awareness and access to the phonology of one’s language,” or, simply the “awareness of the sound structure of language” (p. 192). Based on Wagner and Torgesen’s (1987) model of phonological processing, Li (2010) defined phonological awareness more extensively:

Phonological awareness is defined as the ability to conceive of spoken words as sequences of sound segments which correspond to the written units and access and manipulate those segments in words...It is a kind of metalinguistic ability that requires the explicit knowledge of different sizes of phonological segments of spoken words...as well as the conscious ability to notice, think about, and to manipulate...those phonological units. (p. 30-1)

Phonological segments are separated by size into three categories (syllables, onset-rimes, and phonemes), and these segments may be modified by blending, segmenting, counting, deleting, or substituting (Li, 2010).

Phonological awareness is essentially a demonstrable understanding of the orderly phonic structure of the alphabet and its correlation to the symbolized sounds. Those lacking this ability struggle to mentally synchronize the symbol with the sound. Phonological awareness develops in scope from the macro to the micro. First, the student is able to identify and accurately count the number of syllables in a word. Next, the student is able to dissect the syllable into two parts, the onset and the rime, and then, eventually, the student can disassemble and reassemble the individual phonemes of words (Li, 2010).

PHONOLOGICAL AWARENESS IN BILINGUAL STUDENTS

Phonological awareness is important to primary language acquisition and mastery, and research shows that phonological awareness is likewise essential to second language acquisition, especially in regards to developing the cornerstone of language literacy, which is reading ability (Li, 2010; Schiff, Schwartz-Nahshon & Nagar, 2011; Swanson, Hodson, & Schommer-Aikins, 2005; Wagner & Torgeson, 1987). Phonological awareness is fundamental to the development of language skills, and further research suggests that students are able to harness phonological awareness to enhance their language learning proficiency (Farver, Lonigan & Eppe, 2009; Gerber & Leafstedt, 2005; Swanson et al., 2005). Under the guidance of teachers with specialized training in phonological awareness, these students repurpose previously learned skills and knowledge in order to thoroughly understand basic language concepts for different orthographic systems.

However, a disadvantage of these studies is that they do not analyze how phonological awareness can be harnessed to improve language acquisition in learners of different skill levels, but rather focus solely on early or remedial education. The lack of research in this regard is a major disadvantage to the educational community of older or more advanced students. There is a growing need for people to learn multiple languages (National Education Association, 2017), and without effective methods, students will continue to struggle to master second languages.

Marinova-Todd, Marshall, and Snow (2000) demonstrated that children learn languages differently from older learners. Educators could use a deeper understanding of phonological awareness to improve learning outcomes for these older learners. However, from the currently available research reviewed, not enough is known about phonological awareness management techniques for teachers to effectively incorporate them in classrooms with older or advanced students.

The large body of knowledge regarding phonological awareness focuses on bilingual students in the classroom that speak English or learn English as one of their languages, and the research community has been able to develop insights as to the importance of phonological awareness, although the understanding of how to harness it for language acquisition needs further development. The link between phonological awareness and second language acquisition has been observed and affirmed cross-linguistically and cross-culturally in English-French bilingual students in Canada (Chiang & Rvachew, 2007), Zulu-speaking English English-language learners in South Africa (DeSousa et al., 2010), Tamil, Malay, and Chinese English-language learners in Singapore (Dixon et al., 2012), Hebrew students learning to read English in Israel (Schiff et al., 2011), Chinese students learning to read English in Hong Kong (Yeung & Chan, 2013), and in recurrent studies of English-Spanish bilingual students in the United States

(Fabiano, Goldstein, and Washington, 2005; Fabiano-Smith & Goldstein, 2010; Farver et al., 2009; Gerber & Solari, 2008; Lord, 2008).

Learning a second language is easier since the first language that people learn can be used as a basis for the second language (Gerber & Leafstedt, 2005). Researchers have already clearly defined the components of phonological awareness (Dixon et al., 2012; Wagner & Torgesen, 1987), and this gives researchers the ability accurately measure how PA is used in language skills development. By monitoring these key activities, researchers see the elements of phonological awareness in action, making it possible to find ways of utilizing them more effectively in learning practices.

Researchers that focused on phonological awareness as a key component of language skills development found that “across comparable English and Spanish phonological awareness tasks, correlations [in phonological awareness] have been high to moderate and statistically significant” (Gerber & Leafstedt, 2005, p. 227). This shows that phonological awareness has a measurably significant effect on language acquisition. Since a correlation between phonological awareness and learning can be established, then improving the understanding of phonological awareness should make learning new languages easier and more efficient.

IMPORTANCE OF AGE IN LANGUAGE ACQUISITION

This discussion will refer to the first language, or native tongue, of the bilingual individual as L1, and the second learned language as L2. The majority of studies conducted on language acquisition, including secondary languages, focused on students learning at an early age. This is because language skills are often a major focus for children, and focusing on children provides a larger number of study participants as well. By testing PA skills and the students’ abilities to identify phonological components, in correlation with general literacy tests,

researchers demonstrated that PA skills are very important in learning languages at an early age, as young as 2 years old, and confirmed that theory in children ages 3-5 years old (Chiang & Rvachew, 2007). However, because children learn languages differently than older students and adults (Marinova-Todd et al., 2000), the exigency for PA research which is relevant to older learners remains.

Children use phonological awareness to interpret language components based on their previous knowledge of word and sentence constructions. This allows them to bypass certain issues such as learning an entire array of new sounds to be able to speak a different language. They are essentially reusing information that they already understand to develop a new understanding of different languages, just as they have identified patterns for a new understanding of words and grammatical structures in their primary language (Gerber & Leafstedt, 2005). However, the primary language can also cause L1 interference, such as mispronunciation or misinterpretation (Lord, 2008).

Reusing information is a major benefit for children that are learning a new language (Gerber & Leafstedt, 2005). However, there are cases where they are unable to do so because of learning challenges or disabilities. Many people can be diagnosed with language impairments at an early age, and most of these people may grow out of it with time and skills training; however, some language impairments may remain over the long term despite efforts at correction (Gerber & Leafstedt, 2005). Researchers looking for ways of classifying students with different language skills found that the traditional two-group model is inaccurate because it does not adequately attend to students with low phonological awareness (Kapantzoglou, Restrepo, Gray, & Thompson, 2015).

The traditional two-group model divided students into groups with or without language impairments. Continued research showed that these classifications are more accurate based on a three-group system. Educators need methods of addressing these different groups so that they can help the individual students in each group overcome their challenges. The first group contains students with weak grammar skills, the second group contains students with weak phonological memory or transfer skills, the third group contains average-skill students, and group membership is determined by tests designed specifically for measuring these skills (Kapantzoglou et al., 2015).

Because of the disparity in learning techniques for children, teenagers, and adults (Marinova-Todd et al., 2000), it is also imperative to group students by age as well as ability. The research into phonological awareness could address this issue as new techniques are developed to use phonological awareness focused exercises in teaching practices. Teachers will likely need to adjust their practices to accommodate students in different groups. With this in mind, it may be possible to develop these different techniques based on phonological awareness research.

PHONOLOGICAL AWARENESS IN OTHER LANGUAGES

Learning different languages from around the world involves dealing with the specific challenges of each language. There are common components among almost all languages, but each language has its own set of unique components. Studies regarding the differences and similarities between different languages show that “alphabetic writings systems differ in their level of opacity - transparency, depending on their code consistency” (Schiff et al., 2011, p. 45).

This makes learning languages difficult since there are distinct variances among the alphabetic systems of languages. Educators are looking for methods of using common

components to accelerate the learning process. Using phonological awareness utilization techniques, educators can capitalize on previously learned knowledge and sound production skills to create new language skills.

In a study focused on comparing bilingual students' ability to learn a second language found that phonological awareness is connected between Zulu and English. The second grade students in the study showed an ability to transfer their phonological awareness from Zulu to English. This led to the faster development of English language skills on early levels. Students were able to quickly master skills by using their awareness of sounds from English (DeSousa et al., 2010).

This could be highly beneficial for students learning other languages. Many students struggle to build early level skills which include the understanding and production of basic sounds. If these issues could be negated using their phonological awareness from other languages, this would significantly decrease the amount of time needed for students to learn a language. For students, this is a significant advantage as they could reach higher levels of mastery by the end of school training courses.

Many studies focus on researching bilingual students that have English as their primary language. However, research on learning English as a second language shows interesting results. English is a difficult language to develop proficiency in as it is a complex language that borrows from other languages around the world. In a research study, researchers found that students that learn English as a second language "can benefit from direct, systematic instruction that emphasizes phonological awareness and is linked to literacy" (Swanson et al., 2005, p. 336). By reinforcing skills transfer using phonological awareness, researchers were able to improve

learners' comprehension of English language skills. This shows that it is possible for educators to take advantage of the importance of phonological awareness to improve language acquisition.

PHONOLOGICAL AWARENESS IN LANGUAGE ACQUISITION

While there is a growing amount of research that shows a connection between phonological awareness and language acquisition, there is research to suggest that not all language skills transfer from a first to a second language. Rather, key skills including phonological awareness can impact that development of different language skills, but may not always make the acquisition process easier (Fabiano-Smith & Goldstein, 2010). PA has been shown to have an effect on language acquisition, and research has shown that for students that are learning a second language, practicing PA through activities such as rhyming exercises, syllable counting, or phoneme transference, assists them in transferring skills from one language to another, and can be highly effective at improving outcomes (Farver et al., 2009).

In other research studies, experts found that phonological awareness levels correlate to increasing proficiency in second languages (National Education Association, 2007). As students learn a new language, they are more successful if they have a higher phonological awareness in sounds that are used in both languages. This correlation showed strongly to the point where researchers believe that they can predict which students will acquire language skills quickly based on their phonological awareness levels, as the correlation between PA test results and English reading and spelling test results were so high in a 12-week study of 76 young children in Hong Kong (Yeung & Chan, 2013). Methodologies for testing and intervention are further discussed in the subsequent section.

Aside from spoken language skills, phonological awareness plays an important part in writing. According to Yeung & Chung (2013), "phonological awareness, which is the ability to

reflect on, analyse and manipulate the sounds of language, is essential for learning to read as it facilitates awareness of the relationship between the sound and the printed word” (p. 203).

Students with weak phonological awareness often experience slower language acquisition rates and lower outcomes for secondary language learning. Because of this, most bilingual students should have moderate levels of phonological awareness.

This is evident by the growing number of people around the world that speak multiple languages, and many claim that learning languages becomes easier when you have already learned other languages. If these people can develop language proficiency in different languages, then it can be surmised that they are able to use their phonological awareness to their advantage to some degree. It is also possible that in many of these cases, people are unaware of their phonological awareness. Phonological awareness appears as an innate ability to understand the fundamental components of a language, and suggests the aptitude to acquire a second language faster.

Increasing attention on the benefits of higher phonological awareness levels could lead to significant changes in teaching practices. If teachers understand that there is a benefit to focusing on phonological awareness in primary language courses, then schools will be more likely to devote resources and time to the development of students’ phonological awareness.

Alternatively, second language educators can use the benefits of phonological awareness to their advantage in the classroom. Regardless, there is the potential for educators to use phonological awareness to their advantage if a better understanding of it can be developed and applied in a variety of classroom environments and a diverse range of student abilities and backgrounds. In order to do so, future research should strive to incorporate as many different language systems as possible.

METHODOLOGIES

To effectively measure the importance of phonological awareness, researchers have several methods. By measuring certain facets of orthographic understanding in certain areas, it is possible to measure the overall effect of phonological awareness. Previous research studies (Wagner & Torgesen, 1987) have used methods in their PA research practices which are similar to more recent studies (Li, 2010), particularly in regards to testing the PA skills of participants. Researches have proven effective at producing measurable results for further analysis (Gerber & Solari, 2008). Phonological segments (syllables, onset-rimes, and phonemes) may be modified by blending, segmenting, counting, deleting, or substituting (Li, 2010, p. 31), as well as shifting or moving the phoneme within the word.

Manipulation tasks can be used to measure awareness of each size category, from the syllabic, to the sub-syllabic and phonemic. For blending tasks, students are given two phonological segments and are asked to combine them into words. Students are asked to separate the phonological units in segmenting tasks. Counting exercises involve identifying the number of phonological units in phonological segment or word (such as the number of syllables in a word, or the number of phenomes in a syllable). Deletion tasks consist of removing one or more phonological units or segments. Substituting exercises expand on deletion tasks by having the student replace the deleted phonological segment or unit with another segment or unit. Shifting exercises involve deleting and adding the same phonological segment or unit to another part.

Methodologies for measuring phonological awareness consist of exercises which demonstrate the student's ability to manipulate phonological segments. Research has demonstrated that most students can perceive and manipulate macrosegments, but some struggle

with microsegments (Kapantzoglou et al., 2015). In studying the phonological awareness of bilingual students, the majority of American research conducted has focused on Spanish-speaking students (Fabiano et al., 2005; Fabiano-Smith & Goldstein, 2010; Farver et al., 2009; Gerber & Solari, 2008; Lord, 2008), basically due to the prevalence of this population in the United States.

Similar findings can be applied, within limits, across other languages and orthographic systems (Chiang & Rvachew, 2007; De Sousa et al., 2010; Dixon et al., 2012; Schiff et al., 2011; Yeung & Chan, 2013). However, the extent of global orthographic representation in PA research is very unproportioned. The necessity of applying PA research to a wider array of orthographic systems and bilingual combinations is argued in the subsequent section.

For examples of phonological awareness assessment methods, this review refers to five of the studies' procedures. Farver et al. (2009) measured the phonological awareness of bilingual (L1 Spanish and L2 English) preschoolers over the course of one year by having the students perform tasks of increasing difficulty (transitioning from larger to smaller phonological units), blending and deleting words, syllables, onset, rimes, and phonemes (p. 707). Gerber and Solari (2008) focused on segmentation tasks for measuring phonological awareness, particularly in detecting onsets and rimes, in their assessment of bilingual (L1 Spanish and L2 English) students (p. 157).

Gerber and Leafstedt (2005) also measured the phonological awareness of bilingual (L1 Spanish and L2 English) students with blending and segmentation tasks, focusing on onsets and rimes in rhyming exercises (p. 228). Research by Swanson et al. (2005) measured the phonological awareness of bilingual (L2 English) students who scored low on standardized

reading assessments. The participants had mostly Spanish, but also Asian and Pacific Islander languages as their L1.

The assessment of phonological awareness involved segmentation and blending tasks for “pseudowords,” or non-existent words which bear some resemblance to English. Schiff et al. (2011) measured the phonological awareness of bilingual (L1 Hebrew and L2 English) Israeli adolescents of “above-average socioeconomic status” diagnosed with reading disabilities by using a task which involved Pig Latin (the consonant at the beginning of the word is transferred to the end of the word, and the sound /ay/ is also added on after that) (p. 50).

This Pig Latin exercise is a useful combination of five different manipulation tasks: segmenting, deleting, replacing, shifting and blending. Schiff et al. (2011) also improved their measurement of phonological awareness by using tasks of blending phonological segments into made-up non-words, or “pseudowords” (Swanson, et al., 2005, p. 341), to ensure that “participants could not rely on any familiar phonological patterns or morphological patterns” learned previously (Schiff et al. 2011, p. 50), and must thus rely on their knowledge of the fundamental orthographic structure of the language being assessed.

TRANSFERENCE AND INTERFERENCE OF PHONOLOGICAL AWARENESS

Phonological segments or units may be transferred from one language to another via segmental transfer:

...an example would be when a bilingual Spanish–English speaking child uses the approximant /a/, a sound specific to English, in the production of a Spanish word (e.g., “carro” /karo/ → [kaao]). Transfer has been found to occur in a bi-directional manner—that is, from English to Spanish as well as from Spanish to English. (Fabiano-Smith & Goldstein, 2010, p. 161)

The first language influences the acquisition and production of the second language, which may result in assisting understanding with little instruction. Alternatively, it can also have a negative impact on second language acquisition, through L1 interference, such as mispronunciation or misinterpretation (Lord, 2008, p 184-186). Both segmental transfer and L1 interference are an effect of phonological memory, which is one of the three core components of phonological processing.

Phonological awareness can be transferred across languages, especially those with similar orthographic systems or alphabets. Gerber and Leafstedt (2005) confirmed prior research which “consistently revealed evidence of cross-linguistic transfer” (p. 226) by measuring phonological awareness of bilingual (L1 Spanish and L2 English) students in Southern California with onset and rime identification, segmentation and blending exercises (p. 228), and determined that, regarding the “predictive relationship” of phonological processing and complex language comprehension: “The analysis indicated that of the three components of phonological processing, only phonological awareness influenced both Spanish and English decoding” (p. 223). However, the theory of segment transfer is limited in this review’s focus primarily on the Spanish-speaking bilingual student population.

LIMITATIONS

As previously stated, American research regarding phonological awareness of bilingual students has focused mostly on Spanish-speaking students due to the extensive availability, and the research on students whose first language is not Spanish remains limited. Although findings can be applied, within limits, across other languages and orthographic systems (Gerber & Leafstedt, 2005), transference is less applicable across large variances in orthography (Li, 2010).

According to Schiff et al. (2011), the research has been disproportionately weighted towards Spanish-speaking participants:

However, cross-linguistic studies...have highlighted differences among the orthographic systems, suggesting that the results found among English speakers may not be entirely applicable to speakers of other languages as well. It is well-known that alphabetic writings systems differ in their level of opacity–transparency, depending on their code consistency. (p. 45)

For languages with more opaque orthographies, the application of phonological awareness may be more limited.

This review has included some research on students whose second languages are Hebrew or Asian, with markedly different alphabetic systems and orthographic structures, which have demonstrated a strong correlation between phonological awareness, language acquisition and reading skills. Further research on second languages with diverse orthographic structures would confirm or disprove the universality of phonological awareness transference across languages. Ideally, cross-cultural and international research should be compiled into a meta-analysis of proportional representation across various orthographic systems in order to determine the essential nature of phonological awareness.

APPLICATIONS

Throughout the research, a common theme of transferring phonological awareness skills to new languages emerges. There are “many studies [that] indicate that preschool and early school-aged bilingual children with strong phonological awareness skills are able to transfer those phonological awareness skills across a variety of languages” (Dixon et al., 2012, p. 373). With this in mind, this research study examines the possibility that new techniques can be

developed to improve the use of phonological awareness in the acquisition of different languages.

There are several key points to the research, including:

- If teachers can develop ways of harnessing phonological awareness in learning programs, then they can accelerate student language learning.
- If teachers can increase a student's awareness of the correlation between phonological concepts in different languages, then that student can harness his/her skills from a primary language in learning a secondary language.
- If teachers draw direct connections between elements of different languages, then students will be able to recognize those elements and use their phonological awareness to master basic language skills.
- If teachers create a pattern of finding connections between languages, then students will seek these connections on their own using their phonological awareness to improve their language skills.

By focusing on these key areas of the research, new methods of using phonological awareness can be created. Extensive testing of any techniques will be needed to ensure their accuracy and refinement.

However, practices that can be refined and improve will have a significant effect on language teaching. Swanson et al. (2005) analyzed the success rates of a phonological awareness intervention program which paid extra attention to phonological awareness education for students with reading disabilities. Under the guidance of teachers with specialized training in phonological awareness, these students can harness and improve previously learned skills and knowledge in order to thoroughly understand basic language concepts for different languages:

Students who participated in the phonologically based treatment program outperformed the nontreatment group in analyzing the phonological construct of words, identifying words, decoding words, comprehending what words mean, and understanding passages. The effect sizes, calculated in eta-squared values, were substantial for all variables. (Swanson et al., 2005, p. 342)

These skills can then be applied constructively in the progress of both the students' first and second languages, as researchers have demonstrated a significant crossover from L1 to L2 of phonological processing skills (Gerber & Leafstedt, 2005).

CONCLUSION

Language learning and communication has always been critical to civilization's success, and without the rise of global literacy, the achievements that led to today's modern global societies would probably not have occurred. The world continues to see the importance of language acquisition and mastery as globalization highlights the need for effective communication for the furthestmost of global progress. Globalization, the cultural connections and economic partnerships being established internationally, accelerates at an increasingly rapid pace along with the need to be able to communicate effectively across and within communities and countries around the world.

The rapid development of English and other popular language skills is important to remaining competitive in an emerging global market. It could be the advantage that some countries are looking for as they expand into other markets around the world. Without the ability to communicate, those markets will remain closed. For these countries to develop a strategic advantage or continue to remain relevant in a global market, governments need to invest

significantly in the continued research and development of phonological awareness and other language education techniques.

Any methods that can be developed to accelerate the learning process provide an invaluable increase in student learning potential, and phonological awareness interventions and exercise have proven promising. It is important for researchers and educators to be able to identify ways of enabling literacy, which is priceless: “The cost of literacy in human terms is immeasurable. Children who cannot learn to read and who cannot acquire an appropriate education most likely will not be able to participate in the American dream” (Swanson et al., 2005, p. 343). Because phonological awareness is closely linked to literacy and language acquisition, it is invaluable to researchers and practitioners.

Researchers are investigating different aspects of language in an effort to find a key to rapid language skills development. To understand the effect of phonological awareness in learning new languages, this literature review examines the nature of phonological awareness in its relation to bilingual students learning pace and capacity. This literature review examined the body of knowledge available in an effort to uncover the potential effect of phonological awareness on language acquisition and use.

The research focused on bilingual students as a means of making comparisons between the uses of different languages by the same person, with a disproportional amount of Spanish-speaking participants in the studies. While it is necessary to conduct future research involving primary languages of diverse orthographic backgrounds, the major implications of this research review are that phonological awareness is transferrable across languages, and can be developed with specific attention to and instruction of phonological principles and practices, so that

students can develop their highest potential phonological awareness skills, and apply them to second language acquisition.

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