Becoming phonemically aware: A study on the role of assistance in language learning

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BECOMING PHONEMICALLY AWARE: A STUDY ON THE ROLE OF
ASSISTANCE IN LANGUAGE LEARNING

by

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Bachelor of Arts
University of Northern Colorado
1995

Master of Arts
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ABSTRACT

Becoming Phonemically Aware: A Study on the Role of Assistance in Language Learning

By

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This was a Sociocultural study of second language learning involving Vygotsky’s Zone of Proximal Development (Vygotsky, 1978; & Newman and Holzman, 1993), phonemic awareness (Adams, 1990, Lieberman & Shankweiler, 1985), and dynamic assessment (Campione and Brown, 1987; Feuerstein, 1979; and Budoff, 1987). This inquiry was aimed at understanding how assistance functions in second language learning, uncovering student abilities in collaboration through an L2 dynamic assessment of phonemic awareness, and determining what information is available with an L2 dynamic assessment of phonemic awareness. This investigation illuminated teacher-to-student and student-to-student assistance in assessing/learning a second language during a Dynamic Assessment of L2 Phonemic Segmentation and subsequent intervention lessons. This study was guided by the following research questions:

1. How does assistance function in the language and literacy development of primary-aged ELLs?
1. What information does a dynamic assessment of L2 phonemic awareness provide that a static assessment does not?

This study involved the researcher and 5 first grade English Language Learner (ELL) students working in collaboration in L2 dynamic phonemic awareness assessment and intervention lessons. Phonemic awareness as defined by National Institute of Child Health and Human Development (2000), "the ability to focus on and manipulate phonemes in spoken words (p. 2-1)." Phonemes were referred to as, "the smallest units constituting spoken language (p. 2-1)." The content and sequence of the phonemic awareness lessons were derived from and based upon the results of two markedly different measures. The Yopp-Singer (1998) Test of Phonemic Segmentation, Static Assessment (SA), was used to determine what ELL students were able to do alone or without mediation. A Dynamic Assessment of L2 Phonemic Segmentation (Roybal-Benson, 2005) was subsequently used to determine the effects of assistance, what ELL students could do with mediation during phonemic awareness segmentation tasks. The Dynamic Assessment of L2 Phonemic Segmentation was constructed similarly to the Yopp-Singer, except an oral language inventory using picture cards was taken to determine known words and graduated prompts were used to assist students in mediating the assessment tasks.

Previous research endeavors that have explored different facets of phonemic awareness (Adams, 1990; Ehri, 1979; and Liberman and Shankweiler, 1985) have done so from a positivist paradigm. In these studies, specific types of phonemic awareness (segmenting, blending, substitution, manipulation, etc.) were examined for their predictive saliency and correlation to future reading success. As well, phonemic
awareness studies have focused upon intervention and as an indicator within a larger assessment designed for identifying children at-risk for reading difficulty (Good and Kaminski, 2002).

As a point of distinction, that which has differentiated this study from previous studies within phonemic awareness are as follows (1) this study was an inquiry of second language acquisition and the ELL student population, (2) this study was not designed with the intention of reinforcing or negating the current literature on phonemic awareness, and (3) the researcher did not view the participants from a "mind as container" metaphor (Lakoff and Johnson, 1980). These differences are important because non-positivist research on the assessment/learning of phonemic awareness is extremely limited. As well, phonemic awareness research in relation to ELL student populations is virtually nonexistent.

This study was based upon the thought that understanding psychological transformation, such as developing awareness of phonemes in a second language, is formed through a process of development (Wertsch and Stone, 1985). Studying this development involved Vygotsky's (1978) Genetic Law of Development, "every function in the cultural development of the child appears twice, in two planes, first, the social, then the psychological, first between people as an intermental category and then within the child as a intramental category (p.)." Therefore, in an attempt to understand the process of development for ELLs becoming aware of L2 phonemes involved a microgenetic approach to analyzing the data collected over the 7 weeks. This method provided for a close examination of uncovering student potential abilities, acquiring relevant
information associated with creating zones of proximal development, as well as, understanding the role of assistance in L2 phonemic awareness learning.

For this study, L2 phonemic awareness assessment/learning was aimed at improving student abilities to segment phonemes of oral words. Segmenting phonemes involved students listening to a word, such as *old*, and separating each individual sound, */o//l//d*/.

This study was not a means to purport a particular approach to teaching L2 phonemic awareness, nor was it to reify the current literature supporting phonemic awareness as a predictor of future reading success. Phonemic awareness is a very important metalinguistic skill for the development of reading. I believe that it is important to have an understanding of student potential abilities, information only provided by a Dynamic Assessment of L2 Phonemic Segmentation. For there can be ample discussion as to the predictability of phonemic awareness and what it means to children in learning to read, but it would not inform the profession of how children develop an awareness of phonemes. At the same time, there can be bountiful discussion about the most appropriate way to instruct children in phonemic awareness, yet this discussion is too teacher oriented and it would exclude student development. However, when, where, and how does acquiring pertinent information only revealed in a dynamic procedure, lead to understanding assistance and how it functions into how ELL students transform from *not* being phonemically aware to *becoming* phonemically aware to *is* phonemically aware? It was the researcher’s belief that these questions could be best answered from delving into this educational inquiry from a qualitative Sociocultural Theory framework.
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ACKNOWLEDGEMENTS

As a child I was told repeatedly that I would not amount to anything. Through this experience I defined who I was; not to be counted on, not to be successful. I allowed myself to believe that I would not amount to anything. At one point in my life, a woman entered my life and showed me differently. She showed me that I was something of value, I was important, and I could be counted upon. I slowly began to believe that I could be counted upon and I could be successful. My wife, Alice, provided me with a new vision for my life; by showing me that she had a vision for her own life. Together, we try to provide a vision for our family so that our children, Rio and Santana, know that they have permission to succeed. At the end of this dissertation process I have become to realize that while obtaining a doctorate is a personal accomplishment, it has transformed into a way of showing my sons that they can attain great distinction in their own lives.

I would like to thank my family, friends, and my dissertation committee, without your support this would have not been possible. I wish to extend a special thank you to Dr. Steve McCafferty, my dissertation chair for direction, editing, and random phone call conversations through out the process. Also, I wish to thank my wife for the initial formulations of assessing/teaching L2 phonemic awareness. I want to thank Rio and Santana, my two sons, for teaching me about what little children pay attention to as they live and learn in a bilingual and bicultural household. As well, I wish to thank Agnes and Alfonso Roybal, my in-laws, for their enumerable gestures of kindness and support leading up to and during this process.

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CHAPTER 1

INTRODUCTION

Purpose

This study is an attempt to offer further understanding of phonemic awareness assessment and instruction in relation to second language learning through dynamic assessment. It provides further understanding because previous studies of phonemic awareness have had an emphasis on the importance of it as a predictor of early reading success for English-speaking student populations (Turner & Nesdale, 1985; Perfetti, Beck, and Hughes, 1981; Perfetti, 1984), but this study illuminates the role of assistance within phonemic awareness assessment and instruction through dynamic assessment. While previous studies, as those mentioned earlier, focused their efforts on English-speaking populations, the present study was performed exclusively with an English Language Learner population. While there is a large research base for phonemic awareness for first language speakers of English, research on phonemic awareness and English Language Learner (ELL) populations is extremely limited. However, there are previous studies in phonemic awareness that have been carried out with other languages; Swedish (Lundberg, Olafsson, and Wall, 1980); Norwegian (Hoien, Lundberg, Stanovich, and Bjaalid, 1995); Spanish (deManrique and Gramigna, 1984); French (Alegria, Pignot,
and Morais, 1982); Italian (Cossu, Shankweiler, Liberman, Tola, and Katz, 1988); Portuguese (Cardoso-Matrind, 1995) and Russian (Elkonin, 1973). While phonemic awareness research has largely been centered on predicting early reading success and has been largely carried out through a positivist paradigm (Blachman, 1991; Juel, 1991; Stanovich, 1986; Wagner, et. al., 1994), the present study sought to inform this area of research from a sociocultural theory perspective of second language acquisition by employing a prognostic dynamic assessment protocol and procedure (see Poehner, 2005; and Lantolf and Poehner, 2003). The present study was performed and reported under the belief that assessment and instruction are not dualistic in nature, but rather a dialogic unification (Vygotsky, 1978; Wells, 1999).

Research Questions

Previous literature (Wood, Bruner, and Ross, 1976; Moll, 1990; Hedegaard, 1990; John-Steiner, Panofsky, and Smith, 1994) has illuminated the efforts of teachers or more capable peers and the role of their assistance in improving learner performance in collaborative problem solving. The present study focused on the role of assistance and how it functioned into future language development within the context of L2 phonemic awareness intervention and the dynamic assessment of L2 phonemic awareness. This study attempted to extend work within Sociocultural Theory and the Sociocultural approach to understanding the nature of second language acquisition and second language literacy learning.

The study involved 5 Spanish-speaking 1st grade ELLs from an urban area within the Southwest United States working in collaboration with a teacher in L2 phonemic
awareness intervention lessons. The study was guided by the following research questions:

(1) How does assistance function in the language and literacy development of primary-aged ELLs?

(2) What information does a dynamic assessment of L2 phonemic awareness provide that a static assessment does not?

Impetus

The impetus for the study and the issues raised in providing for the purpose of a dissertation in sociocultural second language literacy and a dynamic assessment of L2 phonemic awareness is presented in four parts. These four parts represent four salient areas that have emerged from my studies as a doctoral student and from my practice as a teacher/administrator in schools with high ELL student populations: (1) linguistic diversity and the perception of why our nation is failing in reading, (2) the imposition of the findings of the National Reading Panel report and of phonemic awareness research for English-speaking student populations upon schools with high populations of ELL students; (3) the dualistic nature in which assessment and instruction have been presented through static assessment (SA) practices for phonemic awareness in previous studies, and (4) the misunderstandings of practitioners and misguided claims of an educational software company resulting from previous studies citing Vygotsky’s Zone of Proximal Development (ZPD).
Problem of Linguistic Diversity and the Perception of Reading Failure

The National Research Council’s (1998) *Preventing Reading Difficulties in Young Children*, outlined various factors that have contributed to the perception of low reading achievement. These factors included a lack of qualified teachers, socioeconomics, and nonnative English proficiency (Snow, Burns, and Griffin, 1998). Specifically, the change in policy for reading instruction under the auspices of NCLB was in part due to the perception of failure. That is, the perception of failure on the part of schools to facilitate literacy development for growing numbers of children from varying demographics (Haycock, 2001).

As a result, intervention has increasingly replaced remediation as an approach to help students struggling with learning to read (Askew, Fountas, Lyons, Pinnell, and Schmitt, 1998). Reading interventions are designed to stop or alter reading failure before long-term reading difficulties are realized by the student. Torgesen (2000) indicated that monolingual English-speaking students benefit from intensive reading intervention. However, Alanis, Munter, and Tinajero (2003) articulated that the effects of using reading intervention programs designed for English-speaking populations with ELLs, are not completely understood.

It is very important to understand the nuances of forms of reading assessment and intervention. Whereas, interventions for linguistically diverse student populations may involve similar areas of concern for native English-speaking students, uncompromisingly applying the research/practice of reading intervention programs designed for English-speaking students to ELL students is erroneous. Trends have indicated that more and more students speaking first languages other than English are enrolling into public
schools throughout the US. Therefore, more and more schools are in need of implementing reading interventions designed and field tested for ELL students so that specialized assistance can be available to students in vulnerable situations. Although it is imperative to identify and understand the populations that schools serve, the locus of blame for reading failure is not the fact that students are limited English-speakers.

Crawford (1997) reported that in 1990 the United States Census determined that roughly 32 million residents of the United States spoke a language other than English. Of those 32 million, approximately 17 million were Spanish-speaking. The Council of Great City Schools (2001) reported that of the 3,908,095 total students enrolled within the public schools of the council, that 31% or 1,211,045 were ELLs. Over a three-year period they reported that the numbers of ELLs in these public schools had jumped to 106,000 students, an increase of 10.1%. This increased ethnic and linguistic diversity amongst our nation’s public school students has had a tremendous impact on the manner these schools provide education. Ultimately, this trend is changing the way universities prepare their teaching candidates. Teachers must learn about teaching English as a Second Language, how to simplify the English language when they provide instruction in the content areas, and how they teach ELLs to read.

National Reading Panel Report

What is the best way to teach reading? What are beneficial instructional practices in reading? What are the scientifically-based approaches to reading instruction so that all children will learn to read? The National Reading Panel (NRP) was a group that delved into reading research to generate answers to these questions. In an attempt to answer these questions the NRP performed a meta-analysis of previous reading research to
determine critical areas of literacy that need to be included within literacy programs so that all children would receive the very latest in research-based programs and sound instruction for optimal literacy learning.

In 2000, The NRP’s Teaching Children to Read: An Evidenced-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction—Reports of the Sub Groups was published. In this document the authors described components for developing scientifically-based reading instruction programs outlined as the building blocks for teaching children to read. The NRP identified Phonemic Awareness Instruction, Phonics Instruction, Fluency Instruction, Vocabulary Instruction, and Text Comprehension Instruction as the building blocks for developing scientifically research-based reading programs.

In the NRP’s Report, the authors specified that only reading research investigations that were deemed scientifically-based were included in their meta-analysis. Their assertions have remained highly controversial among literacy researchers, and their claims have created changes to guidelines for: (1) how federal grant monies earmarked for reading improvement are distributed, (2) how textbook publishers compose reading programs, (3) why reading curricula have been revamped at the district level, and (4) how instructional decisions are made in the classroom. Since the publication of the NRP’s 2000 report, phonemic awareness has become an increasingly prevalent item of discussion among reading researchers and practitioners.

A letter entitled, I Told You So!, by Joanne Yatvin, a member of the NRP, stated her issues with the impact the report has had on the teaching of reading: “In the three years since its publication in 2000, the findings of the National Reading Panel report have been
used to support the research agenda of the National Institute of Child Health and Human Development and the Reading First initiative of the federal No Child Left Behind Act of 2001 (p.1).”

Based upon that research agenda, Yatvin claimed this report has resulted in a philosophical stranglehold on administrators and teachers working within public school districts, as well as professors preparing teachers at various colleges and universities. Yatvin explained, “government officials and promoters of phonics have twisted...findings in an effort to reconfigure all school reading instruction and all teacher preparation in reading to conform to their own ideas of how reading should be taught (p. 1).”

Although phonics instruction is markedly different than phonemic awareness instruction in that phonics instruction aims at explicitly and systematically directing students’ attention to the sound-symbol relationship of letters, phonemic awareness has been used to legitimize the importance of discrete skills. Yatvin explained that reading programs that do not include materials to match instructional components outlined in the NRP and teachers found not to include explicit instruction of discrete skills such as phonics and phonemic awareness are found to be unfit for providing sound reading instruction. Yatvin described this sentiment, “In short, any program or any educator that does not fit with today’s fashionable orthodoxy is considered unfit for the teaching of reading (p.1).”

Teaching methodologies aside, the question at hand is, for which student population is this evidenced-based assessment of reading research qualified? Much of the literature included in NRP 2000 meta-analysis addressed English-speaking populations of varying
demographics and did not explicitly include how the findings were to be addressed for specific student populations such as ELLs (Gutierrez, et. al., 2002). So public school educators with ELL populations have been left to generalize and approximate implementation efforts from the findings of the report.

Included within the research supporting phonemic awareness included in the NRP 2000 document are studies performed with static assessment procedures. That is, the assessment tools implemented in the studies designed to measure phonemic awareness were geared at understanding what students know about phonemic awareness without mediation. What is not known is whether or not these measures were a measure of what students knew or did not know about phonemic awareness rather than what they knew or did not know about the structure of the questions/tasks asked of them during the assessment. Therefore, it is still uncertain if the gains/losses were actually in learning how to answer a question or complete a task, or if the gains/losses were a true gain/loss in their awareness of phonemes. Therefore, questions remain about (1) the views of abilities, (2) the purpose for performing the assessments, and (3) the role of the examiner in relation to the examinee within static assessment procedures (Poehner, 2005).

**Problem of Static Assessment Practices for Understanding Phonemic Awareness**

In the NRP Report, phonemic awareness was described as a discrete skill indispensable to reading programs designed for teaching all students to read. In alignment with the NRP report, reading programs must provide a method for assessing phonemic awareness for tracking student progress, evaluating students’ knowledge of phonemic awareness, and providing phonemic awareness instruction.
Current tests and assessments of phonemic awareness such as the Yopp-Singer Test of Phonemic Segmentation, Dynamic Indicators of Basic Early Literacy Skills (DIBELS), and Phonological Awareness Literacy Screening (PALS), used whole or in part, for determining a student’s ability within phonemic awareness rely upon static assessment procedures (Yopp, 1998; Good and Kaminski; 2002; and Invernizzi, Meier, Swank, and Juel, 1998). Static assessment procedures can be described as a methodology that does not allow for feedback or assistance during the assessment (Sternberg and Grigorenko, 2002). Methodological orientations for static assessment procedures designed for understanding phonemic awareness include: (1) procedures are designed to capture the products of prior psychological development, (2) procedures for the examiner and examinee relationship is one of neutrality, and (3) procedures for feedback and mediation are reserved until after the assessment has concluded (2002). In the excerpt to follow, static assessment procedures were characterized by Sternberg and Grigorenko (2002) in Dynamic Testing: The Nature and Measurement of Learning Potential,

The examiner presents items…without feedback or intervention of any kind. At some point in time after the administration of the test is over, each examinee typically receives the only feedback he or she will get: a report on a score or set of scores. By that time, the examinee is studying for one or more future tests. (vii)

The fact that phonemic awareness assessments available to teachers and other educational practitioners consist largely of static procedures is problematic. The concern is that the static assessment procedures of phonemic awareness assessments (Yopp-Singer, DIBELS, PALS, etc.) are for the identification and prediction of reading
difficulties and do not provide a method for distinguishing students’ understanding of phonemic awareness for providing specific, responsive instruction. While static procedures may account for a student’s actual awareness of phonemes they do not provide a method for determining a student’s proximal phonemic awareness abilities (those just beyond their current independent level). While possible difficulties could be documented through static phonemic awareness assessment procedures, not providing for assessment procedures for understanding students’ proximal abilities only magnifies identifying what specific and responsive assistance is warranted for ELL students.

In 1936 the former Soviet Union outlawed static assessment procedures. Communist Party officials understood the goals of static assessment procedures as a method of labeling children as deficient by estimating their future abilities without consideration of their future potential. Within the time of this practice, the former Soviet Union regarded dynamic assessment, static assessment’s compliment, as opening the world for children and static assessment procedures as closing it (Sternberg and Grigorenko, 2002). The purpose of assessment procedures as characterized by Leont’ev, a collaborator with Vygotsky, (cited in Bronfenbrenner, 1997, p. 528) is “to discover not how the child came to be what it is, but how it can become what it not yet is.” It is through this sentiment that the understanding of a revolutionary psychology, a revolutionary practice is founded. It is this sentiment that bares the root of dynamic assessment’s strong philosophical ties to the work of Lev Vygotsky and his articulation of the Zone of Proximal Development.
Problem of Multiple Views of the Zone of Proximal Development

One concept within sociocultural theory that has driven recent changes to the approach of literacy and language assessment/instruction has been Vygotsky’s concept of the Zone of Proximal Development (ZPD). Vygotsky (1978) defined the ZPD as, “the distance between the actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adults guidance or in collaboration with more capable peers” (p. 86). Based upon this definition, different notions of the ZPD have been used to explain or suggest findings from studies derived from varying contexts (Wertsch, 1984). Many researchers in various fields of study have quoted Vygotsky’s definition of the ZPD, this proliferation has led to divergent views, multiple interpretations, and varying applications of Vygotsky’s original work (Moore, 2004). This multitude of interpretations and applications has become problematic in that it has resulted in misunderstandings on the part of teachers, teacher educators, and hence educational material developers.

Where many fail to understand the ZPD, as articulated by Moll (in Richardson, 2001, p.111), is “not to think of theories, including Vygotsky’s ideas, as providing straightforward prescriptions to be directly applied in practice or, for that matter, as providing ready-made research techniques and procedures.” Oversimplifying the complex nature of development and learning can lead to problematic renderings and the misuse of theoretical concepts. Consequently, there are cases where this relationship has been oversimplified and altered what the ZPD has become.

Multiple views of Vygotsky’s ZPD have been realized in the applications by practitioners who may not have a complete understanding of Vygotsky’s methodology. In
doing as such, practioners transform his methods of practice into methods for practice (Newman and Holzman, 1993). Newman and Holzman (1993), defined the problem of methodology through Vygotsky’s rejection of the improperly formed psychological philosophies of his time. Vygotsky’s rejection, following Marx, was articulated by Newman and Holzman (1993) as the “intellectual challenge is to the entirety of Western thought, including thought about thought” (p. 32). This rejection was to be realized as the rejection of rationalism, empiricism, and positivism, all of which were popular in Western civilization at this time. Western thought was intended to apply theory for a result. Vygotsky through Marx’s methodological approach was a method of practice (1993).

A methodology of practice for Vygotsky was realized through a methodology where the object of study and the method of study were practical. Newman and Holzman (1993) contended that the word “practical” was not meant in the same sense as a synonym such as “useful” (p. 46). They asserted that Vygotsky’s practical-critical activity, was revolutionary activity, a Marxist notion where “empirically perceptible development,” (p.46) was found in authentic contexts under definite conditions. This Marxist method, a method of practice, reconfigured science and redefined method (1993). This created a strong foundation for Vygotsky’s work.

An example of an alternate and misguided practical use of the ZPD can be found in Tudge (1990), where he reported the misuse of collaboration by teachers based upon an alternate representation of the ZPD. In his inquiry Tudge countered the conventional wisdom that if you pair a higher student with a lower student, the lower student will be able to work in advance of him/herself. Tudge studied 154 children from a public school
to find out if collaboration, in relation to the ZPD, would increase a child’s learning.

According to Tudge, the “narrow interpretation of the ZPD would predict (emphasis added) that the slower partners would be the only children to improve, for only they have the opportunity for discussion with more competent partners” (p.162). Tudge continued by stating that the “broader interpretation of the ZPD...would predict (emphasis added) development for the lower partners but regression for the higher partners, for the social context in which the two types of partners are situated is quite different” (p. 162).

Tudge found a tension between competence and confidence in that there is “no guarantee that the meaning created when two peers interact will be at a higher level, even if one peer is more competent than another and is providing information within the less competent peer’s zone of proximal development” (p.169). Tudge ended by stating that it would be important to pay more attention to the process of interaction.

Mariane Hedegaard (1990) provided for an alternate use of the ZPD. In her theoretical framework, Hedegaard stated that “the teacher’s role is to direct action within school activity in a manner appropriate to the child’s present level of development, the cultural and social context, and the teacher’s theories of what central subject matter is” (p. 352-353). Hedegaard’s model served as a “psychic tool for the pupils” (p. 355). Hedegaard believed the ZPD should be applied through a method of teaching called a “double move” (p. 356). The student should move from preconceived actions to symbolization. The context for which this movement occurs should involve moving from exploratory analysis to research activity and modeling. In her study, Hedegaard used a model known as the “germ-cell model” as a tool for instruction (p. 358). Germ-cell
models create stages of development in relation to learning. Combining the two, Hedegaard believed, would create learning based upon the Vygotskian theory of the ZPD.

Another example of an alternate use of Vygotsky’s theory is located within Renaissance Learning’s claims about the STAR Reading component of Accelerated Reader. Renaissance Learning (2005) purported that “It (STAR Reading) helps you quickly determine each student’s zone of proximal development (ZPD). There’s no faster, easier way to guide students to books that will promote reading growth without causing frustration (p.1).”

Renaissance Learning claims to help determine a student’s ZPD is through a two-step test taken on the computer. The two steps involve students answering vocabulary in-context questions and questions described as authentic text questions. In each step the computer adjusts the difficulty of the items based upon the successful or unsuccessful responses of students. In doing so, the computer program determines the students’ frustration level, assigns the students to particular leveled text, and provides prescriptive actions for providing optimal assistance.

In the examples the authors performed research with teachers/students where there were multiple understandings of Vygotsky’s ZPD. Renaissance Learning created educational software within contexts where the interpretations of the ZPD were largely used as a spatial-deficit model designed to determine appropriate instruction based on a student’s potential for learning. Interpretations where a theoretical construct is used as a tool for a result are consistent with Marx and Vygotsky’s criticisms of methodology. Scribner (1990) purported, “Notions such as translating theory into practice or applying theory to practice are based on the contrary assumption” (p. 91). She continued, “They
imply, erroneously in my opinion, that grand theoretical propositions can be directly converted into methods for transforming established practices in the contingent here-and-now” (p. 91). Practitioners either intentionally or unintentionally through attempting to use theory have transformed the ZPD from a theory of practice to a theory for practice.
CHAPTER 2

LITERATURE REVIEW

The following sections will provide a review of literature regarding sociocultural theory, the Zone of Proximal Development, dynamic (ZPD) assessment, and phonemic awareness. All sections of the literature review are components to the theoretical perspective that constitutes the formulation, execution, and final articulation of this dissertation of a dynamic assessment of L2 phonemic awareness.

Sociocultural Theory

As the sociocultural approach to studying human psychological development has emerged, it has accentuated the interdependence of social and individual processes in the collaborative formation of knowledge (Lantolf, 2000). The interdependence of social and individual processes is fundamental to realizing the possibilities of a dynamic approach to assessing and providing responsive instruction of phonemic awareness to ELLs. Through dynamically assessing phonemic awareness, the role of assistance in second language literacy learning/development for primary aged ELLs can be elucidated. As with most lines of research, there are certain people or certain groups of people that are regarded as having provided the seminal works of a particular framework. Researchers of the recent past who have provided influential interpretations of what
sociocultural theory is to be considered today (Wertsch, 1985; Cole and Scribner, 1978; John-Steiner & Souberman, 1978), each have roots to two prominent figures; Lev Semyonovich Vygotsky and Mikhail Bakhtin. Although Bakhtin’s contributions have proven to be important to the development of sociocultural theory studies, the concerns of this dissertation lead me to focus only upon the line of contributions provided by Lev Vygotsky and those with whom he worked in collaboration. This is because a large part of this dissertation is focused upon Vygotsky’s Zone of Proximal Development (ZPD) and its subsequent role in the development of dynamic assessment and the provisions of developing a dynamic assessment of L2 phonemic awareness. Among others involved with Vygotsky’s work in organizing a sociocultural theory of psychology were Alexander Luria and Alexei Leont’ev. These three individuals were deemed the “Troika” (a Russian word for a team of three horses) and performed numerous research investigations and amassed many manuscripts (Rosa and Montero, 2000).

Formation of Vygotskian Psychology

Within the era of Vygotsky, there was a conflict of theoretical beliefs between the behaviorists and the Gestalt psychologists (Cole, John-Steiner, Scribner, and Souberman, 1978). The behaviorist defined psychology through the “simple building blocks of human activity (p. 4).” Whereas the Gestalt movement “rejected, in principle, the possibility of accounting for complex processes in terms of simple ones (p. 4).” Vygotsky believed human processes are much more complex and neither the behavioral nor the Gestalt psychological orientations were able to completely account for the development of higher psychological processes.
Vygotsky sought to describe and explain “higher psychological functions in terms acceptable to natural science (p. 5).” Much like the behaviorists, Vygotsky was interested in identifying “the simple building blocks of human activity (p. 4).” However, Vygotsky substituted sensations for stimulus-response bonds. Vygotsky was interested in the social interactions between individuals of differing abilities, rather than manipulating a participant’s environment and studying the resultant empirical reactions.

Whereas Vygotsky believed that psychological development was a function of the current cultural circumstance not a simple result of rigid and isolated environments, “Gestalt psychologists failed to move beyond the description of the complex phenomena to the explanation of them (p. 5).” Therefore, the development of Vygotskian psychology would entail the study of the development of higher psychological functions in relation to the interconnectedness of biological, social, cultural, and historical contingencies of individuals.

Vygotsky, Luria, and Leont’ev, working in Russia in the late nineteen-twenties and early nineteen-thirties, produced a unique approach to development and learning. Their work was based on the notion that human activity (the social) occurs in cultural contexts, mediated by symbol systems (for example, language), and best understood when they are investigated in their historical development (a genetic approach) (Lantolf, 2000). Their work was radically different from the work of Russian Gestalt and behavioral psychologists of their time (Cole, John-Steiner, Scribner, and Souberman, 1978).

Before discussing Vygotsky’s genetic approach in the next section, it is important to contrast a crucial aspect of language and thought in his developmental psychology
with that of one of his widely known contemporaries, Jean Piaget. Although it may seem obvious that children learn through interaction with caregivers, what actually accounts for learning involves not studying it in its final form (what has been learned) but in its transition (what is in the process of being learned). Theories of development presented in a step-wise progression based on taxonomic arrangements of empirical observations of learning in their final form may not account for the true origin, transition, or future trajectory of psychological development.

Jean Piaget (2001) characterized language and thought development of young children as progressing from the individual to the social. According to Piaget, after psychological maturation through developmental stages, a child’s once egocentric thought and speech moves outward to social speech (2001). However, in developing a critical response to Piaget’s claims, Vygotsky commented, “We see how different is the picture of the development of the child’s speech and thought depending on what is considered to be the starting point of such development. In our conception, the true direction of the development of thinking is not from the individual to the social, but from the social to the individual” (Kozulin, 1986, p.36). This statement is a critical feature of Vygotsky’s Genetic Law of Cultural Development (Vygotsky, 1978) for studying the internalization of higher psychological functions.

The link between the ZPD in relation to a dynamic approach to assessment can be found in determining the processes of internalization studied through Vygotsky’s Genetic Law of Cultural Development. One component of Vygotsky’s genetic approach, microgenesis, has provided a method of analysis for determining the role of assistance in
L2 literacy and language development within a sociocultural theory framework of second language research.

**Genetic Approach**

Vygotsky’s (1978) proposal of a genetic form of analysis was not rooted in the biologic endowments passed by a species from one generation to the next. Rather, genesis is to be discussed in terms of where a psychological process has originated up to its present form. Vygotsky provided the world with a revolutionary view of the development of higher psychological functions as the internalization of concepts (scientific or ordinary) from semiotically mediated social interaction within learners’ ZPD. Vygotsky’s method differed from the historical American experimental method (hypothesis, quantification, and comparison) under finite circumstances and controlled environments. Vygotsky understood that the process of higher psychological functions undergoes changes in the process of development; therefore, he believed that psychology must determine its origin and account for its course of development. His method was to “make visible processes that are ordinarily hidden beneath the surface of habitual behavior” (p.12).

Vygotsky’s genetic approach to understanding the development of higher psychological functions is as follows: “every function in the cultural development of the child appears twice, in two planes, first, the social, then the psychological, first between people as an intermental category and then within the child as a intramental category” (p.57). Vygotsky focused upon genetic analysis as a manner in which to conceptualize psychological processes through their emergence and successive development. It is through investigating how humans incorporate semiotic means that a researcher can gain
entry into understanding the psychological functions of human beings (Wertsch, 1991). Vygotsky (1981) stated, "Formerly, psychologists tried to derive social behavior from individual behavior. The first problem is to show how the individual response emerges from the forms of collective life" (p 164-165). Newman and Holzman (1993) characterized this procedure of analysis as not linear or causal but rather an integration of the humanized social, cultural, and historical context through which people live.

Wertsch (1985) articulated that development could only be understood by detailing its history. This historical analysis is an attempt to identify the development's origination in the material and social world and outlining any transformations it has taken. The genetic approach involves studying the process of development over time (historical) in relation to the socially mediated interaction from which it was situated (cultural). Through Vygotsky's genetic approach, analyzing the processes involved in the transformation of human consciousness is possible.

This genetic (historical) analysis emphasizes the sociological influence on the construction of meaning by a focus on semiotic mediation. Following Vygotsky, Wertsch (1991) described that individual psychological development is based in social sources and the developing psychological functions of humans are in a process and product relationship that involves continual interaction with others. There are 4 domains of the genetic approach, (1) phylogenetic, (2) sociocultural, (3) ontogenetic, and (4) microgenetic.

The phylogenetic domain is concerned with the integration of mediational means of human psychological development from primitive life forms to their contemporary manifestation. The sociocultural domain focuses upon how different forms of symbolic
tools of the mind (semiotic mediation) emerged within historical courses of different human cultures, as well as how certain symbolic tools became favored over others. The ontogenetic domain places an interest on how individuals within cultures internalize symbolic tools (specifically language) into their mental processes as they mature. The microgenetic domain is concerned with the psychological transformation (integration and reorganization of the thought process) and the process of development over short periods of time (Lantolf, 2000).

The latter of the four domains, microgenetic analysis, is the method of analysis for this dissertation. Specifically, microgenetic analysis traces the history of development during specific learning events. The microgenetic domain is not defined by any particular time limitations for performing observations. In Vygotsky’s thesis on the problems of method (1978) he stated,

Any psychological process, whether the development of thought or involuntary behavior, is a process undergoing changes right before one’s eyes. The development in question can be limited to only a few seconds, or even fractions of seconds. It can also last many days and even weeks (p.61).

While aspects of language learning are visible within the ontogenetic domain, as a child becomes an adult, it is Vygotsky’s insistence on analyzing process and not objects that affords researchers the ability to examine change as it is occurring.

Through Vygotsky’s genetic thesis and his subsequent espousal for change in the educational and psychological assessment practices of his time (subsequent misuse of results from static assessment) have provided the foundation necessary for the
reorganization and dialogic unification of assessment and instruction in order to understand the true potential of individuals. Therefore, a genetic analysis for uncovering the processes of internalization linking assistance with L2 literacy development is possible.

*The Zone of proximal development.* If there has been one concept from sociocultural theory that has driven recent changes to the approach of literacy and language assessment/instruction it has been Vygotsky's Zone of Proximal Development (ZPD). Sternberg and Grigorenko (2002) suggested that due to his short life, Vygotsky never fully revealed or researched the ZPD in his work. From the limited manuscripts available, it is clear that Vygotsky discussed the implications of the ZPD in his work in relation to the following: (1) matured versus maturing cognitive functions, (2) learning versus development, (3) the discrepancy between what a child can do independently versus what a child can do in collaboration with a more capable peer, and (4) the types of activities in which the ZPD is most likely to manifest (p. 38). Sternberg and Grigorenko continued by separating previous work on the ZPD into two categories: (1) studies that characterize the ZPD from a sociological-pedagogical standpoint and (2) those that aim at describing the ZPD as a means to improve the testing of a child’s mental functioning (p. 39). Initial implementations performed by Vygotsky’s colleagues and followers proved that the ZPD was not to be found within the individual or within the social context. Rather the ZPD existed only in the interaction between an individual and their social context. That is, the ZPD is created through interaction (Sternberg and Grigorenko, 2002).

Newman and Holzman (1993) purported that Vygotsky used the term ZPD to capture the dynamic, dialectical, and sociocultural nature of human learning and
development. They contended that Vygotsky was troubled by the accepted belief that development was a key determinant of learning and teaching, as suggested by Piaget. Newman and Holzman characterized Piaget’s view as too simple, too linear, too causal. To Vygotsky, learning was both the source and the product of development. Similarly, development was both the source for and the product of learning. They contended that Vygotsky viewed development and learning as inseparably intertwined, as a unity. The relationship of development and learning is dialectical, neither linear, nor causal.

Vygotsky felt that the pervasive psychological view of a person’s development level as determined by what he/she is capable of learning was too individualistic. Vygotsky (1987) stated that instruction would be “completely unnecessary if it merely utilized what had already matured in the developmental process, if it were not itself a source of development” (p. 212). The psychological development of people is inherently a social construction. Scribner (1990) stated, “The world in which we live is humanized, full of material and symbolic objects (signs, knowledge systems) that are culturally constructed, historical in origin and social in context (p. 92).”

Holzman (2002) argued that, “People construct zones, the space between whom they are and who they are becoming, that allow them to become. What is new here relative to mainstream psychology is the acceptance of, and attempt to understand, human beings as both being and becoming” (p. 3). Vygotsky (1978) suggested that instruction should not be aimed at what a child has been determined to be capable of without assistance but, proximally, at those abilities that are developing and only apparent with the assistance of others. Important to the ZPD is that through the construction of goal
directed social interaction, the capacity of people to do things in advance of themselves is noticeable.

For this dissertation, Vygotsky's revolutionary psychology and his concept of the ZPD have provided the basis for understanding how assistance functions with regard to second language and literacy learning, revealing student abilities through dynamic assessment, and providing information about L2 phonemic awareness that a static assessment can not. Furthermore, Vygotsky’s work on the concept of the ZPD provided theoretical support for developing a dynamic assessment of L2 phonemic awareness. What is relevant here is not just the metaphorical proximal space that is illuminated in joint problem solving, but also those mutually transforming components that comprise interaction. Vygotsky regarded learning/development of higher psychological functions as the on-going process of the internalization of concepts (scientific or ordinary) through semiotically mediated social interaction. To understand how the learning/development of higher psychological functions comes to be involves studying the historic line of specific internalized semiotically mediated social interactions over time through the genetic approach.

Understanding the ZPD and Assistance

Central to understanding the ZPD and assistance in second language and literacy learning are the following concepts within the Vygotskian sociocultural theory framework: (1) social interaction, (2) semiotic mediation, and (3) internalization. Wertsch (1991) characterized the social nature of learning, at its most elemental level, as starting with children's dependence on caregivers. Vygotsky recognized that the link between an individual’s development of higher psychological functions and sociocultural
practice is mediated semiotically (Lantolf and Appel, 1994). Vygotsky (1978) described
internalization as the “internal reconstruction of an external operation” (p.56). That is,
internalization does not simply involve a unilateral and unchanged transmission of
knowledge from one person to another, but is knowledge that is reconstructed through the
interaction of the individual and the social plane (transformational).

_Social Interaction and the ZPD_

Wertsch (1991) claimed that individual psychological development is based in
social sources. He described psychological development as perpetual progression, a
process and product of continual interaction with others. Vygotsky (1981) stated,
“Formerly psychologists tried to derive social behavior from individual behavior. The
first problem is to show how the individual response emerges from the forms of
collective life” (p 164-165).

Wertsch (1991) stated that regular interactions between children and older, more
experienced caregivers (i.e., the creation of ZPD) provide children with opportunities to
observe and participate in the activities of their culture. Through varied repeated
experience in supported routine and demanding situations, children become skilled
practitioners in the specific cognitive activities in their communities. Lave and Wenger
(1991) asserted that as humans engage in the process of becoming in society (learning to
read, to make pottery, etc.) they depend on others with more experience. They articulated
that initially, humans begin to participate on the periphery of a given sociocultural
practice (families, secretaries, butchers, etc.), or community of practice. Lave and
Wenger emphasized that the process of learning is more than just experiencing it. Social
relations, personal identities, and the situated nature of becoming within a given
community of practice all converge in the process of learning. This entwined sequence of social practice whereby the person increases participation and moves toward fuller participation within a given community of practice, characterizes a more robust view of the process of psychological development.

Rogoff (1990) argued that this course of social interaction in learning could be described as guided participation. In her studies, Rogoff documented children's varying forms of participation with parents and peers. She found that even when children and parents did not speak during joint participation, children were still actively engaged with the adults. This manifestation of ZPD may be characterized as one example of the many different types of guidance adults give to children as they prepare them for adult life. Rogoff's study illustrated the historical and cultural effect on individual psychological development. The effect of cooperative participation with a caregiver, creation of ZPD, is that of the less experienced youth acquiring useful strategies and crucial knowledge (1990).

Semiotic Mediation and the ZPD

Lantolf (2000) claimed the most fundamental concept of sociocultural theory, of which the ZPD is founded upon, is that the “human mind is mediated” (p. 1). For Vygotsky, the concept of a mediated mind is “that just as humans do not act directly on the physical world but rely, instead, on tools and labor activity” (p.1). He continued, “we also use symbolic tools, or signs, to mediate or regulate our relationships with others and ourselves” (p. 1). Over time, humans have created both physical and symbolic tools to act upon and regulate their relationship with the world. As these tools (physical and symbolic) are passed on to new generations, the “cultural inheritance,” or historical
accumulation of tools and tool use, is changed to fit the needs of the individual in relation to the immediate goals/needs of the society (p.2). Underlying a sociocultural theory of development and learning and the ZPD is the perspective that psychological tools serve to mediate intra- and inter-mental functions. Wertsch (1994) elaborated on semiotic mediation in understanding Vygotsky’s contributions to psychology,

It is the key in his approach to understanding how human mental functioning is tied to cultural, institutional, and historical settings since these settings shape and provide the cultural tools that are mastered by individuals to form this functioning. In this approach, the mediational means are what might be termed as the carriers of sociocultural patterns and knowledge (p. 204).

Over the course of history, humans have invented a number of mental tools for regulating their interactions with themselves and others. Vygotsky (1981) provided examples of such tools, they are as follows: “language; systems of counting; mnemonic techniques; algebraic symbols; works of art; writing; schemes, diagrams, maps and mechanical drawings; all sorts of conventional signs and so on” (p. 137). Of these mental tools, language is the most crucial. We use language to communicate with others and ourselves. Through language humans describe, inform, negate, negotiate, and pass along important aspects of our cultures to future generations. Although not the only method, it is also through the use of language that second languages are acquired.

Dependent upon the individual, in many instances for ELL students in the United States, this second language (English) can become the language in which many of their thought processes are mediated. Physical tools include a pencil, pen, computer, watch,
and calendar. Much like mental tools, physical tools assist humans in regulating complex psychological functions, such as calculating quantities, drawing sketches of architecture, and keeping track of time. Tools, both mental and physical, govern many of the most routine aspects of daily life in the United States and other parts of the world. Crucial to understanding semiotic mediation in the development of higher psychological functions is that language is the most significant of the tools for all cultures (Halliday and Hasan, 1985).

**Internalization and the ZPD**

Another key aspect of a sociocultural theory of learning and the ZPD is Vygotsky's concept of internalization. Vygotsky (1978) deemed the process of acquiring higher psychological processes as internalization. Thus, it is through the process of internalization that individuals recreate psychological tools from the interaction of historically accumulated cultural knowledge and the immediate goals to problem solve present needs. Lantolf (2000) explained that this was key to Vygotsky's Genetic Law of Development. By studying psychological development through this law of genetic development, it is in problem-solving situations where transitional forms of speech are illustrated. Vygotsky (1978) continued, "it is important to remember that egocentric speech is linked to children’s social speech by many transitional forms. The greatest change in children’s capacity to use language as a problem-solving tool takes place somewhat later in their development, when socialized speech is turned inward" (p. 27).

The process of internalization resulting from social interaction occurs in a variety of physical locations and social/societal configurations. John-Steiner and Mahn (1996) asserted that some children who are born into tribal or agricultural communities spend
many hours strapped to the back of their mothers and other caregivers. In this position, “they observe and represent the life of their community in a way that is not possible to children who are placed in cribs and playpens” (p. 193). The process of internalization is not bound to those that have the physical prerequisites to hear, see, or talk. In fact, Gindis (1995) described the emphasis Vygotsky placed on the internalization of a variety of psychological tools in approaching the study of children who had special physical or mental circumstances. “Vygotsky pointed out that our civilization has already developed different means, Braille system, sign language, lip-reading, and finger spelling to accommodate an impaired child’s unique way of acculturation through acquiring various symbol systems” (p. 79).

The Zone of Proximal Development and Second Language Acquisition

While the ZPD has gained popularity in contemporary literacy research, Vygotsky’s psychology and concept has not been as pervasive within second language acquisition research. Lantolf (2000) characterized the nature of sociocultural theory research in second language acquisition as the study of mediated mind in the places where people engage in the activities of real life, rather than distilling the study of language acquisition into components for the purpose of composing abstract models. Studying second language acquisition through a sociocultural perspective involves the explanation of human activity through observation, description, and interpretation. Through this method, the robustness of the developmental/learning process of the participants involved is more accurately represented. The areas deemed by Lantolf deemed as the tenets of a sociocultural theory approach to second language research were
(1) Vygotsky’s concept of the mediated mind, (2) Vygotsky’s genetic approach to analysis, (3) internalization and inner speech, and (4) the ZPD.

The last of these tenets will be explored in relation to second language acquisition within this section. However, there has been much debate around the concept of the ZPD within education as a whole. Kinginger (2002) argued that as Vygotsky’s concept grew in prominence it was claimed by progressive and conservative educators alike. From within each group, the ZPD’s significance has been shaped to meet the needs of the respective educational visions. Within her essay, Kinginger explained that the debate of interpretation is not just a debate over the interpretive frame, but a larger debate about “professional axiology” (p. 1). Moreover, the debate has become an argument about traditional, retrospective education focused upon transmission models of teaching/learning versus progressive, prospective education focused upon transformational models of teaching/learning.

Within this dissertation, the ZPD is a metaphor for conceptualizing the prospective, transformational qualities of studying educational phenomena. Within this perspective, psychological development is considered to be derived from the social plane (interpsychological) and transformational on the individual plane (intrapsychological) for all participants through the process of internalization. Specifically, the ZPD is created through the interaction of the teacher (adult, more capable peer) and the students, and has an effect on each, constituting a mutual transformation. The relevant second language acquisition literature that has focused on Vygotsky’s ZPD in relation to the aims of the dissertation is reviewed below.
In Aljaafreh and Lantolf's (1994) study of the ZPD, the authors propose negative feedback as a regulating function in L2 learning. The authors contextualized their study within a pervasive debate of the time: does error correction lead to L2 learning? Based upon a popular assertion of Universal Grammar (UG) researchers, L2 development was thought to follow similar processes of language development as found for L1 development. Within this claim, error correction does not have any significant positive or negative effect upon subsequent linguistic performance (Birdsong, 1989). Within their study, Aljaafreh and Lantolf utilized Vygotsky’s ZPD to analyze interaction “between error correction and the learning process as it unfolds during the dialogic activity collaboratively constructed by the learner and tutor” (p. 467).

While the answer to the question posed above is important to second language research, what is relevant to this dissertation is Aljaafreh and Lantolf’s use of internalization as the process linking the external, social plane, to the internal, individual plane. They asserted that internalization is the link between the external and internal, but cautioned that this process is not an unchanged transmission of information, but a transformational process. This study provides support for studying assistance and its function in L2 literacy development through the process of internalization, as the result of dialogic interaction.

Ohta (2000) argued that meaningful social interaction functions as a mechanism from which L2 learning transforms from the social, interpsychological plane to the individual, intrapsychological plane. Ohta determined that the effectiveness of assistance within social interaction varies and is dependant upon a multitude of factors. These
factors included the helper’s level of expertise, the nature of the task, the goals of the participants, and the developmental levels of the learners (p.76).

Similarly to Aljaafreh and Lantolf’s (1994) findings, Ohta claimed that L2 learning can be studied through the analysis of the language used within social interaction. She illustrated that this process is possible through Vygotsky’s Law of Cultural Development, specifically, the microgenetic domain. Ohta argued, “Microanalysis of learner discourse in its sequential context allows the researcher to examine this process in flight. Internalization of social interactive processes happens in the ZPD, the interactional space within which the learner is enabled to perform a task beyond his or her current level of competence” (p. 54).

Moreover, in Ohta’s (2004) presentation at the Association of Applied Linguistics Annual Conference in May 2004, she redefined the ZPD within the language learning context. Within this context she stated that the ZPD is as follows: “the distance between the actual developmental level as determined by individual linguistic production, and the level of potential development as determined through language produced collaboratively with a teacher or peer” (p.4). For Ohta, assistance provided within the ZPD is characterized as other regulation or intermental activity. As found in her study, this intermental activity is what accounted for adults being able to improve linguistic performance through the production of utterances that individually would be unobtainable.

Additionally, Ohta found that not only were adults able to improve their performance through the assistance of teachers and peers, but, she found that intertwined with social interactive learning sessions were periods of self-study. Thereby, Ohta
expanded the nature of the “social space” construct of the ZPD to include language
development through “different modalities” (p.6). Ohta found that literate adult L2
learners also developed linguistic competence through self-study interactions with written
language (text) and videos.

McCafferty’s (2002) findings in his study of the role of gesture in combination
with speech in creating ZPD are important in providing a revolutionary, mutually
transforming contextualization of the ZPD. His study suggested that the creation of the
ZPD has a transformational effect upon all participants. McCafferty indicated that
gesture plays a vital role in creating language learning opportunities through facilitating
positive interaction between the teacher and the learner. This positive environment
supported “a shared social, symbolic, physical, and mental space” (p.192).

McCafferty discussed that many times, the ZPD is realized as a mechanism from
which educators could measure a student’s independent performance in relation to an
instructional objective. He asserted that from this perspective, the ZPD is realized as a
tool for a result, and the Vygotskian concept loses its function as a co-constructed
concept because it only takes stock in what the child is capable of accomplishing
independently. Parallel to Aljaafreh and Lantolf’s (1994) conclusions, McCafferty found
that the identities of the participants (learner and teacher) make a critical difference in the
construction of the ZPD. Additionally, McCafferty suggested that the environment,
“setting, artifacts, and use of symbolic tools,” must be considered in studying cognitive
development (p.192). This is a critical feature for studying L2 learning from a tool and
result conceptualization of Vygotsky’s ZPD. For this dissertation, understanding that the
ZPD is a mutually transforming construct underlies the foundation of examining the role of assistance in L2 literacy learning from a revolutionary perspective.

Furthermore, the mutually transforming qualities of the ZPD were evidenced in DeGuerrero and Villamil's (2002) study of peer collaboration in an ESL writing class. The authors documented revision strategies developed on the interpsychological plane. DeGuerrero and Villamil captured these observable manifestations through a microgenetic analysis of the social interactions between 2 college-aged ESL students in the process of revising a written essay. They found that the “reader” provided assistance by (1) directing the “writer’s” attention, (2) making critical comments related to the “writer’s” text, (3) providing explicit instructions related to L2 grammar and writing mechanics, and (4) modeling these forms for the “writer” (p. 84). Through this process, not only did the “writer’s” knowledge transform because of the instructional support of the “reader,” but the “writer’s” disposition during the process assisted in the growth of both participants’ ZPD. Through this mutually transforming process, both students increased their forms of L2 writing. Individually, both students consolidated and reorganized their L2 knowledge of writing structure and rhetoric.

Dynamic Assessment

The review of literature on sociocultural perspectives of second language acquisition is relevant to this dissertation in that second language acquisition is inherently tied to social interaction. Additionally, it supports that the transformational nature of the ZPD, through studying the process of internalization, is best described and understood through Vygotsky’s genetic approach.
In the classroom setting, sociocultural second language acquisition researchers, Kramsch (2000) and Pavlenko and Lantolf (2000), offered the “participation metaphor.” Through the participation metaphor, conceptualizations of second language acquisition are formed whereby the teacher is proposed to have a strong influence upon designing affordances for a second language learner to become a full participant in the social practices that require the use of this second language.

As ELLs enter into schools and classrooms where their language is not the dominant language of the school or curriculum, they are not only expected to demonstrate mastery over subject matter, but over a new language. Many times, school administrators and teachers lack the tools and knowledge to determine a true understanding of the ELLs’ prior knowledge on subjects for the purpose of designing responsive instructional activities. Assessments for early reading, such as those previously mentioned for phonemic awareness in Chapter 1, are static in nature and do not afford educators an avenue for accurately defining what ELLs know in relation to what it is the ELLs are charged with learning.

Therefore, an alternative approach to capturing students’ knowledge is necessary. This approach should not determine why students cannot participate based upon a low score on an assessment; rather, it should define exactly how the students can participate based upon determining what they can do with and without support (ZPD). This alternative approach must afford educators the ability to accurately define ELLs’ prior knowledge, and in the process new understandings of the ELLs’ current abilities prospectively in relation to what is to be learned. In doing so, accommodations for success are realized as the necessary scaffolds to providing specific, responsive assistance.
aimed just beyond the students’ current levels of development. This alternative approach can prove fruitful in assisting educators in providing learning experiences that lead the ELLs’ development. This alternative approach, based on Vygotsky’s conception of the ZPD, is Dynamic Assessment.

History of Dynamic Assessment

Lidz (1987), Lidz and Elliot (2000), and Sternberg and Grigorenko (2002) have provided the most current comprehensive examinations of Dynamic Assessment (DA) in their books, *Dynamic Assessment; Dynamic Assessment: Prevailing Models and Application* and *Dynamic Testing The Nature and Measurement of Learning Potential*, respectively. Within their seminal works of DA, all authors reported two major influences credited for informing current DA research. One source of influence stems from the work of Vygotsky and the other stems from the work of Rueven Feuerstein.

While Vygotsky has been credited for espousing the need for determining the zones of actual and potential development, Feuerstein is credited for having developed a procedure for attempting to determine those zones. Feuerstein created the Learning Potential Propensity (LPP) [Formerly Learning Potential Assessment Device – LPAD] (Sternberg & Grigorenko, 2002). The work of Feuerstein, although regarded as independent in origin, is closely related to Vygotsky’s theory of assessment. Feuerstein’s seminal research involved working with displaced children from the Holocaust and then continued within Israeli society where there was rampant dissatisfaction with intelligence testing. Large groups of Israeli children were being deemed as low functioning. What Feuerstein found was that these large groups of Israeli children were not in fact low functioning; instead there were issues with the problem-solving demands placed upon
them as a part of assessment (Sternberg and Grigorenko, 2002). Whereas these two scholars were credited for being the fathers of such work, the mother of DA is claimed to be Elsa Haeussermann.

Haeussermann's work provided a third influence on DA. In 1958, Haeussermann used a procedure of graduated prompts, a step-wise progression of assistance prompts for accurately assessing the psychological capacities of young children with cerebral palsy. Her work used probes to explore occurrences of incorrect responses to tasks by children. While Haeussermann's work was limited and had minimal impact to the present formation of DA, her study provided for the initial use of prompts within an assessment procedure. Similar to Haeussermann's use of prompts was the Graduated Prompt Approach (GPA) later developed by Ann Brown (1992).


Brown's (Campione, Brown, Ferrara, & Bryant, 1984; Brown & Ferrara, 1985) GPA provided children with forms of mediating prompts on a graduated scale, moving from implicit forms of assistance to explicit forms of assistance. During the assessment procedure assistance prompts were provided until children could attain successful task accomplishment. Brown and her collaborators performed these assessments in various
content areas for use with children with and without learning difficulties. A form of Brown’s GPA was the method used in the data collection process of this dissertation.


Budoff claimed that performance on general intelligence tests were related to a children’s sociocultural environment, specifically children that come from non English-dominant homes. From his perspective, children’s abilities on general intelligence tests could be improved through training. Budoff’s Learning Potential Measurement (LPM) was created to provide a more accurate measurement. As part of the LPM procedure a static intelligence pretest was administered. Following the pretest, the test administrator provided intervention focused on aspects of task items and test-taking strategies. After the intervention period, a static post test was given two different times. The first post test was administered 1 day after intervention and then repeated 1 month after intervention. The learning potential was determined by how performance was affected by the influence of the tester as a result of intervention.

Budoff’s work was included to illustrate an important aspect related to the development of a DA of L2 phonemic segmentation. While Budoff recognized that general intelligence measures underestimated abilities of children from low socioeconomic and linguistically diverse environments, he represented the environment
via the tester as a factor in the change of the children's performance. This was a departure from a Vygotskian perspective. The difference between Budoff's orientation of DA and that of a Vygotskian DA, as used within this dissertation, is that the assistance of the tester is not a factor of the children's development, but rather a source of children's development.

DA through the work of Tzuriel and Haywood's (2001) *Interactive Assessment* was created out of the belief that making decisions about intervention for children with learning difficulties is more crucial at an early age. The authors believed that standardized psychometric approaches do not provide information about a child's potential, and when Interactive (Dynamic) Assessment results are presented alongside traditional psychological measures, practitioners have a more robust understanding of a child's cognitive functioning. As an example, Tzuriel and Haywood incorporated the use of three dimensional test materials that contained game-like features as one approach to creating testing items and assessment tasks for preschool aged children. These materials were found to increase attention and motivation for these young children.

*Dynamic Assessment and Phonemic Awareness*

Vygotsky, Feuerstein, Brown, and Tzuriel and Haywood's work with DA have provided for the basis of a DA of L2 phonemic awareness. Vygotsky's work was central to understanding assessment and human potential, while Feuerstein provided for an approach to more accurate assessment of human intelligence. Vygotsky and Feuerstein's works were the classical literature from which Brown and her colleagues created the GPA. Brown's GPA provided the foundation of Janet Spector's (1992) DA of phonemic awareness. It was Spector's initial DA of phonemic awareness that provided the
groundwork for the creation of a DA of L2 phonemic awareness. Tzuriel and Haywood’s research provided a basis for understanding the DA of young children.

In an attempt to investigate the ability of a dynamic measure of phonemic awareness to predict progress in early reading, Spector (1992) developed a graduated menu of assistance prompts. Her goal was to determine if a dynamic measure, rather than a static measure, would more precisely predict student progress in the initial stages of learning to read. Spector’s research questions were formulated on the belief that a relationship exists between phonemic awareness and early reading acquisition. She wanted to determine the effectiveness of a dynamic assessment of phonemic awareness as a predictor of early reading, in comparison to that of a static assessment of phonemic awareness.

Spector found that DA procedures of phonemic awareness were superior to those of a static nature. Spector articulated, “The results of the present study support the hypothesis that dynamic assessment enhances the predictive utility of a measure of phonemic awareness” (p. 14). Spector (1992) continued by commenting that her DA of phoneme segmentation was a superior predictor of reading progress than three other static measures of phonemic awareness (phoneme segmentation, phoneme deletion, and invented spelling). Moreover, Spector found that the DA served as a “better predictor of word recognition than the PPVT-R (Peabody Picture Vocabulary Test-Revised), a measure that is often used to estimate verbal ability” (p. 14). Within her study, two assessments of phonemic awareness were administered to students (Fall and Spring). Spector reported that the dynamic measure accounted for more variance in the Spring assessment of phonemic awareness than any of the Fall phonemic awareness measures.
Spector concluded, “the applicability of the principles of dynamic assessment to the measurement of phonemic awareness adds to the ever-growing corpus of research on the relationship between phonemic awareness and reading acquisition” (p.14).

While the findings of Spector's study did demonstrate the superiority of DA procedures in relation to static measurements, of particular interest was her development of a graduated menu of assistance prompts. Spector's assistance prompts for phonemic segmenting tasks were used for the Yopp-Singer Test of Phoneme Segmentation (a static assessment of phonemic segmentation). The assistance prompts used for Spector's DA of phonemic segmentation included the following:

Prompt 1: pronouncing the target word slowly;
Prompt 2: asking the child to identify the first sound of the word;
Prompt 3: cueing the child with the first sound;
Prompt 4: cueing the child with the number of sounds in the word;
Prompt 5: modeling segmentation using chips placed in squares to represent the number of sounds in the word;
Prompt 6: modeling segmentation as above, but working hand over hand with the child while pronouncing the segments;
Prompt 7: repeat Prompt 6.

Spector's prompts served as the basis for developing a system of graduated prompts for the DA of L2 phonemic awareness used in this dissertation. Modifications were made to specific prompts and will be discussed in the methods section of the dissertation (see Chapter 3).
In an attempt to better inform the study of second language acquisition, Lantolf and Poehner (2003) provided an evaluation of the relevance of a dynamic approach to assessing second language abilities. In Lantolf and Poehner’s review of DA they described that the fundamental difference between static assessment and DA is the assessment approach’s theoretical orientation regarding future development. Lantolf and Poehner based this thesis on Valsiner’s (2001) characterization of future development from the varying perspectives of three different models of developmental psychology: atemporal, past-to-present, and present-to-future.

Future development is not considered in an atemporal model; instead, humans are thought to mature based upon specific genetic or environmental causes. Therefore, assessments geared toward predicting a student’s future development in L2 phonemic awareness from an atemporal orientation would not exist. It seems that subsequent development of a student would be described as physical maturation particularly of the brain or maturation in light of specific experiences from environmental stimuli. Future development in a past-to-present model is articulated as a passage through various stages. That is, the role of previous psychological development is determined to account for present psychological functioning. Thus, passing from one stage to the next is resolved when it becomes the person’s present functioning (Poehner and Lantolf, 2003). To reconcile the future development of L2 phonemic awareness in a past-to-present model, the student would be required to pass from one stage to another stage. Future development in a present-to-future model can be described as a concentration on emerging psychological development. That is, psychological functioning is largely
determined by those mediational means or affordances available to a person in the present (Poehner and Lantolf, 2003).

Congruent with the review of Lantolf and Poehner (2003), is Lidz and Elliot’s (2002) characterization of dynamic assessment. Although Lidz and Elliot’s (2002) work did not explicitly involve second language acquisition, their rejection of traditional psychometric approaches supported a case for a dynamic approach to assessing ELLs. Lidz and Elliot’s (2002) rejection of traditional psychometric approaches supported an argument for dynamically assessing ELLs because their rejection is founded on the basis of “cultural insensitivity, lack of relationship to intervention, and simplistic and atheoretical notions of cognitive functioning” (p.5). Understanding cultural backgrounds and linguistic difference in relation to cognition was a part of the foundation of Vygotsky’s thesis discussed earlier. Whereas through a static approach, language and culture are disregarded within the assessment procedures, linguistic and cultural issues are brought to the forefront through DA. Lidz and Elliot (2002) expanded their discussion by enumerating the characteristics that make an assessment distinctively dynamic: (1) the assessment is interactive, (2) the intervention is embedded within the procedure, and (3) the purpose is to generate information about the responsiveness of the learner to intervention. The following studies of DA will provide examples for how DAs have been used within second language acquisition research. Additionally, the studies outline how assistance functioned in respect to language learners’ potential development and simultaneously informed the adult/more capable peer for providing responsive instructional support and courses of study.
Guthke, Heinrich, and Caruso (1986) formulated an extension of the Learntest, a dynamic procedure for providing assistance (implicit to explicit) for successfully completing assessment tasks. The test was used for international students enrolling into German universities. The authors integrated Learntest procedures within the Modern Language Assessment, a static language assessment of listening, speaking, reading, and writing for meeting university entry requirements for students studying abroad. Within this dynamic procedure, the examiners presented challenges for examinees in uncovering the rules of an invented language. Examinees were presented geometric figures along with words from an invented language for developing associations between geometric figures and words. Initially the examinees were asked to memorize the associations and were later asked to determine the meanings of a sequence of symbols. As examinees experienced difficulties, the examiners provided a prompt. To determine the differences in performance among the examinees, the Learntest procedures included measuring the amount of time necessary for the examinees to complete the test and the total number of prompts required to complete each item. Through this dynamic procedure, the effect of assistance in relation to learning was made possible. Unlike the static procedure of the MLA, the DA was able to account for learners’ potential ability.

Kozulin and Garb (2002) reported on a focus group from an English as a Foreign Language (EFL) study of at-risk immigrant students in Israel. The study focused on reading comprehension. Within this study, Kozulin and Garb developed an instructional curriculum aimed at assisting immigrant students with strategies for improving their reading comprehension ability in the foreign language (English). Their instructional program included a dynamic assessment component aimed at accessing meaning.
regardless of vocabulary or semantic features. Kozulin and Garb’s procedures were as follows (p. 119-120):

1. Test: ask students to read a passage in English and answer comprehension questions about the passage
2. Intervention Part I: review test, strategy instruction, provide an information page, include hints to vocabulary, semantics, and verb usage
3. Intervention Part II: practice passages and questions
4. Retest

Based upon the results of the pretest and the posttest after intervention, students were given a Learning Potential Score (LPS). Based upon the individual scores, learners were assigned to groups accordingly with subsequent instructional recommendations.

Poehner (2005) also investigated the use of DA within the context of second language learning. Poehner’s effort included the following: derive insights into the abilities of second language learners obtained through DA, support learners’ abilities through DA, and determine the utility of a DA in relation to providing individualized instruction. In his study, six advanced undergraduate second language learners of French were asked to construct narratives in French based upon their viewing of short video clips. His procedure included analyzing the differences between an independently constructed narrative and a narrative constructed in cooperation with an examiner. Following the results of this initial assessment, a 6 week enrichment program was devised. During the enrichment program the participants met with a tutor for individualized assistance. Poehner characterized the goal of these sessions “to address problems that were identified during the assessments and to do so in a manner that took
account of their interactions with the examiner during DA” (p. iv). This is important because many times language assessments are used to capture products of learning for a final grade. Poehner’s approach was to understand the process of learning for use in future intervention lessons.

Similarly to a portion of Brown’s GPA, Poehner had participants work on tasks within the same domain as originally tested on, but in a different context to determine the transcendence of their new development. Transcendence in this context is the comparison of a given participant’s performance on one task to a completely different task. Poehner reported, “Following enrichment, the nature and extent of their [participants] development was explored through repetitions of the original assessments as well as variations of these tasks” (p. iv). Poehner’s findings indicated that DA is an appropriate method in not only locating a level for providing relevant instruction, but, “an effective means of understanding learners’ abilities and helping them to overcome linguistic problems” (p. iv).

Toward a Dynamic Assessment of L2 Phonemic Awareness

Upon embarking on delineating a review of literature regarding the importance of phonemic awareness in the early reading success of all students, this section aims at explicating the DA of L2 phonemic awareness for primary-aged ELL students. This DA of L2 phonemic awareness will be instrumental for more precisely identifying where to enter into phonemic awareness instruction with young ELL students. As previously discussed in Chapter 1, current phonemic awareness assessments are comprised of static procedures. While the results obtained from static assessments of phonemic awareness
may be appropriate for measuring matured psychological processes, static procedures do not afford opportunities for locating students’ proximal abilities. In order to measure a student’s maturing psychological processes an assessment comprised of dynamic procedures must be used. To this end, in order to better understand how assistance functions in L2 literacy development, specifically L2 phonemic awareness, a DA of L2 phonemic awareness is warranted.

Through the ZPD, new relationships between learners; learners and themselves; and learners and their environment are constructed. Through the collaborative construction and use of mediational devices within L2 phonemic awareness assessment, a learner is capable of revealing demonstrations of L2 phonemic awareness that he or she is not capable of before. Additionally, it is through the assistance of the tester, the materials, the gestures, and the language used that the source of subsequent development originates. Drawing from the research of Brown and her GPA through Spector (1992), Tzuriel and Haywood (2001), and related dynamic assessment literature from the area of second language acquisition, the foundation for a DA of L2 phonemic awareness has been provided.

In the following section, I have provided a review of the literature on phonemic awareness. Within this review, I highlight the importance of phonemic awareness in determining future success in early reading, the relevance of phonemic awareness interventions in preparing students for early reading, phonemic awareness and child second language acquisition, and phonemic awareness intervention for ELLs.
Phonemic Awareness

Over the past decade, arguably the most salient factor in initial reading success has been determined to be phonemic awareness (Adams, 1990; Ehri, 1979; Liberman & Shankweiler, 1985; and Wagner & Torgesen, 1987). While phonemic awareness has been found to be an important skill in the process of learning to read, it is not a necessary component. Phonemic awareness is a term used to label the ability to perceive a sequence of sounds from spoken words (Lewkowicz, 1980). The abilities to be demonstrated for a person to be considered phonemically aware have been captured with various assessments designed to measure specific types of phonemic awareness. These types of phonemic awareness are as follows: (1) Segmentation (Yopp, 1998 and Goldstein, 1976), (2) Deletion (Rosner & Simon, 1971), (3) Isolation (Williams, 1980) and (4) Invented spelling (Morris & Perney, 1984). The most significant predictor among these types of phonemic awareness in relation to determining future reading success, as reported by the National Child Health and Human Development, is segmentation.

Troia (1999) reported “that training phonemic segmentation skills results in statistically significant gains in phonological awareness. In addition, children taught to blend or segment sounds have been found to perform significantly better on word-attack tasks” (p. 28). Word-attack tasks are lists of pseudowords that follow specific English spelling patterns for determining student decoding abilities. Determining students’ fluency to decode nonsense words, suggests that these students are capable of reading unfamiliar words in connected texts.
Phonemic Awareness and Future Reading Success

Awareness of speech as a sequence of phonemes does not occur spontaneously (Morais, Cary, Alegria, and Berterlson, 1979). The ability to put attention to such a discrete nuance of a language involves a metaknowledge or a metalinguistic awareness. Farrar, Ashwell, and Maag (2004) defined metalinguistic awareness as “the ability to reflect or think about the different forms of language separate from their context or meaning” (p.2). Metalinguistic awareness encompasses a number of components including phonological awareness (phonemic awareness included) (Blachman, 2000), grammatical awareness (de Villiers & de Villiers, 1972), and semantic awareness (Doherty & Perner, 1998). Based upon Troia’s review of phonological awareness and the National Reading Panel Report, phonemic awareness can be regarded as a metalinguistic skill that has been determined to be critical for reading success.

Reviews of phonemic awareness literature (Liberman & Shankweiler, 1985; Stanovich, 1985, 1986, 1988; Wagner, 1988; Adams 1990; Hurford, Darrow, Edwards, Howerton, Mote, Schaaf, & Coffey, 1993; Mann, 1993; and Smith, Simmons, & Kameenui, 1995) have provided support for claims that good readers demonstrate high levels of phonological awareness (of which phonemic awareness is a subset). Research spanning more than two decades has demonstrated the importance of phonological awareness and its relation to learning to read because findings (those listed above) have indicated that students who enter school with conscious awareness of the phonological representations of words and the ability to manipulate these sounds in words have the greatest success in learning to read.
Phonemic Awareness Intervention

Based upon the previous argument of the importance of phonemic awareness and early reading success, many researchers believe that children who have limited linguistic experiences and an underdeveloped awareness of phonological representations of words and sounds in speech are in jeopardy of developing reading difficulties in elementary school (Blachman, 1991; Lundberg, Frost, & Wagner, & Rashotte, 1994). Interventions designed to increase the phonological awareness of children have proven to increase their reading skills as kindergartners, first-, and second-graders (Byrne & Fielding-Barnsley, 1991, 1993, and 1995). The size of the group being instructed also has been found to have a significant role in determining the effectiveness of phonemic awareness interventions, “When children were taught phonemic awareness in small groups, their learning was greater than when they were taught individually or in classrooms” (NICHD, 2000, p. 2-4). Moreover, there is agreement among researchers regarding the step wise development of phonological awareness (Castle, 1999; Chard & Dickson, 1999; and Nicholson, 1999) as described in the following:

1. children recognize that words are distinctly separated from each other
2. children recognize that some words rhyme,
3. children begin to hear divisible syllables of which words are composed,
4. children are more able to distinguish onsets and rimes, and
5. children are capable of distinguishing individual phonemes.

Founded upon this knowledge, specific lesson sequences have been devised for teaching students phonological awareness (including phonemic awareness) within basal reading series and supplemental resources (see Adams, Foorman, Lundberg, & Beeler,
1998; Blachman, Ball, & Tangel, 2000; and Opitz, 2000). Although these resources are based upon the development of phonological awareness, they consist of general strategies and are not focused on devising lesson sequences aimed at leading individual student’s development and creating ZPD. Additionally, resources such as these are not specifically geared toward providing L2 phonological awareness instruction to ELLs.

**Phonemic Awareness and Child Second Language Acquisition**

In determining the role of phonological awareness, Durgunoglu, Nagy, and Hancin-Bhatt (1993) found for 1st grade Spanish-speaking ELLs that native language phonological awareness skills positively correlated with native language and target language word recognition. They also found that neither native language nor target language oral proficiency measurements correlated with word recognition. Therefore, the authors argued that it was not general verbal skill but the students’ phonological awareness that was significant to predicting the students’ success in reading.

Stuart-Smith and Martin (1997), studying 7 year old native Punjabi speakers that spoke English as a second language, found there was a strong relationship between target language phonological awareness skills and target language literacy success. Consequently, for Punjabi/English they did not find strong correlations between native language phonological awareness and target language literacy success. Although this represented a contradiction of the findings of Durgunoglu, et. al. (1993), the authors maintained that phonological awareness allows a child to reflect upon the components of a language and that this metalinguistic ability, and not the specific phonological awareness knowledge, is what transfers to produce reading success in an L2.
Phonemic Awareness Intervention and ELLs

Previous studies of phonemic awareness interventions exclusively with ELL populations in the United States are very limited. In fact, only one study was available. Similarly to the argument in Chapter 1, this finding further supports the case that the content of the NRP document is good for native English speaking populations, but is being erroneously applied in schools and classrooms with large ELL populations.

Roberts and Caro, (1997) researched the degree at which low socioeconomic status kindergarten ELL students could benefit from phonemic awareness instruction. There were 27 participants included within the treatment group of their study. Of the 27 participants, 16 were native speakers of Hmong and 11 were native speakers of English. The comparison class in this study consisted of 29 students, of which 17 were native speakers of Hmong and 12 were native speakers of English. Participants within the intervention (treatment) class received explicit lessons on phonemic awareness and alphabetic principle for 20 minutes, four to five times a week for eight weeks. During this time, the comparison class received literacy instruction that included alphabet songs or chants.

Roberts and Caro (1997) found that explicit instruction in phonemic awareness assisted all of those in the experimental group (ELLS included) to score higher than those students in the control group on phonemic awareness tasks. Even very limited English-speaking students outscored their monolingual English-speaking counter parts in the comparison class. Their study provided an initial understanding as to what could be expected from a phonemic awareness intervention for ELLs. The components of the intervention lessons used for this dissertation will be discussed in Chapter 3. Roberts and
Caro's (1997) study proved to be critical in proceeding with the development of a DA of L2 phonemic awareness and the subsequent phonemic awareness intervention lessons with ELLs.
CHAPTER 3

METHODS

Pilot Study

This dissertation is in part based upon what was learned from a pilot study conducted in 2002. The pilot study was organized and designed to determine if the type and frequency of assistance functioned into subsequent improved language performance during L2 phonemic awareness lessons for 5 Spanish-speaking ELLs from an urban area of the Southwest United States. The students involved were 1st grade through 3rd grade students of limited English-speaking abilities and all were recognized as having difficulty with learning to read.

Pilot Study: Impetus

The impetus for the initial study was based upon a recognizable disconnect between reading interventions designed specifically for English-speaking populations and their use with ELLs. The district in which the students were located had approved reading interventions for both primary and intermediate grades that were based in part of Reading Recovery (see Shanahan & Barr, 1995). The principle issue surrounding the use of these types of interventions was that these interventions were not designed to accommodate those difficulties unique to ELLs.
With the implementation of No Child Left Behind, in the initial understandings of the publication of the National Reading Panel’s (NRP) report, and the research provisions of funding available to districts through Reading First grants, the district began to reorganize their framework for literacy instruction and reading intervention projects. This district’s previous framework for literacy instruction did within itself make provisions for providing small group differentiated instruction to accommodate varying levels of reading proficiency within a balanced literacy design. However, what went overlooked was how to incorporate this framework for students that did not speak the English language with a great deal of facility. The foci became reorganizing the literacy framework and interventions for native English speakers.

The new literacy framework was reorganized around the areas of literacy research described in the NRP report. In efforts to re-evaluate their intervention projects based upon the research report; they reorganized the major components within their primary intervention project focusing on improving students’ ability to decode. The intermediate intervention project was eventually eliminated because the intervention was not connected to those areas listed in the NRP report and was largely designed around improving students’ comprehension regardless if the students’ reading difficulties were rooted in other skill areas. The lesson components of both intervention projects were similar to the district’s previous balanced literacy framework for instruction.

Pilot Study: Scaffolded Language and Literacy Experience

As the district began to refresh their stance on reading instruction, the importance of decoding, phonics, and phonemic awareness for primary-aged students began to emerge. Recognizing what was about to be disseminated district-wide, I decided to work
in collaboration with a primary literacy project facilitator (my wife) with the district's curriculum and professional development department. We collaborated on evaluating current reading interventions available from across the United States. Recognizing that there was a lack of reading interventions specifically designed for ELL emergent and beginning readers, we began to examine lesson components that could be used for designing an intervention based upon the results of the NRP report, what would be expected of teachers, and those practices appropriate for primary-aged ELLs.

The result of our collaboration was entitled the Scaffolded Language and Literacy Experience (Roybal-Benson and Roybal-Benson, 2001). Initially there were four components to the lesson framework (See Figure 3.1, next page). Those components were as follows: Oral Language Development, Alphabet Knowledge, Phonemic Awareness, and Response to Literature. These components incorporated Adams' (1990) suggestions for early literacy instruction. Furthermore an oral language component was added to assist ELLs with developing phonological representations of unfamiliar words and vocabulary.

Before the students began working within this intervention framework, I used a phonemic awareness assessment of initial phoneme identification and initial phoneme substitution as a preassessment. After 8 weeks of instruction based upon the Scaffolded Language and Literacy Experience I post-tested and compared the results. Although I used a pre-/post-test of phonemic awareness, an increase in scores was not the sole focus. I concentrated my data collection and analysis efforts upon the types and frequencies of assistance that proved to play a vital role in the future phonemic awareness abilities the students demonstrated over time.
Figure 3.1 Pilot Study: Scaffolded Language and Literacy Experience

<table>
<thead>
<tr>
<th>Scaffolded Language and Literacy Experience Lesson Plan Framework</th>
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<tbody>
<tr>
<td><strong>Oral Language Development</strong></td>
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<tr>
<td>• Oral Language</td>
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<tr>
<td>• Vocabulary</td>
</tr>
<tr>
<td>• Phonological Awareness</td>
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<tr>
<td><strong>Materials:</strong> Enlarged predictable, repetitive text:</td>
</tr>
<tr>
<td>• Big books, posters, charts, pocket charts, overheads, CDs/tapes</td>
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<tr>
<td><strong>Day 1:</strong> Introduction (Realia, Connections, Develop Shared Experience)</td>
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<tr>
<td><strong>Day 2:</strong> Modeled Reading (Involve/Empower)</td>
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<td><strong>Day 3:</strong> Repeated Reading &amp; Skill</td>
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<tr>
<td><strong>Day 4:</strong> Repeated Reading &amp; Skill</td>
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<tr>
<td><strong>Day 5:</strong> Final Reading &amp; Extension</td>
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<tr>
<td><strong>5-7 min.</strong></td>
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<tr>
<td><strong>Alphabet Knowledge</strong></td>
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<tr>
<td><strong>3 minutes</strong></td>
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<tr>
<td>Sing, chant ABCs and sounds as a whole</td>
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<td>Letter games</td>
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<tr>
<td><strong>Phonemic Awareness</strong></td>
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<tr>
<td><strong>10 minutes</strong></td>
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<tr>
<td>Segmentation/Blending/Identification/Substitution/Manipulation</td>
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<tr>
<td>Sentence</td>
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<tr>
<td>Syllable</td>
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<tr>
<td>Onset/Rime</td>
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<tr>
<td>Phoneme</td>
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<tr>
<td><strong>Response to Literature or Learning</strong></td>
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<tr>
<td><strong>Dependent upon student levels of actual and potential abilities:</strong></td>
</tr>
<tr>
<td><strong>Materials:</strong> Chart paper, Markers, Response notebooks</td>
</tr>
<tr>
<td><strong>5 minutes</strong></td>
</tr>
<tr>
<td>Modeled Writing</td>
</tr>
<tr>
<td>Shared Writing</td>
</tr>
<tr>
<td>Interactive Writing</td>
</tr>
<tr>
<td>Language Experience Approach</td>
</tr>
<tr>
<td>Guided Writing</td>
</tr>
<tr>
<td>Independent Writing</td>
</tr>
</tbody>
</table>

**Pilot Study: Data Analysis, Results, and Discussion**

I will report a limited review of the data analysis and results of the pilot study in relation to the formulation of my dissertation questions. Each of the 8 sessions was video and audio recorded. During these eight weeks, I made four visits to the site. All eight sessions from the pilot study went into the final transcription. After reviewing the transcriptions, categories were developed and interactions were coded. I made notes about what was viewed which resulted in reflective questions that were later employed as...
interview questions with the students. However, questioning young children about their metacognition in relation to discrete L2 linguistic performance (phonemic awareness) did not provide clarification.

Initially, the pilot study involved observing speech articulations, gestures, and other communicative forms that the teacher used to assist students in developing L2 phonemic awareness. Unique or seemingly novel interactions of the students working with the teacher and fellow students were analyzed for the same categories.

It was my goal to demonstrate how assistance functioned in student L2 performance in phonemic awareness activities. I based the articulation of the findings upon the illumination of the sociocultural concepts of semiotic mediation, internalization, and individual psychological transformation as being derived from social sources through the revolutionary ZPD.

Although a preassessment was employed, the results were not congruent with what was found in watching the teacher work with the students. While the preassessment provided some information, I realized that the students' potential for learning phonemes was much greater than the pre-assessment demonstrated. Post-assessment data indicated that the students did learn to become more aware of English phonemes. However, this was primarily evident as students worked in collaboration with the teacher using taped sounds, realia, and manipulative objects.

Upon viewing the interactions of the students and the teachers, I outlined evidence of assistance. Assistance for students came in the areas of encouragement, extension, validation, negation, and other (e.g., convergence of two assistance areas or
predictability of lesson plan). Admittedly limited, these areas were then further divided into verbal and nonverbal categories (see Figure 3.2).

**Figure 3.2 Pilot Study: Assistance Areas and Categories**

<table>
<thead>
<tr>
<th>Assistance Type</th>
<th>Verbal</th>
<th>Non-Verbal</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouragement</td>
<td>44</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>Extension</td>
<td>17</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Validation</td>
<td>26</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Negation</td>
<td>13</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Other</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

During these 8 sessions, verbal encouragement such as “let’s try that again;” “will you help (a student’s name);” and “I like what (a student’s name) said, but let’s see what happens when,” proved to be the assistance type that the teacher employed frequently. The assistance category, *other*, included the teacher’s use of a familiar song to bridge into using the tune to carry out an instructional objective related to identifying and isolating initial phonemes. The teacher also provided *other* assistance through the use of a consistent lesson plan format throughout the 8 weeks. The teacher created this assistance by developing context through picture books for teaching vocabulary to assist students in making sense of the lesson objectives.
Many times assistance did not manifest itself in solely verbal or solely nonverbal realms. For that case, a third division of the assistance types, *combined*, was created to capture assistance that involved *verbal* and *nonverbal* cues (validation, negation, etc.). For an example of combined assistance see Figure 3.3. The interaction illustrated in Figure 3.3 was selected, as it contained instances of various assistance categories and types within a very brief time frame.

Figure 3.3 Pilot Study: Combined Assistance

<table>
<thead>
<tr>
<th>Dialogue</th>
<th>Assistance (and type)</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>T: I want you to tell me the first sound in the word mop.</td>
<td>Provided a picture card of mop (other: non verbal)</td>
<td>Teacher was orally asking a student to identify a phoneme.</td>
</tr>
<tr>
<td>T: /mmm/ /ooo/ /p/</td>
<td>slowing the sounds (extension: verbal)</td>
<td></td>
</tr>
<tr>
<td>S: /mmm/</td>
<td>uttered one word and held up hand for a “high five” (validation: combined)</td>
<td></td>
</tr>
<tr>
<td>T: Yes!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Practicing Vygotsky's (1978) Genetic Law of Development for examining how assistance positively modified the students' L2 linguistic performance, I began to look at microgenetic evidence of change in the students’ ability to demonstrate phonemic awareness over the 8 weeks. In order to determine the origin of the development, I examined the instructional discourses in-action to capture the students’ development in-the-making. In alignment with the ZPD, the goal was to illustrate how semiotic mediation, internalization, and the learning trajectory of phonemic awareness had begun
within the social plane and its' inward turn to the individual plane. What was once an other-regulated behavior (identifying L2 phonemes with assistance) was now in the process of becoming self-regulated behavior (identifying L2 phonemes without assistance). Understanding that self-regulation of L2 phonemic awareness may not occur in one session or the complete 8 sessions, I focused on examples of particular students’ development in relation to the types and frequencies of assistance over time.

Over 6 weeks of time, teacher-to-student and student-to-student assistance (in varying manifestations) proved to modify the students’ L2 linguistic performance. Beginning at episode # 1, the second week of phonemic awareness instruction, a large part of one student’s (A) participation was mediated by another student (B) in the group. In order to become a full participant in the lesson, Student A relied on Student B for interpretation in order to respond to any teacher prompts. By the 6th week of phonemic awareness instruction, Student A had begun to respond to teacher prompts and move closer to full participation within the lessons.

*From Pilot Study to Dissertation*

The breadth, scope, and impact of the pilot study had a major influence upon the dissertation. The processes of analyzing data from the pilot study led me to consider the ZPD and internalization through DA. DA served as an approach for further uncovering the role of assistance as it functioned into L2 linguistic performance in phonemic awareness activities.

Additionally, the pilot study assisted me in rethinking the role of assistance during teaching/assessment tasks. It also led me to reconstruct the assessment procedures. During the pilot study, I used static assessment procedures. Through the implementation
of DA, I employed a menu of graduated assistance prompts. As I transcribed various segments of the 8 tutorial sessions in the pilot study and began to categorize the various manifestations of assistance (see Figure 3.2), I began to question why some forms of assistance were more fruitful than others in eliciting correct responses from the ELLs. The pilot study had no affordances for studying each type of assistance-in-the-use and how they changed L2 literacy and language development. For the dissertation, I felt that I needed to incorporate Spector’s (1992) Graduated Prompt Approach to dynamically assess ELLs’ L2 phonemic awareness abilities (see Chapter 2). Therefore, through the pilot study, and congruent with a Vygotskian approach, I began to conceptualize assistance in assessment/teaching tasks as a way of uncovering those emerging abilities. I felt that the DA procedures would have a profound impact upon the way I understood the children’s actual and potential abilities in L2 phonemic awareness tasks. For the dissertation, I felt I needed to observe assistance-in-the-use as a way of prospectively determining differences between what primary-aged ELLs could do without assistance and what they could accomplish in collaboration. I felt that this approach would serve as a method for determining exactly what types of assistance were needed for providing specific, responsive, and productive scaffolding rather than simply providing general strategies for helping students.
Dissertation Study

Research Questions

Enlightened by the pilot study, I proceeded forward in the articulation of the methods chapter of this study anchored by the foundation of research aforementioned within the literature review (Chapter 2). This dissertation was an effort to provide L2 literacy research with initial findings of a DA of L2 phonemic awareness. As previously stated in Chapter 1, the majority of research underlying the importance of phonemic awareness in early reading has been through quantitative methods. The juxtaposition of a qualitative inquiry into phonemic awareness from a sociocultural theory perspective offers an avenue from which to attend to the following educational axiology: (1) transmission/transformational models of education, (2) static/dynamic assessment practices (3) generalized/responsive pedagogy, and (3) dualistic/unification of assessment and instruction. The study was guided by the following research questions:

(1) How does assistance function in the language and literacy development of primary-aged ELLs?

(2) What information does a dynamic assessment of L2 phonemic awareness provide that a static assessment does not?

Participants

7 ELL participants were selected from 1st grade student rosters and were enrolled in a year-round elementary school in an urban school district within the Western United States. The students were selected because they were in 1st grade, were native speakers of a language other than English, limited in their abilities to speak the English language, limited in their abilities to read/write in English, in school at the time of the study, and
inclusion was based upon the provision of parental consent and student assent. I have used pseudonyms to maintain the students’ privacy.

Initially, the group included 2 females and five males (Enrique, Thalia, Paulina, Pedro, Juan, Alejandro, and Carlos). During the second week of the study, two participants (Paulina and Alejandro) were unable to continue because of time conflicts between the class’ daily schedule and the time of the intervention lessons. Therefore, 5 participants remained and each is included in the final articulation of this study.

Enrique, participant. Enrique was 7 years old. His score of 69 on the Language Assessment Scales (de Avila and Duncan, 1990) suggested that he was limited in his ability to speak English. I feel that within certain linguistic domains (school, feelings, recess, food, etc.) he was very intelligible and seemed to comprehend spoken English fairly well. Enrique was born in the United States and his parents were from Sonora, Mexico. At the time of the study, both of Enrique’s parents were non English-speakers.

Thalia, participant. Thalia was 7 years old. Her score of 34 on the Language Assessment Scales (de Avila and Duncan, 1990) suggested that she was very limited in her ability to speak English. Thalia was born in Tijuana, Baja California Norte, Mexico. Both of Thalia’s parents were limited English-speaking. The parents mentioned that they had only been in the United States for less than two years.

Pedro, participant. Pedro was 6 years old. His score of 22 on the Language Assessment Scales (de Avila and Duncan, 1990) suggested that he was very limited in his ability to speak English. This seemed to be a very accurate characterization. Many times I had to speak in Spanish for us to communicate effectively. Pedro was born in the United States, his mother was from Chihuahua, Mexico; and his father was from Nuevo
Leon, Mexico. Two nights a week, Pedro's mom attended English as a Second Language class provided by the local community college.

Juan, participant. Juan was 6 year old. His score of 0 on the Language Assessment Scales (de Avila and Duncan, 1990) suggested that he was extremely limited in his ability to speak English. Juan was born in Mexico City and moved to the United States at a very early age. Juan's mother was non English-speaking.

Carlos, participant. Carlos was 7 year old. His score of 34 on the Language Assessment Scales (de Avila and Duncan, 1990) suggested that he was very limited in his ability to speak English. Carlos learned an indigenous language of Oaxaca, Mexico before learning to speak Spanish. He learned Spanish as a second language in Mexico and was learning to speak English as a second language. Carlos was born in Oaxaca, Mexico, and his parents were from Oaxaca, Mexico, as well. Both of Carlos' parents were very proficient in speaking Spanish, but are both non English-speakers.

Setting: Lakeview Elementary

The participants were selected from Lakeview Elementary School. Identifying the site included selecting a group of schools within the school district that had an ELL population of more than 33% (District Records, 2005). The final selection of the school was made based upon its location within a geographic region of an urban area where there have been growing concentrations of ELLs of various linguistic heritages (School Records, 2005). At the time of the study, Lakeview Elementary had an overall student population of 980 students. As of January 2004, 818 of the students in Lakeview Elementary School qualified for Free and Reduced Lunch; nearly 61% of the students were identified as Hispanic; and 50% were identified as ELLs (School Records, 2005).
Of the adults employed at Lakeview Elementary to work directly with students, 75 were licensed teachers and were 9 instructional aides. Other licensed employees at the school included the principal and 2 vice principals. There were other non-licensed support staff employees, such as 3 custodians, cafeteria manager, 3 food service employees, an office administrator, a school clerk, and an office assistant.

The purpose of the academic program at Lakeview Elementary was captured in its Mission Statement: “The Community of Lakeview Elementary School works in unity to promote academic excellence, mutual respect, and an appreciation of cultural diversity.” Despite the extreme efforts of the administration, teachers, and parents; the strong mission statement and explication of its commitment to academic excellence, the reality was that Lakeview Elementary had not demonstrated Adequate Yearly Progress per guidelines established by NCLB and the State’s Department of Education. Just 18% of the students in grades 3 and 5 were considered at or above standards in reading, 13% were considered at or above standards in writing, and 22% at or above standards in mathematics.

Procedures

Similar to the pilot study, the dissertation was a qualitative inquiry (Denzin and Lincoln, 2003 & Richards, 2003). The procedures of this sociocultural, ethnographic study involved the investigation of a small group of students in their natural settings, used quantification for a specific purpose (Richards, 2003), and employed participant observation (Spradley, 1980).

As the pilot study did not adequately provide an affordance for studying how assistance functioned into L2 literacy and language development, the dissertation
included specific assistance through the menu of graduated assistance prompts (see Chapter 2). Through a microgenetic form of analysis (Vygotsky, 1978) the study focused on the emergence of student L2 phonemic awareness abilities. Furthermore, the study focused on how these abilities became present through interaction, as the process and product of assistance included within the procedures of the DA of L2 phonemic awareness. The limitations and abilities of students were revealed through interaction with each other and the teacher.

**Data Sources**

Data sources used within this dissertation included the following: (1) examination of school records, (2) written transcriptions of pre/post assessment sessions and intervention lessons, and (3) analysis of the static pre- and post-test and pre-dynamic assessments. The following subsections will explain (1) how the district and the school records were used for identifying a possible school and students, (2) the instruments used within data collection, and (3) the nature and sequence of the intervention lessons.

*District and school records.* In determining a school within the geographic region of the school district, I reviewed school accountability reports available to the public on the school district web site. I have not provided this web link in order to maintain the confidentiality of the school, students, and parents. I analyzed the students' ethnic and linguistic distribution section of the elementary schools' accountability reports. I included only those schools where the student population was 33% or more ELL, as these schools provided more of a possibility for diversity in their ELL populations in comparison to those schools less than 33%. After selecting a short list of 5 elementary schools, I contacted the schools individually to determine if they were on a 9 month or
year-round academic calendar. I selected only schools on a year-round calendar because the study was to take place during the late summer.

Once permission was secured for the school selected, I met with the school’s attendance clerk to obtain current 1st grade classroom rosters of those classes in school at the time of the study. I identified students based upon Language Assessment Scales (de Avila and Duncan, 1990) scores included within their Language Assessment Portfolio (LAP). The LAP is a specialized folder for ELL students’ located within their cumulative district records. The LAP contained language assessment data recorded by the school’s ELL Teacher Specialist. I chose to include only those students who scored 70 and less. This provided me with ample students from which to begin interviewing teachers for possible participants for the study.

I scheduled meetings with individual teachers about the prospective students to determine if they were demonstrating difficulty with reading. Each teacher provided me with protocols from the Developmental Reading Assessment K-3 (Pearson Learning, 2004). In collaboration with 3 teachers, we selected the final list of students to be considered.

Once the list of possible participants (students) was determined, I met with the school’s attendance clerk to obtain home phone numbers and set appointments at the school for obtaining parental consent and the student assent.

Instrument: Static assessment, Yopp-Singer test of phonemic segmentation. The Yopp-Singer Test of Phonemic Segmentation (1998) is a static assessment used to determine if students do or do not have adequate levels of phonemic awareness for success in learning to read. This static test of phonemic segmentation has 22 preset
words reflecting various phoneme counts (e.g. dog-/d/ /o/ /g/ = 3 phonemes and school-/s/ /k/ /ü/ /l/ = 4). The test protocol provided a script from which to engage with the students. The script is to be read as follows, “Today we're going to play a word game. I'm going to say a word and I want you to break the word apart. You are going to tell me each sound in the word in order. For example, if I say old, you should say /o/-/l/-/d/” (p.1). In order to prepare students for the test, the Yopp-Singer test protocol provides three practice items (ride, go, and man). As test items are read to the students, correct and incorrect responses are recorded. The Yopp-Singer test protocol supplies a list of common incorrect responses (see Figure 3.4); these were used for determining how possible answers given by the students were to be marked.

Figure 3.4 Static Instrument: List of Common Errors

<table>
<thead>
<tr>
<th>Common Errors</th>
<th>Child Says</th>
</tr>
</thead>
<tbody>
<tr>
<td>Says nothing</td>
<td>/d/ /og/</td>
</tr>
<tr>
<td>Uses onset and rime</td>
<td>dog</td>
</tr>
<tr>
<td>Repeats word</td>
<td>d - o - g</td>
</tr>
<tr>
<td>Stretches word out</td>
<td>&quot;d&quot;-&quot;o&quot;-&quot;g&quot;</td>
</tr>
<tr>
<td>Spells letters in word</td>
<td>/d/ /g/</td>
</tr>
<tr>
<td>Says first and last sounds</td>
<td>bark</td>
</tr>
<tr>
<td>Says another word</td>
<td>I don't know</td>
</tr>
</tbody>
</table>

For example, if the student is asked to phonemically segment dog, incorrect responses could range from saying nothing, repeating the word, saying the names of the letters, to saying “I don’t know.” Any response from the student other than providing the sounds of the word in order would be considered incorrect. Each word on the test is
worth 1 point. A total score is determined by adding up the amount of correct responses. A total of 22 points is possible.

*Instrument: Dynamic assessment of L2 phonemic segmentation.* The DA used in the dissertation study was incorporated in part from the Yopp-Singer Test of Phonemic Segmentation (1998) as described above and a menu of graduated prompts that had been incorporated from Spector's (1992) Dynamic Assessment of Phonemic Awareness (see Chapter 2). While the words used in the Yopp-Singer were preset, words used for the DA were derived from an informal oral language inventory using picture cards (Appendix, A).

To perform the inventory of oral language portion of the DA of L2 Phonemic Segmentation, I began by stating, “Today, we are going to play a word game. But before we begin, I need to find out what words you already know how to say. I will show you a picture and I want you to tell me what it is a picture of. Are you ready?” I then began to show picture cards (commercially constructed cards with photographs of animals, objects, and people) of 2-3 phonemes (see Appendix I). As the students responded, I placed the cards into two groups, words they knew and words they did not know.

I would stop the inventory once I had 5 cards in the known pile. Similar to the Yopp-Siger test, I provided 1 of the words from the oral language inventory as a practice item. I kept the assessment playful and game-like as I modeled for the students what he or she needed to do with the practice word. I continued the assessment by saying, “Are you ready to play the word game? I’m going to say a word and I want you to break the word apart. You are going to say the word slowly, and then tell me each sound in the word in order. For example, if I say ‘old,’ you should say ‘old, /o/ /l/ /d/.’ Let’s try a word
together.” I then proceeded with the assessment using the practice item derived from the informal oral language inventory. After completing the practice item, I continued with the remaining four items. If the student responded correctly, I said, "That's right." If the student responded incorrectly, I helped the student by providing assistance from the menu of graduated prompts outlined below (Figure 3.5).

**Figure 3.5 Prompts Included within the Dynamic Instrument**

<table>
<thead>
<tr>
<th>Prompt 1</th>
<th>pronouncing the target word slowly;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompt 2</td>
<td>asking the child to identify the first sound of the word;</td>
</tr>
<tr>
<td>Prompt 3</td>
<td>cuing the child with the first sound;</td>
</tr>
<tr>
<td>Prompt 4</td>
<td>cuing the child with the number of sounds in the word;</td>
</tr>
<tr>
<td>Prompt 5</td>
<td>modeling segmentation using snap cubes to represent the number of sounds in the word;</td>
</tr>
<tr>
<td>Prompt 6</td>
<td>modeling segmentation as above, but work hand-over-hand with the child while pronouncing the segments;</td>
</tr>
<tr>
<td>Prompt 7</td>
<td>repeat Prompt 6.</td>
</tr>
</tbody>
</table>

If a student responded incorrectly to the first item, I provided prompt 1 (pronounce target word more slowly). If the student then responded correctly, I marked prompt 1 on the score sheet for item 1. If a student responded incorrectly with prompt 1, then I proceeded to provide prompt 2 (asking the child to identify the first sound of the word). If after prompt 2, the student responded correctly I marked prompt 2 on the score sheet for item 1. If prompt 6 (modeling segmentation, but work hand-over-hand with the child while pronouncing the segments) were required, I placed my hand on top of the hand of the student to manipulate the snap cubes with the student as I produced each phoneme in order. This pattern was repeated until I was able to locate the exact assistance measure the student required to perform the task successfully.
Initially, my understanding of assistance was derived from my pilot study. My pilot study (see introduction) helped me in developing a procedure for emergent domains and taxonomies of assistance categories and type. The following is a delineation of the category and type of assistance used in the DA of L2 Phonemic Segmentation (Figure 3.6):

<table>
<thead>
<tr>
<th>Assistance</th>
<th>Assistance Category</th>
<th>Assistance Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>“You are correct”</td>
<td>Validation</td>
<td>Verbal</td>
</tr>
<tr>
<td>“Right”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prompt 1: pronouncing the target word slowly;</td>
<td>Extension</td>
<td>Verbal</td>
</tr>
<tr>
<td>Prompt 2: asking the child to identify the first sound of the word;</td>
<td>Extension</td>
<td>Verbal</td>
</tr>
<tr>
<td>Prompt 3: cuing the child with the first sound;</td>
<td>Extension</td>
<td>Verbal</td>
</tr>
<tr>
<td>Prompt 4: cuing the child with the number of sounds in the word;</td>
<td>Extension</td>
<td>Other</td>
</tr>
<tr>
<td>Prompt 5: modeling segmentation using snap cubes to represent the number of sounds in the word;</td>
<td>Extension</td>
<td>Other</td>
</tr>
<tr>
<td>Prompt 6: modeling segmentation as above, but work hand-over-hand with the child while pronouncing the segments.</td>
<td>Extension</td>
<td>Other</td>
</tr>
</tbody>
</table>

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Spector's (1992) menu of graduated assistance prompts (see Chapter 2) were used with native English-speaking students from the Northeast United States. Phonemic awareness was explained previously in Chapter 2 as metalinguistic awareness. To assist students in manipulating discrete units of language in their second language, tangible objects were presented as representations of the phonemes. Within Spector's menu of prompts (see Chapter 2), she identified *chips* (colored plastic disks about the size of a United States nickel) as an assistive device for representing phonemes. Realizing that different teachers use a variety of manipulative objects within instruction, I exchanged *chips* for *snap cubes* (colored plastic cubes that can be attached or detached by male and female endings on the individual cube faces, see Appendix B). I made the change to *snap cubes* because they were widely available within the various 1st grade classrooms at the school and I felt that students would have had prior experience using *snap cubes* rather than *chips*.

**Point system for scoring.** Each item after the practice item was worth 6 points, for a total of 24 possible points. 6 points were awarded for students capable of responding correctly without a prompt; 5 points were awarded for a correct response after prompt 1; 4 points were awarded for a correct response after prompt 2; 3 points were awarded for a correct response after prompt 3; 2 points were awarded for a correct response after prompt 4; 1 point was awarded after a correct response after prompt 5; 0 points were awarded for prompts 6 and 7.

The purpose for creating a point system was to provide a quantitative description of student performance in a similar fashion to the Yopp-Singer test. However, whereas
each item on the Yopp-Singer test was worth 1 point (correct or incorrect), each item on
the DA of L2 phonemic awareness was worth 6 points to account for the degree of
assistance required for each student to complete every item of the assessment.

*Intervention lessons.* Obtaining specific, responsive, and productive assistance
measures for devising an intervention plan was not possible through the use of a static
assessment of phonemic awareness (Yopp-Singer test). The degree to which any student
could successfully complete a task of the static assessment was not a part of the test’s
procedures. However, by including assistance prompts from the DA of L2 phonemic
segmentation I was able to identify specific types of information for organizing an
intervention geared toward the needs of the individual students and the students
collectively.

The phonemic awareness literature that I reviewed previously in Chapter 2
indicated that there is a step-wise progression of phonological awareness leading to
phonemic awareness for native speakers of English. Based upon the step-wise
progression of phonological awareness and the information provided to me from the
dynamic assessment, I was able to devise explicit lessons that led up to phonemic
segmentation. In Figure 3.7, I provide a tentative schedule for bridging phonological
segmentation (larger linguistic units) to phonemic segmentation (smallest linguistic unit).
I elected to start with segmenting sentences into their individual words (e.g., 4 blocks would represent the sentence, “My name is Juan.”). Within sentence segmentation lessons, I read the poem, *Go Away Tiger* (Pearson Education, 2005), aloud to the group. In the first session, after reading the poem aloud, the students and I segmented the repetitive portion of the poem, “go away tiger.” In order to do so, we used snap cubes to represent each individual word, go=1, away=2, tiger=3. As the words were said, I placed one snap cube on the table. For example, as I said “go,” I placed one snap cube on the table. When I said, “away,” a second snap cube was placed on the table. When I said, “tiger,” the final snap cube was placed on the table. I then concluded with stating the sentence in its entirety, “go away tiger,” pointing to each snap cube as the word was said. The students were provided three snap cubes and asked to do the same thing collectively, then individually. During the second session we segmented less repetitive words from the poem in the same fashion. By the third session, we segmented oral utterances produced by the children. During the third session, I asked a child to remind me of his name. The student responded, “My name is Juan.” I asked Juan to repeat what he had just said, using his words as an example, I placed a snap cube on the table for every word he repeated (My=1, name=2, is=3, and Juan=4).

During the next two weeks, I followed sentence segmentation, with syllable
segmentation and onset-rime segmentation. In week 2, we worked on syllable segmentation, where the students segmented words into their syllables using snap cubes in a similar fashion as sentence segmentation. For example, in syllabically segmenting the word, "tiger," we used two snap cubes /tɪ/ = 1 and /ger/=2. During week 3 we segmented words into their onsets and rimes (eg. cat /c/-onset and /ât/-rime). During onset-rime segmentation, I used the picture cards from the oral language inventory (Appendix, I). I explicitly modeled how students were to look at a card, determine what the picture was, and select the number of snap cubes for representing the word’s onset and rime. For instance, in selecting the picture card, cat, students were asked to select the number of snap cubes needed to segment the onset and rime. To complete the task successfully, the students needed to select two snap cubes, /c/=1 for the onset and /ât/=2 for the rime.

By the 4th week, I provided the students with explicit phonemic segmentation instruction. This skill involved the students segmenting words into their constituent phonemes (dog - /d/ /ɒ/ /g/). Within these lessons I provided similar learning experiences as the previous lessons. I provided a picture card, the snap cubes as external mediating devices to direct their attention to individual phonemes, and prompting as needed to direct their attention to the number of sounds within the words.

Data Collection

My role in the study was that of a participant observer (Spradley, 1980). As a participant observer, I entered the field with a dual purpose. These two purposes were (1) to engage in activities appropriate to the context and (2) to observe the activities, students, and physical aspects of the situation (p.54). For this inquiry a large portion of
the data was gathered from audio/video recording using a digital video camera and lapel microphones. During the process of the seven-week data collection, I was not only providing L2 phonemic awareness intervention lessons but also understanding how my assistance served as a possible source of subsequent growth in the students’ L2 phonemic awareness development. After each lesson, I spent about thirty minutes capturing reflections and questions regarding the students’ development.

I was, in essence, acting as an auxiliary reading specialist providing reading intervention to students. As an observer, I took notice to the mannerisms of the students and focused upon those interactions important to the purpose of the study. The difference between my participation as an ordinary participant and as a complete participant observer involved the following components of the developmental research sequence of participant observation: locating the situation, performing participant observation, making an ethnographic record of the account, making descriptive observations, creating domains, focusing observations, creating taxonomies, making selected observations, making componential analysis, discovering themes, and taking inventory of what emerged. These will be further explained in the data analysis subsection to follow. Data collection commenced in August 2005 and ended 7 weeks there after.

During the first week, I visited the site 4 times. As previously stated, I collected data about the prospective students from class rosters, language data from the LAP, and reading data from the classroom teachers.

The second week I visited the site three days. During this time, I worked with the students individually in administering two pre-assessments. The first assessment was the Yopp-Singer Test of Phonemic Awareness (static); the second assessment was the DA of
L2 Phonemic Segmentation.

Between weeks 3 to 6, I visited the site two to three times, this was based solely upon the school’s calendar and the scheduling of school activities that I co-determined with the principal to be too disruptive to the students’ school experience. During these weeks, I provided 25-minute L2 phonemic awareness intervention lessons. The basis for the content of these lessons was derived from the step-wise progression of phonological awareness and the resultant student responses to mediation during the DA (see Data Sources). I audio/video taped each lesson. In order to capture as much of the interactions in engagement and during off task time, the students wore lapel microphones. This proved to capture subvocalizations of phonemes and words, that otherwise might have gone uncaptured and unreported.

During the final week (7th) I visited the site on three days. During this time, I again worked with the students individually, and performed one post-assessment. The post-assessment administered was again the Yopp-Singer Test of Phonemic Awareness (static).

Data Analysis

From a Vygotskian perspective examining learning as a result of assistance is too narrow of a view (see Chapter 2). In alignment with a Vygotskian perspective, assistance was seen as a tool and result of learning, simultaneously. Through Vygotsky's Genetic Law of Development (1978), I examined the role of assistance and how it affected L2 literacy development for determining what and how student abilities became present in DA. Furthermore, I compared the type of information provided through the static assessment with that of the dynamic assessment. I felt that examining the same
process/product of assistance and learning from the two research questions would illustrate the revolutionary tool and result conceptualization of the ZPD articulated by Newman and Holzman (1993) based upon their reading of Vygotsky.

To examine the tool and result nature of assistance and development, I transcribed portions of video tape from the students’ two pre-assessments, intervention lessons, and post-assessments. Within these sessions, I looked for hindrances and affordances to students’ participation in relation to the assessment procedures of both the static and dynamic assessment. Additionally, I examined the same relationship within the intervention lessons. To better articulate how assistance afforded participation as a process and product of L2 phonemic awareness development, I created two domains for assistance, one for the teacher’s articulations and gestures and one for the students. For participation, I created one domain which encompassed student articulations, gestures, and actions as possible types of participation. I then cross referenced the origination of both the assistance type and the participation type for examining assistance and participation (student responses in collaborative tasks) within the individual sessions. I felt this would provide evidence of how students’ independent use of the assistance type was a source of new development.

I compared the results of the students’ abilities to communicate their awareness of phonemes through the static assessment with their emerging abilities as facilitated through assistance provided in the DA. The use of descriptive statistics garnered from the student scores in the pre-static assessment and those gathered from the dynamic pre assessment were compared to provide a statistical description of the difference between students’ scores. Moreover, I provide a statistical description comparing the students’
scores from the pre- and post-static assessment to illustrate the effects of providing specific, responsive intervention based upon the use of a DA. These are presented in Chapter 4, Results.

My hypothesis was that the mediational affordances (assistance) employed in the DA and teaching procedures of the intervention lessons would be the source of the students' development (participation) of L2 phonemic segmentation. I felt that assistance, through mediated social interaction from the social plane and the use of external mediating devices, would be internalized and reconstructed on the individual plane for the development of higher psychological functioning (becoming phonemically aware in a second language).

Validity and Reliability

Many researchers rooted in forms of positivistic inquiry question the reliability and validity of qualitative research. Kirk and Miller (1986) speak to this concern in the following, "A thermometer that shows the same reading of 82 degrees each time it is plunged into boiling water gives a reliable measurement. A second thermometer might give readings over a series of measurements that vary from around 100 degrees. The second thermometer would be unreliable but relatively valid, whereas the first would be invalid but perfectly reliable" (p. 19).

My contention is that while previous positivistic measures of phonemic awareness have acclaimed the validity and reliability of their measures, are they truly reliable and valid? Understanding the "thermometer" of a positivistic study of phonemic awareness is very important to understanding the measure. In an assessment such as the Yopp-Singer Test of Phonemic Segmentation (1998), the resultant measure may indicate that a student
is not aware of phonemes. But, after further review and the inclusion of task mediation, the same student may demonstrate a limited awareness of phonemes (See Spector, 1992). Therefore, while the static measure of phonemic awareness was reliable, in the sense of maintaining its rigor and consistent demonstration of results, the measure may be far from valid.

Within this qualitative inquiry of how assistance affects the second language and literacy development of primary aged ELL students using a DA of L2 Phonemic Segmentation provided for a valid and reliable measurement of the individual students’ awareness of phonemes in a second language. Furthermore, the DA of L2 Phonemic Segmentation assisted in determining the possible growth of their ability through focused assistance. The validity of the measurement of awareness of phonemes in a second language can be made based upon the discrepancy of results from an initial static measure of phoneme segmentation (without mediation) in comparison with the dynamic measure (with mediation). This inquiry was not aimed at proving the superiority of phonemic awareness as a predictor of early reading success; it was aimed at understanding how assistance affects the L2 literacy and language development of primary-aged ELLs.
CHAPTER 4

FINDINGS

Within this chapter I will present findings from the study based upon my interactions with 5 students over a period of 7 weeks. The findings have been presented to address the research questions for the dissertation:

(1) How does assistance function in the language and literacy development of primary-aged ELLs?

(2) What information does a dynamic assessment of L2 phonemic awareness provide that a static assessment does not?

I will present the students’ results from two different phonemic awareness assessments: (1) the Yopp-Singer Test of Phonemic Segmentation, a phonemic awareness test comprised of static procedures, and (2) a DA of L2 Phonemic Segmentation, a phonemic awareness test comprised of dynamic procedures. Additionally, I have included a presentation of the students’ linguistic assessment scores in the first section of this chapter. The results of the linguistic assessment were a part of the students’ official academic record at the school. The students’ language assessments were completed by the school’s ELL Specialist (teacher) prior to this study.

In response to question 1, “How does assistance function in the language and literacy development of primary-aged ELLs?” I will present the students’ actual and potential phonemic awareness ability levels, as measured by the Yopp-Singer Test of
Phonemic Segmentation (static assessment) and the DA of L2 Phonemic Segmentation (dynamic assessment) in sections two and three, respectively. In the fourth section, I will compare the results of the static and DA to demonstrate the difference in student performance with assistance. In the fifth section, I will present portions of the intervention sessions to demonstrate the process of internalizing phonemic segmentation. I suggest that assistance serves to mediate experiences on the social plane, and simultaneously, assistance serves to mediate thought on the individual plane. In fact, the presentation of the static post-assessment will demonstrate that after 4 weeks of intervention, 3 of the 5 students made gains in their ability to segment phonemically without assistance.

In the sixth section, I present results to answer the second question, “What information does a dynamic assessment of L2 phonemic awareness provide that a static assessment does not? Within this section, I will highlight the results intended to illustrate the difference of information provided through a DA that is not available through a static assessment. These results will exemplify the forms of student participation (responses) during the pre-assessment process.

Linguistic Assessment Scores for Student Identification

Independent measures of the students’ linguistic ability are presented quantitatively to provide a description of the students’ levels of oral English proficiency. The Language Assessment Scales (deAvila and Duncan, 1990) was administered by the school’s ELL Specialist approximately 11 months prior to the study. The results of the students’ oral linguistic performance were derived from activities designed to measure
vocabulary, listening comprehension, and retelling stories. These results are presented in the table below (Figure 4.1). This assessment is a part of the state-mandated English proficiency measurement for identifying ELLs and appropriately placing them in classrooms at the school. Dependent upon the year of their arrival to the school district, the students participate in this assessment once a year.

Figure 4.1 LAS Results

<table>
<thead>
<tr>
<th>Students</th>
<th>Scores</th>
<th>Level Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrique</td>
<td>69 %</td>
<td>2</td>
</tr>
<tr>
<td>Thalia</td>
<td>34 %</td>
<td>1</td>
</tr>
<tr>
<td>Pedro</td>
<td>22 %</td>
<td>1</td>
</tr>
<tr>
<td>Juan</td>
<td>0 %</td>
<td>1</td>
</tr>
<tr>
<td>Carlos</td>
<td>34 %</td>
<td>1</td>
</tr>
</tbody>
</table>

In Figure 4.1, the heading *Scores*, refers to the accumulated percentage of items answered correctly (vocabulary, listening comprehension, and story retell). Based upon their aggregate score, one of three numerical designations (1, 2, or 3) is given. If a student scores 0-59%, a level designation of 1 is recorded. If a student scores between 60-79%, a level designation of 2 is recorded. If a student scores between 80-100%, a level designation of 3 is recorded. The level designations then correlate to a letter classification to signify to a teacher that a student is non English, limited English, or fully English proficient (A-non English Proficient, B-limited English Proficient, or C-Fully English Proficient).

The students participating in this study ranged from level 1 to level 2 designations. The most proficient, per the LAS designation, was Enrique. Enrique demonstrated accuracy on 69% of items. The least proficient, per the LAS designation,
was Juan who did not accurately respond to any of the items. The remaining students, Thalia, Pedro, and Carlos, scored 34%, 22%, and 34%, respectively. Thus, based upon the assessment administered in September 2004, the students involved in this study ranged from limited English proficient (Enrique) to non English proficient (Thalia, Pedro, and Carlos).

Static Pre-Assessment of Phonemic Segmentation

In order to avoid any confusion between the discrepancies of percentages provided from the LAS test results (previous page) and those provided from the test of phonemic segmentation, it is important to address the difference between what the tests were designed to measure. This will better contextualize the statistical description of the students’ ability in segmenting words phonemically in English in comparison to their English language abilities in vocabulary, listening comprehension, and retelling a story.

The results presented in the table below (Figure 4.2) are from the Yopp-Singer Test of Phonemic Segmentation (static pre-assessment) conducted in August 2005. During the administration of the Yopp-Singer test, students are asked to complete 22 phonemic segmentation items. As previously stated, per the assessment administration guidelines, students are asked to segment words into their constituent phonemes in order. In item one, the students are asked to phonemically segment dog. A correct response to this item would be /d/ /o/ /g/. No other response would be considered correct.

According to the Yopp-Singer assessment scoring guidelines, a student is deemed phonemically aware when he/she is capable of correctly segmenting “all or most” of the task items. Students that correctly segment “some” items are considered to be displaying
emerging phonemic awareness. Students that are only capable of segmenting a “few or none” of the items are considered to lack appropriate levels of phonemic awareness (Yopp-Singer, 1998, p. 2).

Figure 4.2 Yopp-Singer Results (Static Measure)

<table>
<thead>
<tr>
<th>Students</th>
<th>Scores</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrique</td>
<td>21</td>
<td>Aware</td>
</tr>
<tr>
<td>Thalia</td>
<td>0</td>
<td>Lack</td>
</tr>
<tr>
<td>Pedro</td>
<td>18</td>
<td>Aware</td>
</tr>
<tr>
<td>Juan</td>
<td>0</td>
<td>Lack</td>
</tr>
<tr>
<td>Carlos</td>
<td>0</td>
<td>Lack</td>
</tr>
</tbody>
</table>

In Figure 4.2, Enrique was able to phonemically segment nearly all the items included within the Yopp-Singer. Based upon the scoring guidelines, his score of 21 would designate him as phonemically aware. Additionally, Pedro was able to phonemically segment nearly all the items on the Yopp-Singer. Pedro’s score of 18 designates him as phonemically aware. Thalia, Juan, and Carlos all scored 0 on the assessment. Based upon their scores they would be designated as lacking appropriate levels of phonemic awareness.

The discrepancy between Thalia and Carlos’ scores on the LAS (34% and 34%) and their scores of 0 on the test of phonemic segmentation was rooted in the aim of each test. In the LAS test, Thalia and Carlos were asked to respond to various prompts designed to capture their current linguistic abilities in vocabulary, listening comprehension, and retelling a story. For the test of phonemic segmentation, Thalia and Carlos were asked to listen to a spoken English word and then respond by orally
producing each phoneme of the word in order. While the LAS test was designed to measure their language ability for placement into particular classrooms at a school and to track their language development over time, the test of phonemic segmentation was designed to capture their abilities in phonemically segmenting spoken words for predicting their potential ability in learning to read.

As previously explained in Chapters 2 and 3, there were no provisions of assistance for completing tasks contained in the static assessment of phonemic awareness. Therefore, identifiable articulations, gestures, or actions on my behalf with the express intent to encourage, extend, validate, or negate students’ participation in identifying L2 phonemes was not observed.

I have included transcriptions from the static pre-assessment sessions in order to illustrate the methodology of the static assessment of phonemic segmentation. This was included so that a comparison of methodologies between both the static pre-assessment and the dynamic pre-assessment of L2 phonemic segmentation could be made later in this chapter. In the first example, I provide the assessment directions and practice item incorporated into the Yopp-Singer test (Figure 4.3). The second example includes the initiations to three assessment items and their subsequent correct responses provided by Pedro (Figure 4.4). In the third example, I have included the initiation of three assessment tasks and their subsequent incorrect response, again from Pedro (Figure 4.5).
<table>
<thead>
<tr>
<th>Interaction</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. T: We are going to play a word game,</td>
<td>Beginning procedures to assessment of phonemic segmentation</td>
</tr>
<tr>
<td>2. T: ok?</td>
<td></td>
</tr>
<tr>
<td>3. T: I am going to say a word, and I want you to break the word apart. Ok?</td>
<td></td>
</tr>
<tr>
<td>4. T: So you’re going to break it apart by telling me the sounds, each sound you hear in the words, ok?</td>
<td></td>
</tr>
<tr>
<td>5. T: So, if I say /oo/ /l/ /d/</td>
<td></td>
</tr>
<tr>
<td>6. T: You should say /o/ /l/ /d/</td>
<td></td>
</tr>
<tr>
<td>7. T: Old, can you hear it?</td>
<td></td>
</tr>
<tr>
<td>8. T: So let’s practice some together…</td>
<td></td>
</tr>
<tr>
<td>9. T: RIDE…RIDE… RIDE</td>
<td></td>
</tr>
<tr>
<td>10. P: Ride, Ride</td>
<td></td>
</tr>
<tr>
<td>11. T: /r/ /l/ /d/</td>
<td></td>
</tr>
<tr>
<td>12. T: Do you hear those sounds, /r/ /l/ /d/?</td>
<td></td>
</tr>
<tr>
<td>13. T: So, if I say GO, What sounds do you hear in GO?</td>
<td></td>
</tr>
<tr>
<td>14. T: Can you break that apart for me?</td>
<td></td>
</tr>
<tr>
<td>15. T: GO /g/ /o/-/g/ /o/</td>
<td></td>
</tr>
<tr>
<td>16. T: GO, can you hear it?</td>
<td></td>
</tr>
<tr>
<td>17. T: If I say GO, /g/ /o/</td>
<td></td>
</tr>
<tr>
<td>18. T: Man /m/ /a/ /n/-/m/ /a/ /n/</td>
<td></td>
</tr>
<tr>
<td>19. P:/m/ /a/ /n/ /d/</td>
<td></td>
</tr>
<tr>
<td>20. T: Ok?</td>
<td></td>
</tr>
<tr>
<td>21. T: Are you ready to try some?</td>
<td></td>
</tr>
<tr>
<td>22. T: This time I’m not going to help you. I’m just going to tell you the words, so you have to tell me the sounds you hear.</td>
<td></td>
</tr>
<tr>
<td>23. T: Ok you ready?</td>
<td></td>
</tr>
<tr>
<td>24. T: DOG</td>
<td></td>
</tr>
</tbody>
</table>
In Figure 4.3, I presented the beginning procedures of the Yopp-Singer test, the authors have provided for a brief warm up before proceeding with the actual assessment items. The purpose of this initial practice is to help cue the students to what is expected of them during the assessment. Within this warm-up, the teacher’s participation is counted at 22 lines and Pedro’s participation is limited to only two lines (10 and 19).

Figure 4.4 Teacher/Student Participation: Correct Responses

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. T: fine</td>
<td>Performing assessment of phonemic segmentation</td>
</tr>
<tr>
<td>2. P: /fi/ /i/ /n/</td>
<td></td>
</tr>
<tr>
<td>3. T: she</td>
<td></td>
</tr>
<tr>
<td>4. P: /sh/ /ē/</td>
<td></td>
</tr>
<tr>
<td>5. T: no</td>
<td></td>
</tr>
<tr>
<td>6. P: /n/ /ō/</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.4 illustrates that when correct answers are provided by Pedro, no other interaction is provided. The teacher’s participation is reserved to only providing the assessment prompt which accounted for only three lines (1, 3, and 5) and Pedro participates by simply stating the answer, this accounted for only 3 lines (2, 4, and 6).
Figure 4.5 illustrates that when incorrect answers are provided by Pedro, no other interaction is provided. Similarly to the figure before, the teacher’s participation is reserved to only providing the assessment prompt, which accounted for only three lines (1, 3, and 5), and Pedro’s participation is simply stating an answer, this accounted for only 3 lines (2, 4, and 6).

### Dynamic Assessment of L2 Phonemic Segmentation

Results presented in the table below (Figure 4.6) are from the DA of L2 Phonemic Segmentation (dynamic pre-assessment) conducted in August 2005, immediately after the static pre-assessment. During the administration of the DA, students were asked to complete 4 phonemic segmentation items. It is important to note, none of the words within the DA were predetermined, as they were for the Yopp-Singer test (static pre-assessment). The words selected for this assessment were derived from an informal oral English inventory (see Chapter 3). Similar to the Yopp-Singer’s assessment administration guidelines, students were asked to segment words into their constituent
phonemes in order. For example, if in the first item, the students were asked to phonemically segment the word *cat*, the correct response without assistance would have been */c/ /æ/ /t/*. If the students did not respond, then assistance would be provided by the test administrator following a predetermined menu of graduated prompts (see Chapter 3). Each of the four items is worth 6 points for a total of 24 points possible. A final score is determined by adding up the total amount of points earned on each individual item in relation to the level of assistance needed to successfully complete each task. According to the dynamic assessment scoring guidelines, a student is deemed *self regulated* when they are capable of correctly segmenting all of the task items without assistance (24 points). Students that correctly segment all or most of the items with minimal assistance are considered to be displaying *approaching self regulation* (23-16). Students that are capable of segmenting items with inconsistent amounts of assistance are considered to be *emergent self regulation* (5-15). Students that are only capable of segmenting items with a great amount of assistance are considered to be *other regulation* (0-4).

**Figure 4.6 Dynamic Assessment of L2 Phonemic Segmentation Results**

<table>
<thead>
<tr>
<th>Students</th>
<th>Scores</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrique</td>
<td>23</td>
<td>Approaching SR</td>
</tr>
<tr>
<td>Thalia</td>
<td>0</td>
<td>Other Regulation</td>
</tr>
<tr>
<td>Pedro</td>
<td>20</td>
<td>Approaching SR</td>
</tr>
<tr>
<td>Juan</td>
<td>4</td>
<td>Other Regulation</td>
</tr>
<tr>
<td>Carlos</td>
<td>3</td>
<td>Other Regulation</td>
</tr>
</tbody>
</table>

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Figure 4.6 illustrates that Enrique was able to phonemically segment nearly all the items without assistance. On one of the items Enrique required the employment of prompt 1 (repeat the word more slowly). Based upon the scoring guidelines, his score of 23 would designate him as approaching self regulation. Pedro was able to phonemically segment nearly all the items with minimal assistance. Pedro’s score of 20 designates him as approaching self regulation. Thalia, Juan, and Carlos were all designated as other regulation as indicated by their scores of 0, 4, and 3, respectively. The scores for Thalia, Juan, and Carlos show that explicit assistance was required in order to successfully segment the items on the assessment.

Similar to the presentation of findings from the static pre-assessment; I have included transcriptions from the dynamic pre-assessment sessions in order to illustrate the methodology of the dynamic pre-assessment of L2 phonemic segmentation. This was included so that a comparison between the methodologies of both the static pre-assessment and the dynamic pre-assessment of L2 phonemic segmentation could be made later in this chapter.

As previously explained in Chapters 2 and 3, there were provisions of assistance for completing tasks contained in the DA of L2 Phonemic Awareness. In Figure 4.6, I have provided a quantified representation of the total amount of assistance types, their frequency, and categories of employment during the DA for each participant. Therefore, identifiable articulations, gestures, or actions on my part with the intent to encourage, extend, validate, or negate students’ participation in identifying L2 phonemes were observed, recorded, and analyzed for their potential saliency in directing students’ ability to correctly segment the oral English words phonemically.
Figure 4.7 Teacher Assistance in Dynamic Assessment Procedures and the Affordance of Student Participation

<table>
<thead>
<tr>
<th>Teacher Assistance Type</th>
<th>Teacher Assistance Frequency</th>
<th>Teacher Assistance Categories</th>
<th>Afforded Participation? (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articulations (Alone)</td>
<td>42</td>
<td>42-Extension</td>
<td>Enrique- Yes (100%, 1 of 1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Thalia- No (100%, 12 of 12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pedro- No (60%, 3 of 5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes (40%, 2 of 5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juan- No (100%, 12 of 12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Carlos- No (100%, 12 of 12)</td>
</tr>
<tr>
<td>Gestures (Alone)</td>
<td>0</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Actions (Alone)</td>
<td>0</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Articulations/Actions (Combined)</td>
<td>31</td>
<td>31-Extension</td>
<td>Enrique- Not Applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Thalia- No (100%, 12 of 12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pedro- Not Applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juan- No (56%, 5 of 9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes (44%, 4 of 9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Carlos- No (60%, 6 of 10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes (40%, 4 of 10)</td>
</tr>
</tbody>
</table>

In Figure 4.7, it shows that there were 73 instances where I provided assistance according to the prompting procedure (see Chapter 3 for a delineation of the prompt procedure). Of the 73 provisions of assistance, 57.5% or 42 prompts were considered articulations independent of gesture or action that aided or did not aid in affording the participants’ ability to participate during the L2 phonemic segmentation tasks. 42.5% or 31 prompts were considered as combined assistance measures that incorporated both articulations and actions that aided or did not aid the participants’ in participating in the DA of L2 Phonemic Segmentation.

All 73 provisions of assistance during the employment of the DA of L2 Phonemic Segmentation were categorized as forms of assistance that were to extend the students’ abilities. As stated above in Figure 4.7, 42 of the 73 assistance provisions were
articulations aimed at extending the students’ abilities to correctly segment English words into their constituent phonemes in order. Of the 42 articulation-only assistance prompts, only 3 of the prompts aided in extending the students’ performance on the DA of L2 Phonemic Segmentation (Enrique, 1 time and Pedro, 2 times). Stated conversely, 39 of 42 articulations aimed at extending the students’ performance on the DA of L2 Phonemic Segmentation did not result in the students responding correctly.

However, when articulations such as, “There are three sounds in dog,” were combined with actions such as manipulating individual snap cubes in the quantity representing the number of phonemes for a given word (for example, 3 snap cubes for dog) were students’ abilities extended and students’ participation increased. Of the 31 combined assistance measures (articulations and actions), 8 successfully aided in extending the students’ abilities and increased student participation for responding correctly (Juan, 4 times and Carlos, 4 times). Conversely, 23 of 31 combined assistance measures were categorized as not extending the students’ ability and did not contribute to increasing the students’ participation in responding correctly to the L2 phonemic awareness tasks.

However, in following the DA of L2 Phonemic Segmentation assessment procedures (see Chapter 3), if students were unable to perform the L2 phonemic awareness tasks after combined assistance measures, I placed my hand over the students’ hand guiding the students’ manipulation of the snap cubes while segmenting the word into phonemes. Later in this Chapter, in Figure 4.11, I delineate the assistance prompts employed during each task of the DA of L2 Phonemic Segmentation for each of the students.
While progressing through the DA with each student, prompts were provided at varying levels and frequencies until he/she achieved successful task accomplishment. The level of prompt was then recorded on the score sheet (see appendix C). I have illustrated the procedure of initiating an assessment task and the provision of assistance during the DA of L2 phonemic segmentation in Figure 4.8. In this example, I demonstrate how assistance is provided within the assessment procedures. As a result, Enrique was marked as needing assistance at prompt level 1. In the next example, Figure 4.9, a more extensive use of prompts is illustrated, as Thalia demonstrated a need for more explicit mediation for successful task accomplishment. Her response in this example was scored as prompt level 5.

Figure 4.8 Teacher/Student Participation: Prompt Use # 1 on DA

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. T: cat</td>
<td>Starting the assessment</td>
</tr>
<tr>
<td>2. E: /cæ/ /æt/</td>
<td></td>
</tr>
<tr>
<td>3. T: caaat</td>
<td>Prompt 1: pronounce the target word slowly</td>
</tr>
<tr>
<td>4. E: /æ/ /ʌ/ /t/</td>
<td></td>
</tr>
</tbody>
</table>
Within Figures 4.8 and 4.9, my and the student’s participation increased.

Contingent upon the student’s ability to correctly segment the spoken English word in order, my participation in Figure 4.8 was two lines (1 and 3). As Enrique demonstrated that he was unable to produce each English phoneme in order, my participation rose to 7 lines (1, 3, 5, 6, 8, 10, and 12). Enrique’s participation in relation to his need for
assistance is documented. In Figure 4.8, Enrique demonstrated he was able to segment the word “cat” without the need of much assistance (prompt # 1, pronounce the target word slowly). This resulted in just two lines (2 and 4).

However, when any of the students were unable to identify the English phonemes in order, and contingent upon the type of assistance provided by me, did the students’ amount of participation increase. In Figure 4.9, Thalia’s participation accounted for 6 lines (2, 4, 7, 9, and 11). Thalia demonstrated that she was capable of segmenting the word “fish,” but only with the presentation of articulation and action with the snap cubes.

A Comparison of Student Performance on Two Measures

In providing this comparison between the Yopp-Singer Test of Phonemic Segmentation and the DA of L2 Phonemic Segmentation, the intention is to demonstrate the difference of results on the two measures as a part of the evidence in determining the affect of assistance in development. The purposes of comparing the results of the static assessment with the dynamic procedure are (1) to delineate the qualitative differences between students that otherwise may appear very similar when only considering the scores from the static assessment; and (2) to demonstrate how assistance during assessment reveals students’ proximal abilities for providing specific, responsive, and productive scaffolding (not available in static assessment). The data presented in Figure 4.10 (next page) is a juxtaposition of the data from the previous sections.
Results from the static measure revealed that Thalia, Juan, and Carlos all scored 0. Based upon these results, the only information gained from the Yopp-Singer (static) assessment is that these students *lacked appropriate levels of phonemic awareness*. The assessment procedures of the Yopp-Singer test did not provide an avenue for determining what forms of assistance the students needed to successfully complete the task items.

However, when assistance was provided through the DA procedure, the instructional potential of Juan and Carlos to perform L2 phonemic segmentation tasks was explicitly revealed. The increased scores of Juan and Carlos, 4 and 3 respectively, demonstrate that although they were categorized as *other-regulation*, the assessment procedure allowed for determining what specific forms of assistance were necessary for each of them to correctly segment phonemes.

Figure 4.11 is provided to highlight the various levels of prompts needed by the students for successful task completion within the DA (see Data Sources, Chapter 3, for each specific prompt). Figure 4.11 (next page) provides a frequency chart of the prompts used for each student.
Figure 4.11 Frequency of Prompt Type in Dynamic Assessment for Each Participant

<table>
<thead>
<tr>
<th>Student</th>
<th>Prompt</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrique</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Thalia</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Pedro</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Juan</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Carlos</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>
In Figure 4.11, Thalia is noted as having required prompts 1 through 6 in all four items. Juan and Carlos required prompts 1 through 4 in all items, and then varied in the amount of support with prompts 5 and 6. In fact, Juan required prompt 5 three times, prompt 6 one time, and never needed repeated hand-over-hand support (prompt 7). Carlos, on the other hand, required prompts 5 and 6 two times and never needed hand-over-hand support repeated. Interestingly enough, Thalia, the only student to require repeated hand-over-hand prompting, became the student who made the largest gains in the static post assessment (see Figure 4.14).

Assistance in Literacy and Language Development in Dynamic Assessment

While the static pre-assessment aimed at measuring matured psychological processes, what the students could do or could not do independently, the DA aimed at revealing the students’ potential abilities through what they could do with assistance. This orientation of the DA is markedly different from the static procedure, as all task items on the DA were presented and accomplished successfully in respect to the level of assistance required by the students individually.

Assistance Affording Participation

*Enrique.* Enrique’s ability to phonemically segment words in a second language without assistance as measured by the static assessment suggested that Enrique was capable of segmenting spoken words, as he segmented 21 of the 22 words on the Yopp-Singer test without assistance. However, what is not known based upon the results of the static assessment is at what level of support Enrique would require to successfully segment his only incorrect item. Conversely, through the use of the menu of graduated
prompts in the DA, Enrique’s proximal L2 phonemic segmentation ability was revealed. For Enrique to successfully segment item 1 on the DA, Enrique required prompt 1 (repeat the word more slowly). As Enrique’s results from the Yopp-Singer test and DA of L2 Phonemic Segmentation have demonstrated, intervention lessons are not necessarily warranted. However, his parents, teacher, and I agreed that any extra attention to his reading would be helpful to his reading progress.

**Thalia.** Thalia’s performance on the Yopp-Singer test, a score of 0, indicated that Thalia was supposedly incapable of segmenting spoken words in English at that time. No other information was provided through the static procedure. While the results of the static assessment did not provide sufficient information to better understand her proximal L2 ability in segmenting phonemes, the DA indicated that Thalia required the most explicit level of assistance, prompt 6 (hand-over-hand), for every task. Thalia’s participation was completely regulated by the assistance provided.

**Pedro.** Pedro’s ability to phonemically segment words without assistance as measured by the static assessment suggested that Pedro was capable of segmenting spoken words in English, as he segmented 18 of the 22 words on the Yopp-Singer test without assistance. Similarly to Enrique, what is not known about Pedro based upon the results of the static assessment is at what level of support he would require to successfully segment his 4 incorrect items. It is only through the use of the menu of graduated prompts (assistance) in the DA that Pedro’s proximal L2 ability was exposed. For successful participation on items 1 and 3, Pedro required prompt 2 (ask the child to identify the first sound). For the remaining items (2 and 4), Pedro required prompt 1 (repeat the word more slowly).
Juan. Per the static preassessment, the Yopp-Singer test, Juan was supposedly incapable of correctly segmenting English words. However, the qualitative difference from comparing the results of his two preassessments (static and dynamic) indicated an increase of participation through the assistance provided in the DA. Additionally, the menu of graduated prompts resulted in more specific information for providing instructional support that would lead his development. Juan’s potential instructional ability was revealed through the DA, Juan was capable to segment words phonemically when articulations and actions were combined in manipulating snap cubes (prompt 5, 3 times and prompt 6, 1 time).

Carlos. Carlos’ ability to phonemically segment words without assistance as measured by the static assessment suggested that Carlos was supposedly incapable of correctly segmenting spoken words in English. However, the qualitative difference from comparing the results of his two preassessments indicated an increase of his participation through the assistance prompts of the DA. While the results of the static assessment did not provide sufficient information to better understand his proximal L2 ability in segmenting phonemes, the DA indicated that Carlos’ participation was largely regulated by the assistance provided through the prompts. Carlos required prompts 1-4 on every item, he required prompts 5 and 6 two times, but never needed repeated hand-over-hand support. The menu of graduated prompts (assistance) proved to determine Carlos’ proximal L2 phonemic segmentation ability. It was through the interaction afforded by the DA procedure that accounted for specific information for providing responsive support that would lead his development.
Comparing Static Assessment and Dynamic Assessment

The results presented in Figure 4.10 (above) provide a statistical description of the difference of what information can be ascertained through a static and dynamic procedure. In this section, I will use qualitative data transcribed from Session 1 to articulate the differences of information provided from a static and dynamic procedure.

Static Assessment

Information relevant to assistance and L2 literacy and language development was not revealed through the types of information recorded on the static assessment of phonemic awareness. Figure 4.12 (next page) is an example of the interaction between the tester and the testee during the administration of the Yopp-Singer Test of Phonemic Segmentation. Per the administration guidelines of the Yopp-Singer test (see Chapter 3), no interaction was provided whether the student was correct or incorrect in responding to the prompts given. Presented is just one example of this process, as the procedure used with one student is exactly the same as the procedure with the rest of the students.
The data presented in Figure 4.12 described the tester-testee interaction. When I presented Juan with the first item, /dɔɡ/, Juan did not respond. I was unsure if he had heard me, so I repeated the item again. After hearing the repeated item, Juan produced an utterance that seemed to be an attempt to repeat what I said. Juan’s official response to the first item, /dɔk/, was scored as incorrect. I proceeded to the second item from the assessment, /kɛp/. Juan responded, /kɛp/. As I repeated the item, Juan shook his head left to right to communicate, “no,” that he could not perform what was being asked of him. I recorded Juan’s response as an incorrect response, at which point I discontinued the assessment and recorded Juan’s score as 0.

Dynamic Assessment

Information relevant to assistance and L2 literacy and language development, however, was revealed through the types of information recorded in a DA of L2 Phonemic Segmentation. Figure 4.13 is an excerpt of interaction with a student during
the administration of the DA of L2 Phonemic Segmentation. Prior to the transcribed portion, I performed the oral language inventory (see Chapter 3). Similar to the task directions provided by the Yopp-Singer test, I explained the task directions and provided a practice item. Of the five words, I selected fish to be Juan’s practice item. I used the remaining four words, dog, car, bear, and tree, as his actual test items.

Figure 4.13 Tester-Testee Interactions During the Dynamic Assessment

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Interaction</th>
<th>Mediation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Item A</td>
<td>T: car</td>
<td>Prompt 1</td>
</tr>
<tr>
<td></td>
<td>J: no response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: car</td>
<td>Prompt 2</td>
</tr>
<tr>
<td></td>
<td>J: no response</td>
<td>Prompt 3</td>
</tr>
<tr>
<td></td>
<td>T: What sounds do you hear in car?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J: no response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: What's the first sound in car?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J: “a” -letter name</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: /c/</td>
<td>Prompt 4</td>
</tr>
<tr>
<td></td>
<td>J: no response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: Ok, there’s 3 sounds in car.</td>
<td>Prompt 5 (modeling segmentation using snap cubes)</td>
</tr>
<tr>
<td></td>
<td>J: no response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: car</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J: Waiting on teacher for snap cubes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: What sounds do you hear in car?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J: /c/ /a/ /t/</td>
<td></td>
</tr>
<tr>
<td>Dynamic Item B</td>
<td>T: Let’s try bear</td>
<td>Prompt 1</td>
</tr>
<tr>
<td></td>
<td>J: bear</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: bear</td>
<td>Prompt 2</td>
</tr>
<tr>
<td></td>
<td>J: no response</td>
<td>Prompt 3 (cuing 1st sound)</td>
</tr>
<tr>
<td></td>
<td>T: What sounds do you hear in bear?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J: no response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: Bear</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J: no response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: What’s the first sound you hear in bear?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J: /b/</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: What’s that? What you just said? /b/</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: /b/ ear – presenting snap cubes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J: bear</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T: Tell me the sounds you hear /b/ ear</td>
<td>Prompt 4</td>
</tr>
</tbody>
</table>
Information provided in Figure 4.13 detailed the high incidence of tester-testee interaction during the DA of L2 Phonemic Segmentation. During the administration of the dynamic procedure, Juan demonstrated that he could successfully segment phonemes if he (1) knew the first sound of the word (articulation only assistance), (2) knew the number of sounds in the word (articulation only assistance), and (3) had the use of a manipulative object to direct his attention while representing each sound of the word (combination of an articulation and action assistance). These are all vital pieces of information related to his development, none of which is observable in a static procedure. Through the dynamic procedure, Juan used articulations and actions with the snap cubes to demonstrate in quantity and type, each sound of the words in order, for example, *car* - \(/\text{c}/ \text{æ} \text{l}/ \text{r}/\), *bear* - \(/\text{b}/ \text{æ}/ \text{l}/ \text{r}/\), *dog* - \(/\text{d}/ \text{æ}/ \text{j}/ \text{g}/\), and *tree* - \(/\text{t}/ \text{r}/ \text{i}/\). These assistance measures provided the support necessary for Juan to successfully segment phonemes in his L2, English.

After the presentation of item 2, Juan increased his participation by attempting to respond. However, he responded incorrectly by repeating the word. Although an incorrect response, this time Juan was successful in repeating the word correctly. Juan elected to shake his head from left to right indicating that he either could not perform the task or did not want to participate, at which point I discontinued the assessment.
Parallel to his performance on item 1 of the static assessment, Juan did not respond to item A of the dynamic procedure. I employed the first level prompt by repeating the word. After repeating the word, I asked Juan, “What sounds do you hear in the word?” I still did not receive a response. So, I repeated the word and provided prompt 2, “What is the first sound you hear in car?” Once again, Juan either could not participate or chose not to participate. I employed prompt 3 and provided the first sound, “/c/.” Juan then responded by naming the letter “a.” I elected to provide prompt 4, cuing him with the number of sounds in the word. I subsequently reiterated the word, received no response, and utilized prompt 5, by directing the child’s attention to the snap cubes, (with words: articulation and my hands: action) providing a manipulative to help mediate the task. Through the use of combined assistance (articulation and action) with an object, Juan was capable of directing his attention for phonemically segmenting /cår/. 

On item B of the dynamic procedure, although Juan provided an incorrect response, he did repeat the word successfully. I provided prompt 1 by repeating the word. I then asked him, “What sounds do you hear in /bår/?” I assumed he was becoming frustrated, so I decided to move more quickly to the next prompt. I repeated the word again and almost immediately followed up with prompt 2, “What’s the first sound you hear in /bår/?” Just as I was about to follow with prompt 3, Juan responded, “/b/.” Not believing what I had thought I had heard, I asked Juan, “What’s that, what you just said, /b/?” I continued probing, “/b/ /år/.” At about the same time I employed prompt 4, by presenting the snap cubes. Upon revealing the snap cubes, Juan said, “/bår/.” I was unsure if Juan was attempting to self regulate his voluntary attention through private speech by directing his awareness to the phonemic level of sounds within /bår/, or if this
emergence of private speech was directed at developing a more complete phonological representation of /bär/, as he may have been anticipating me repeating the item. I followed up with prompt 5, and modeled the phonemic segmentation of the three sounds in /bär/ using the snap cubes. Not getting a response, I asked Juan to show me how. To complete the task, Juan cooperatively produced the sounds, /b/ /ä/ /r/, with me as we completed the task.

Post Assessment

At the end of the 8 weeks I administered the Yopp-Singer assessment, as a post assessment measurement. This static post assessment was for the express intent of measuring the student’s independent abilities to phonemically segment words after the intervention sessions. Figure 4.14 presents data indicating that every child except for Enrique and Pedro made significant gains in their ability to segment phonemes without assistance.

Figure 4.14 Static Pre-/Post-Assessment Scores

<table>
<thead>
<tr>
<th>Student</th>
<th>Pre Assessment (static)</th>
<th>Post Assessment (static)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrique</td>
<td>21</td>
<td>19</td>
<td>-2</td>
</tr>
<tr>
<td>Thalia</td>
<td>0</td>
<td>19</td>
<td>+19</td>
</tr>
<tr>
<td>Pedro</td>
<td>18</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Juan</td>
<td>0</td>
<td>13</td>
<td>+13</td>
</tr>
<tr>
<td>Carlos</td>
<td>0</td>
<td>14</td>
<td>+14</td>
</tr>
</tbody>
</table>

In Figure 4.14, the students’ range of scores on the static pre-assessment was wide; this was realized by Enrique’s nearly perfect score of 21 and Thalia’s, Juan’s, and Carlos’ scores of 0. However, after the 4 week intervention period, Thalia exhibited the
greatest gains going from 0 correct to 19 correct; Carlos gained 14 points; and Juan increased his performance from 0 to 13 correct. Interesting to note, Enrique, the highest scoring student, regressed by 2 points to 19 and Pedro who had the second highest score, remained constant at 18. Based upon the qualities of Enrique's responses to the tasks asked of him during the post-assessment his regression may have been attributed to being confused as to which type of segmentation he was being asked to do. His responses to two of the items during the post-assessment were onset-rime segmentation and not segmentation at the phoneme level.

Student-to Student Assistance: a Tool and Result Formulation

All assessment sessions were carried out 1 teacher to 1 student; however, during the intervention sessions (see Chapter 3) the lessons were carried out 1 teacher to 5 students. I have divided this current section into two subsections. In the first subsection, I will present data from intervention sessions aimed at describing how student-to-student assistance measures seemed to afford their fellow students' participation and accounted for increased L2 literacy and language development. In the second subsection, I will present data on how through the process of providing assistance actually benefited the assistance provider (student).

In both subsections, I have provided a selected transcription from within the intervention lessons' step-wise progression as detailed in Chapter 3. The progression is as follows: (1) words in a sentence; (2) syllables from a word or group of words; (3) onset-rime from a word; and (4) phonemes from a word. I have selected these transcriptions because they best exemplify the tool and result nature of the ZPD.
process-product, tool-and-result nature of student-to-student assistance is detailed in Figures 4.15-19 of the following subsections. The assistance provided to students by fellow students during the intervention lessons was not only the approach I introduced during the DA of L2 Phonemic Segmentation process, but became the approach (product) in which the students attempted subsequent tasks as the intervention lessons progressed. The assistance provided not only was the tool of learning to segment phonemically, but simultaneously, the result and source of the future L2 literacy and language development of all the students involved.

**Tool and Result: Increased Participation Leading to Increased L2 Performance**

The students’ increased participation over time provided for examples of how assistance functioned in L2 literacy and language development over the course of the 7 weeks. Transcribed examples below illustrate how these students became more active in their participation during intervention lessons. The examples provided were taken from session 2 and 5 in September 2005. I have selected these transcriptions as they illustrated how assistance helped to mediate Juan’s emergent participation. In the transcription, Juan’s participation was afforded by the assistance provided by Enrique. This provided evidence that the assistance provided was simultaneously a tool for development and a result of increased L2 literacy and language development (see Figure 4.15).
In Figure 4.15, Juan’s initial incorrect response to the question was actually a successful onset-rime segmentation of the word, “away.” The other student’s segmentation of all the words within the title of the poem, *Go Away Tiger*, assisted Juan in his ability to segment *away* into its onset and rime. At the phonemic level of segmentation, Juan correctly segmented the initial phoneme of *away*. Although my
request was to determine sentence segmentation (the individual words of a sentence in order), this example serves as microgenetic evidence of Juan’s process of development in the internalization of phonemic segmentation.

Figure 4.16  Subsequent Participation Afforded by Assistance (Juan, week 7)

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Instructional Objective</th>
<th>Materials</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>T: CLOCK</td>
<td>Phonemic Segmentation</td>
<td>Snap Cubes</td>
<td>Working within a small group of 5 students.</td>
</tr>
<tr>
<td>J: Preoccupied with Enrique, Juan did not initially grab the number of snap cubes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: Juan, how many sounds in clock?</td>
<td></td>
<td></td>
<td>Juan observes Thalia’s</td>
</tr>
<tr>
<td>J: Grabs 3 cubes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: Juan, say it to yourself</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J: Watching Thalia, pushes around the cubes and separates them.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: CLOCK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J. Pushes 1st snap cube forward and says /k/, pushed second snap cube forward and says /Ô/, and pushes last snap cube forward and says /k/.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: Juan, How many sounds do you have in CLOCK?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J: Continues to look around the group.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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In Figure 4.16, Juan’s incorrect response to the question was a more thorough attempt to successfully segment the word *clock* at the phoneme level. Juan’s attention and voluntary memory were initially mediated by the indirect articulation and action taken by Thalia as she worked independently with the snap cubes. This indirect assistance mediated Juan’s participation in such a way that he was able to successfully identify 3 of the 4 sounds in clock - /c/ /l/ /s/ /k/.

While Juan’s proximal ability to segment phonemically was not observable in the static assessment; however, it was evident as a result of the DA procedure and the activities within the intervention lessons. During the intervention lessons, Juan seemed to be most successful when he worked in collaboration with a more capable peer who provided the necessary articulations and actions with the snap cubes. Juan’s L2 literacy and language development at the time seemed to be mediated by combined assistance (articulations and actions) provided during the task and was simultaneously the source of his future development. The increased scores of his Yopp-Singer test (static assessment) from 0 of 22 items correct to 13 of 22 items correct illustrated his increased ability to independently segment phonemes of some words in his L2.

*Tool and Result: Providing Assistance Leading to Increased L2 Performance*

While certain students, such as Juan (above), benefited from assistance from those who provided it to him directly or indirectly; other students’ increased their abilities through providing assistance to others. In Figure 4.17, I have provided an example of the reciprocal nature of providing assistance, whereby Carlos increased his L2 literacy and language performance through providing assistance to Pedro.
Figure 4.17 Reciprocity in Assistance, Carlos and Pedro

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Instructional Objective</th>
<th>Materials</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>T: Remember our last time together we separated “go away tiger” into the number of words in that sentence?</td>
<td>Syllable segmentation</td>
<td>Snap Cubes</td>
<td>Working within a small group of 5 students.</td>
</tr>
<tr>
<td>All Students: yes, 3 of the 4 raising their hands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: Carlos, how many words are in “go away tiger?”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: three</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: Juan, say it, “go away tiger”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J: three (showing 3 fingers)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: I see it’s Carlos’ birthday, “Happy birthday, Carlos.” How many words in, “happy birthday?”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: (Raising his hand)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: Carlos?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: two</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: Yes! There are two words. Holding one snap cube in my right hand, “happy,” and another snap cube, “birthday.”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T: Now, happy birthday is two words, but we can break both words into smaller bits called, syllables.” Happy has two syllables /hap/ (one snap cube placed on the table) and /ee/ (a second snap cube placed on the table). Birthday has two syllables, too. /burth/ (one snap cube placed on the table) and /dâ/ (a second snap cube placed on the table).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
T: (Placing all cubes into larger pile of cubes in the middle of the table) I want you all to work in pairs. You two will work together (pointing to Carlos and Pedro) and you two will work together (pointing to Enrique and Juan) -Thalia was absent from the lesson-

T: How many syllables in happy birthday? Grab the number of cubes you will need.

T: How many syllables in happy birthday?

T: Carlos?

C: three, (pushing one cube forward) happy, (pushing a second snap cube forward) /burth/, pushing the last snap cube forward) /dâ/

T: What did you come up with, Pedro?

P: two (pushing one cube forward) happy, (pushing a second snap cube forward) birthday

T: Anyone else want to try?

E: four (pushing one cube forward) /hap/, (pushing a second snap cube forward) /ee/, (pushing a third snap cube forward) /burth/, (pushing the last snap cube forward) /dâ/

Not working together, each individual student grabbed about 4 to 5 cubes and began to work.

Carlos’ incorrect response, first attempt

Pedro’s incorrect response, first attempt

Not working together, each individual student begins to work.
T: So, we have 2, 3, and 4. Does anyone want to change their answer? Go back and check, but this time work with your partner.

T: Carlos, what does Pedro have?

C: (grabbing all of Pedro’s snap cubes) Pedro (directing Pedro’s attention to the snap cubes with his eyes),

(pushing a snap cube forward)
/hap/
(pushing another snap cube forward)
/ee/
(pushing a third snap cube forward)
/buth/
(pushing a fourth snap cube forward)
/dâ/

(counting the snap cubes) four

| I initiate Pedro and Carlos into a cooperative task. |
| Pedro watched Carlos |
| Carlos’ correct response, second attempt, assisting Pedro |

In Figure 4.17 I began session #3 with asking the students to tell me how many words were in the statement, “happy birthday.” This question was a review of the prior week’s sessions where the students segmented sentences into their constituent words (for an example see Figure 4.15). “Happy birthday” was relevant to our discussion because on the day of our lesson, Carlos was wearing a big paper crown denoting that he was a birthday boy. During this interaction, Carlos began by stating that there were two words in the phrase “happy birthday.” I modeled what he said with snap cubes by holding up one snap cube for “happy” in my right hand and another snap cube for “birthday” in my left hand.
Similar to our discussion the prior week, I demonstrated how to further segment “happy birthday” into syllables. I demonstrated that the first word, “happy,” was made up of two syllables /hap/ and /ee/ (placing a snap cube on the table for each syllable). Following “happy,” I further demonstrated that the second word, “birthday,” can be broken down into two syllables /burth/ and /dā/ (placing two snap cubes on the table for a total of 4 snap cubes).

I followed up by asking the students to work in pairs to show me the number of syllables in the phrase “happy birthday.” As the students worked I noticed they were not working in pairs. To check if the students were successful, I asked each student to respond individually. Of the four students present on that day (Thalia was absent), Pedro responded, two; Carlos responded, three; and Enrique responded, four. I had all the students go back to work and check to see if their answers were correct. As the students began to work, I noticed they were working individually, again. In an effort to get them to work in pairs, I said, “Carlos, what does Pedro have?” Carlos responded by grabbing all of Pedro’s snap cubes. Carlos then said, “Pedro.” At the same time, Carlos directed Pedro’s attention to the snap cubes with his eyes. Pushing a snap cube forward, Carlos said, “/hap/.” Then, Carlos pushed another snap cube forward and said, “/ee/.” Carlos pushed a third snap cube forward while saying, “/burth/.” Finally, while pushing a fourth snap cube forward, Carlos said “/dā/.” After counting the snap cubes, Carlos said, “four.”

The transcribed portions of Figure 4.17 serve to demonstrate Carlos’ improved performance through the process of providing assistance to Pedro. Carlos’ original answer to my prompt was three (see Figure 4.17). After being encouraged to work with Pedro, Carlos recounted the syllables and responded, four. The increased scores of his
Yopp-Singer test (static assessment) from 0 of 22 items correct to 14 of 22 items correct demonstrated his increased ability to independently segment phonemes of some words in his L2.
CHAPTER 5

DISCUSSION AND IMPLICATIONS

The DA employed within this dissertation provided for an alternate view of the role of assistance in L2 literacy and language development. Additionally, the DA methodology uncovered student abilities that otherwise would have remained hidden. I feel that through infusing collaboration/assistance during phonemic awareness assessments similar to the DA of L2 Phonemic Segmentation (see Chapter 3) will aid educators in pedagogical decision-making. As previously stated in Chapter 2, current phonemic awareness assessments readily available to teachers are static by design and do not provide for relevant information for providing responsive support for primary-aged ELL students. While all pre- and post-assessment sessions were conducted one teacher to one student, the intervention lessons were conducted one teacher to five students. During the intervention lessons, students revealed the tool and result nature of assistance-receiving and assistance-giving.

This chapter is organized into three sections. The first two sections have provided discussion directly related to both of the research questions (see Chapter 1). The third section was provided to address the application of a DA of L2 Phonemic Awareness from theory to practice. In the final subsection of the last section of this chapter, I have recounted a discussion with Juan's teacher, who by chance, applied for a teaching
position at my school. At the end of our interview she voluntarily shared a unique view into Juan's development.

RQ 1: How Assistance Functioned in Language Development

As previously discussed in Chapter 2, Sternberg and Grigorenko contended that the ZPD is created through interaction. Within Chapter 1, I discussed misunderstandings of the ZPD in current educational programs. I suggested for example, that Renaissance Learning’s Accelerated Reader used the ZPD as a means of describing what was located within the learner’s range of ability exclusively. This is clearly not an accurate representation of the ZPD.

I found in the study that the actions of the adult or more capable peer, as suggested by Tudge (Chapter 2), determined in part the subsequent performance of the collective. Fundamental to the results presented within Chapter 4 is Vygotsky’s articulation of mediation. Revisiting what I expressed in Chapter 2, Lantolf (2000) contended that Vygotsky believed that humans do not act directly on the physical world but rely on tools. Through the use of tools, like language, we mediate our relationships with others and ourselves. In relation to this study and within the transformative nature of the ZPD, assistance was realized as a mediated and mediating activity. Assistance (teacher to student or student to student) within this inquiry was mediated by the language; manipulatives (picture cards and snap cubes); assessment procedures; lesson format used; and teacher to student and student to student interaction. Assistance was mediating in that it was through process of receiving or providing assistance that the nexus to phonemic awareness was revealed to the students. Thus, assistance created a
need and a means for the students to reorganize their understandings of their relationship between themselves and phonemic awareness. Moreover, studying the process of assistance-receiving and assistance-providing provided for an avenue in which the reorganization of the students’ conceptualizations of their own ability to perceive and communicate this awareness of English phonemes was illuminated.

As the dynamic procedure indicated, probing further, providing hints, and offering suggestive feedback created a constructive interaction whereby the students were able to avail to themselves their emergent abilities. Hypothetically, as a teacher, it is possible that my initial reflections of Juan, Thalia, or Carlos’ L2 phonemic segmentation abilities as determined by a static assessment of phonemic awareness may have led me to believe only a few things about them. Consequently, none of the reflections would have been about the students’ prospective or potential abilities. As it was proven, these abilities would have remained hidden by only using a static assessment. As a teacher, possible hypothetical reflections of these students might have been, (1) they are unaware of phonemes, (2) they are limited in their ability to comprehend the English language, (3) they are going to be at-risk for initial reading, and (4) they are not going to fit within my reading groups.

If I had completed the pre-assessment process after the static assessment and represented Juan, Thalia, or Carlos’ developmental level of phonemic awareness as a zero, it would be assumed that these students lacked an awareness of phonemes. However, through assistance in collaborative problem solving, the students demonstrated their emergent awareness of phonemes. Similar to Vygotsky’s argument, by taking stock in what the students produced in the static assessment would have been an inaccurate
description of their potential instructional abilities. However, through including the
students' proximal abilities provided by the dynamic procedure, a different understanding
of their potential was revealed. In alignment with a Vygotskian perspective, to fully
evaluate the state of these students' L2 phonemic segmentation development, I must
consider not only their actual level of development but their Zone of Proximal
Development.

In Chapter 2, I provided Vygotsky's definition of the ZPD. Within the same
chapter I also included Ohta's redefinition of the ZPD within the context of second
language acquisition. Based upon Vygotsky's definition, students' proximal abilities in
L2 phonemic segmentation tasks are only revealed through the assistance afforded within
the DA. It is the creation of the ZPD, through the interaction afforded by DA, where the
teacher is enabled to provide instruction that marches ahead of the students'
development.

RQ 2: Revelation of Abilities through Dynamic Assessment

From a phenotypic description of Juan, Thalia, and Carlos' development via the
static assessment, they all scored zero and were categorized as lacked appropriate levels
of phonemic awareness. This determination is problematic and therefore I question the
validity of that measure. Did these students really lack appropriate levels of phonemic
awareness? In comparing the results of both the static pre-assessment with the dynamic
pre-assessment, a different understanding of their abilities is presented. Through the DA,
each of these three students' ability was revealed. So what hindered their ability to
perform on the static measure when compared to their ability to perform in collaboration
on the dynamic measure? I contend that their inability to perform on the static phonemic segmentation measure was a consequence of their limited English proficiency on two levels, (1) not understanding the task directions and (2) not being capable of attending to individual sounds in English words.

As stated in Chapter 2, a DA focuses upon determining what students, like Juan, Thalia, and Carlos can become in the future. This is congruent with Vygotsky’s insistence of using assessment procedures aimed at determining potential developmental levels rather than actual developmental levels. This is because static assessment characterizes mental development retrospectively, while the DA characterizes mental development prospectively. Stemming from Vygotsky’s insistence, I contend that through the dynamic procedure, two types of information about Juan, Thalia, and Carlos were revealed.

The first piece of information provided is consistent with Kramsch (2000) and Pavlenko & Lantolf’s (2000) “participation metaphor” of second language acquisition presented in Chapter 2. Specifically, Juan, Thalia, and Carlos’ only responses within the static assessment were silence, shaking their heads, and repeating the word stated to them. These responses suggested that they either could not or were not willing to participate. Although Juan, Thalia, and Carlos’ participation in the DA were limited, their potential ability to be a speaker and reader of English was revealed. At the very least, Juan, Thalia, and Carlos’ attempts to answer did demonstrate their willingness to participate. Unlike the static assessment, the assistance provided in the DA created opportunities for these students to participate. As it was found, it was through use of
these affordances during the dynamic pre-assessment and the intervention lessons that constituted the source of their future, independent L2 abilities to segment phonemes.

Contrary to Juan, Thalia, and Carlos' results from the static assessment, it was during the DA where their ability to attend to English phonemes was revealed. For example, when Juan responded, "/b/" in item B of the DA, a new conceptualization of Juan’s potential abilities emerged. Through assistance, Juan was able to demonstrate his emergent awareness of English phonemes. Not only was Juan's emergent ability uncovered, but the level of assistance required to support his ability to attend to English phonemes and communicate this knowledge to me was provided. This was similar for each of the three students that scored zero on the static assessment. Furthermore, during Juan’s and my interaction on item B (bear) of the DA I employed prompt 6 (presentation of snap cubes). As I presented Juan with the snap cubes, he articulated ahead of my accompanying support, "/b/ æ/ /r/." Through the presence of combined assistance, articulation and action with the snap cubes, Juan was capable of attending to phonemes and communicating this ability to me in his L2.

Research into Practice

In Chapter 1, I presented the notion that many tests of phonemic awareness were static in nature. Therefore, phonemic awareness assessments used by teachers were designed to measure matured psychological functions. To this end, the specific purposes of static assessments of phonemic segmentation are as follows: (1) predict how the students would perform as initial readers and (2) identify students for reading intervention. Presented in this manner, static assessments are useful and have purpose.
However, it becomes problematic when static assessments are presented as the only choice teachers have for making instructional decisions. It is problematic because the assessments in question are actually being used for intentions for which they have not been designed.

The consequence of using a static assessment of phonemic awareness with ELLs for instructional purposes was found in part within the results of the static pre-assessment of this study. Three of the five students scored a zero. Based upon those results, there was no real information for describing the students’ L2 phonemic segmentation abilities. The only understanding about these students gleaned from the static assessment was that they were identified as lacking appropriate levels of phonemic awareness. Moreover, as documented within a previous transcription (see Chapter 4), the students’ responses provided no information in locating where to begin instructing these students. A static assessment of phonemic awareness lacks provisions for assistance aimed at identifying students’ potential instructional abilities. Therefore a static assessment of phonemic segmentation is not appropriate for devising instructional support. In fact, the nature of static assessment procedures divorces itself from prospective assertions about students’ abilities and the instructional process.

Conversely, the DA of L2 Phonemic Segmentation aimed to unify assessment and instruction. The DA of L2 Phonemic Segmentation unified assessment and instruction by providing an accurate rendering of the relationship between the assessment task and the students’ development through the menu of graduated assistance prompts. Therefore, a DA of L2 Phonemic Segmentation provides one method for assisting teachers in uncovering students’ proximal abilities. Simultaneously, the DA of L2 Phonemic
Segmentation affords insights into how to provide responsive instructional support. While static measures are appropriate for specific purposes, they are not appropriate for delineating avenues for providing instruction aimed at leading primary-aged ELLs’ learning ahead of their developmental levels.

Important implications of a DA of L2 Phonemic Segmentation for supporting instructional practices for increasing learning for primary-aged ELLs’ are two-fold. These implications are as follows: (1) understanding how forms of assistance contribute to a teacher’s understanding of students’ development by unifying assessment and instruction and (2) transforming hit and miss assistance attempts into calibrated measures for providing instruction aimed at students’ ripening psychological functions.

*Increased Understanding of Abilities, the Unity of Assessment and Instruction*

Simply subtracting Juan, Thalia, and Carlos’ static assessment results from their score on the DA of L2 Phonemic Segmentation for determining their instructional level perverts the revolutionary aspect of the ZPD. In fact it positions students like Juan, Thalia, and Carlos to accept an identity of a given instructional level. Conceptualized in this manner, the ZPD transforms from a revolutionary concept into a spatial-deficit model conforming it to fit within the confines of positivistic practices.

The tool and result notion of the ZPD is not maintained by using assessment results and systematically following a teacher’s manual for instructing L2 phonemic awareness. Providing instruction to Juan, Thalia, and Carlos (or any student) based solely upon suggestions from a teacher’s manual creates a dualistic representation of assessment and instruction. I found that through the process of engaging with students in cooperative problem solving constituted the formation of the ZPD. Through the
construction of the ZPD the unified nature of assessment and instruction is realized. Furthermore, through a unified perspective of assessment and instruction, precise, responsive support aimed at leading the students’ development is possible. A DA of L2 Phonemic Segmentation is an instrument whereby assessment and instruction unify to uncover ELLs’ emergent awareness of L2 phonemes and determine potential instructional abilities. The reward of using a DA of L2 Phonemic Segmentation with students like Juan, Thalia, and Carlos is found by comparing the qualitative results of the dynamic pre-assessment with the static pre-assessment results (see Chapter 4). I found that with assistance these students could phonemically segment L2 words. Moreover, it was through the DA, that I was able to determine the specific degrees of assistance for providing relevant instructional support during the intervention lessons. Through the menu of graduated prompts from the DA, I was able to specify how much assistance the students required in order to perform successfully. This provided an understanding as to where to locate future instructional lessons. Through the DA of L2 Phonemic Segmentation, students’ potential abilities were revealed as a result of assessment and insights into the tools of instruction for assistance-providing were gained. In this manner, a tool and result notion of Vygotsky’s ZPD is illustrated.

**Tool and Result: Providing Assistance as a Source of Development**

In Chapter 4, I included transcriptions of where student to student assistance functioned into improved L2 literacy and language development. Specifically aligned with the tool and result nature of providing assistance, I delineated how Carlos improved his L2 segmentation performance through providing assistance to another student during an intervention lesson. In the presentation these results, it was documented that at the
time Carlos did not accurately segment "happy birthday" into its constituent 4 syllables. It was only after assisting his partner, Pedro, did he correctly identify all 4 syllables in "happy birthday."

Although I was unable to include the following recount of a conversation I had with Juan’s former first grade teacher, it did reveal a tool and result perspective of assistance providing. As explained in the introduction of this dissertation, at the time of the study I was an assistant principal within the district that the study took place. Approximately 6 months after the conclusion of the study’s data collection period I was appointed as principal of an elementary school located within the geographic location of the school where the study took place. In February 2006, during the conclusion of a teacher interview for employment at my school, I talked at length with Juan’s former teacher. During the discussion, I asked her about Juan’s progress with phonemic segmentation after the study concluded. She informed me that Juan would go back after my intervention lessons and demonstrate to her and other students about the nature of the activities that we were doing.

What became interesting from my discussion with her was that during the study Juan was showing her and the other students how he learned to use snap cubes. During one of the instances discussed, Juan created "a gallery" of various "snap cube towers" (snap cubes attached end on end and propped-up vertically). The teacher informed me that when she talked to him about what he was doing, she mentioned that he was creating "towers." The teacher informed me that earlier in the year, she provided an activity where the students had been creating "towers" during a mathematics lesson from Math Investigations (Scott Foresman, 2004). During this math activity the students were to
represent quantities using snap cubes to match a given number printed onto a paper card. During this activity, the students were to create a “gallery,” and discuss why the snap cubes (in quantity) matched the number on the card provided. The teacher stated that Juan had taken how we were using snap cubes and integrated it with the way he had learned to use snap cubes during math. The “gallery” he had created was a collection of individual snap cube towers that were based upon the quantity of phonemes he perceived as a match for the number of phonemes that constituted the names of small animal figurines. The small animal figurines were used previously by the teacher as manipulative objects that represented the initial sounds of words for teaching initial reading. The figurines were stored in small tubs marked with letters they represented. These objects were included within her school’s reading basal series.

From the discussion with the teacher, I was able to document Juan’s future development in a unique way. Through her description, I understood Juan’s actions as the internalization of “what could be quantified,” derived from the intermental plane and turned inward and reconstructed at the intramental plane. His use of snap cubes in this way demonstrated his recently transformed meta-awareness of that snap cubes can represent quantities. Specifically, Juan’s emerging ability transcended the phonemic awareness lessons into other contexts at school. Juan demonstrated that just as a printed number on a paper card could be represented in the quantity of snap cubes, so could the quantity of individual phonemes in any spoken word from his L2.
CHAPTER 6

SUMMARY AND RECOMMENDATIONS

Summary

This dissertation is a Sociocultural study of second language and literacy learning involving Vygotsky's ZPD, phonemic awareness, and DA. While this inquiry was aimed at understanding assistance and how it functions in second language and literacy learning, it provided for an alternative perspective of L2 phonemic awareness assessment through the juxtaposition of theoretical paradigms underlying assessment procedures.

While there was ample research from which to draw from most of the areas of research, when these areas were converged, the need for understanding the effects of a DA of L2 phonemic awareness was illuminated. This study provided the first implementation of a DA of L2 Phonemic Segmentation. DA in relation to second language and literacy learning is in its infancy (see Chapter 2). Therefore, this study can now be considered as one of the initial studies of L2 DA. Following Poehner and Lantolf, this dissertation demonstrated how DA could promote development of L2 phonemic awareness by applying Vygotsky's tool and result conception of the ZPD, where the potential abilities of the student are illuminated through collaborative problem solving.

I firmly believe that the DA employed within this study uncovered how assistance functioned in their development of L2 phonemic awareness. Equally important, the DA
determined pertinent information relevant to pedagogical decision-making for teachers
called to assist primary aged ELLs in their development of L2 phonemic awareness.

Study’s Limitations and Recommendations for Future Research

The recommendations for this study’s limitations and avenues for future research
have been organized into two sections. In the first subsection I will discuss the study’s
limitations. In the second subsection I will offer recommendations for future research.
The limitations to be discussed will be the following: (1) the number of students
participating, (2) the technology used in capturing the various forms of assistance in
coding and counts, and (3) use of graduated menu of prompts. I included the number of
students as a limitation because I know that previous literature involving a DA of
phonemic awareness was performed from a quantitative approach. The second limitation
has to do with technological instruments and human error. It is possible that in the
numerous times that I had viewed tape, made transcriptions, performed counts, checked,
and rechecked that I may have unknowingly miscounted, misinterpreted, or
misrepresented a gesture, word, or utterance given the level of technological instruments
used to record all sessions. The third limitation is related limiting student performance as
a result of using a pre-set menu of prompts instead of an extemporaneous approach to
providing assistance during the DA.

The recommendations for the remediation of the limitations in future studies have
been provided in the second subsection. These recommendations will be presented as
follows: (1) increasing the amount of students and the variation of types of ELLs, (2)
including the use of more advanced technology, (3) urgency for the NRP to perform
research for appropriate practices for teaching ELLs to read, and (4) expanding the study of DA for second language acquisition.

Limitations

Number of students. Spector provided for the only previous study of a DA of phonemic awareness. Spector's study involved the quantitative analysis of data derived from 52 students from a small town in the New England region of the United States. The participants involved were predominantly white and middle class. Although Spector never discussed research concerns, it could have been noted that within the qualitative tradition, reliability and validity is compromised through studying a homogenous population. My study on the other hand, performed within the qualitative tradition involved a purposeful sampling of a relatively small and homogenous population.

Although a small group of students is limiting, my intent was to purposely select a homogenous population (first grade students and other than English-speaking) because it was a study of second language and literacy learning. For this reason, the students selected for my inquiry were of ethnicities that excluded white/Caucasian not of Hispanic origin and black/African-American not of Hispanic origin. I have not suggested nor represented that as a result of my findings that this should be interpreted as a comprehensive study of the whole student population. Furthermore, it should not be dogmatically applied to the general population of students. This dissertation was limited to only five Hispanic students all of which were native speakers of Spanish and were of Mexican decent. While this would not be representative of this district's total student population, it is representative of the district and school's ELL population.

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Technology. Within Chapter 3, I described the methodological process of the study. I recounted this process in the previous subsection. I articulated this process as a perpetual cycle of engaging with children, watching and listening to the audio/video recordings, recording data, reflecting upon my observations, revisiting the site, re-engaging with the children, analyzing data, and the process continued. Attempting to capture real life through transcribing action, gesture, words, and the alike involve some recognizable error. Although the video camera, a Samsung SC-D453, included an audio jack from which to connect 8 individual lapel microphones was used to capture video and audio recordings of each assessment session and intervention lesson, there were portions of the audio/video recordings that were nearly impossible to discern with complete certainty.

Within the articulation of the study, I attempted to accurately represent reality through the transcriptions of the episodes as viewed and heard through the audio/video recordings. In order to do so, I used Microsoft Word 2003 and the tools available within this software to arrange tables, figures, and transcriptions in an easy to read manner. Realizing that this data needed to be presented in a concise manner and arranged in an intelligible, linear fashion perverted the actual nature of the interactions as “caught on tape.” I recognize that I may have limited the findings of my study based upon the process of deciding how to present my results given the level of technology available to me at the time. In the interest of practicality and conciseness, I used the table function to insert truncated transcriptions and provided only those transcriptions that highlighted my findings.
Use of menu of graduated prompts. I recognize that I may have limited the performance of the students and results of the study as a result of using a pre-set menu of graduated prompts. It is possible that a more open-ended or extemporaneous approach to providing assistance related to the students' immediate needs may have proven to be more appropriate. I used the pre-set menu of prompts as it has already been documented in the available DA research and DA of phonemic awareness (see Chapter 2).

Recommendations for Future Research

Number of students. Future studies involving the DA of L2 Phonemic Segmentation could be improved by purposely extending the study to include more students. Future research should include a greater variation in the types of ELLs. Greater numbers of students would help to mitigate reliability and validity concerns. Furthermore, future studies should include a greater variation of other populations of ELLs. Future research should consider including younger and/or older ELLs, ELLs that are native speakers of languages other than Spanish, and ELLs from private schools.

Technology. Future studies should include the use of more advanced technology. Although I did not have the economical means to acquire advanced technology, I am aware that there are devices that can further slow down video streams and amplify audio recordings. More advanced technology would immediately improve the accuracy of identifying all types of assistance-providing and assistance-receiving. Through using more advanced technological devices, student/teacher articulations, physical gestures, and the manipulation of objects could be better recorded and studied. Future research in this area would be enhanced through the use of more advanced devices, as this could secure more conclusive results.
Future researchers in this area could improve the presentation of results with more advanced software programs. I realize that the software available on personal computers is more powerful than other tools of the recent past, such as the typewriter. However, the presentation of findings of future studies could be enhanced by other types of software that have the capability to arrange transcriptions in different types of graphic organizers and links to audio/visual recordings. I feel that with a less linear form of graphic organizer for arranging transcriptions, a more fluid nature of oral discourse may be presented.

**Urgency for the NRP to perform research for appropriate practices for teaching ELLs to read.** As previously discussed in Chapter 1, The National Research Council's (1998) *Preventing Reading Difficulties in Young Children*, outlined factors that have contributed to the perception of low reading achievement. One of the factors included in this report was defined as nonnative English proficiency. While the subsequent NRP report (2000) was helpful to teachers of reading, the effects of using these reading practices for English-speaking populations with ELLs, are not completely understood.

Therefore, it is urgent that the NRP and/or others perform research and make available similar reports exclusively for the instruction of reading for linguistically diverse student populations. Once again, this is because uncompromisingly applying the research/practice of reading designed for English-speaking students to ELL students is erroneous.

**Expanding dynamic assessment in second language acquisition research.** This DA of L2 Phonemic Segmentation has proven to be a useful approach to understanding emergent L2 abilities aimed at assisting primary-aged ELLs in learning to read in their L2. This unified account of assessment and instruction illustrates the revolutionary notion of the
ZPD. Stemming from this revolutionary account of the ZPD, as realized through a Sociocultural study of second language acquisition, DA breaks down the dualistic presentation of assessment and instruction so common in positivistic practices. I firmly believe that future studies of DA in second language acquisition are of dire need. I judge that this dualistic presentation is the exact disconnect between assessment and instruction that confounds so many teachers aiming to instruct ELLs. Future research in DA in second language acquisition is needed to break down this barrier and provide the nexus of second language assessment and instructional methodology.

Throughout Chapter 4, I presented the results of how a DA of L2 Phonemic Segmentation provided a unified account of assessment and instruction for the possibility of offering responsive instruction aimed at leading primary-aged ELLs’ linguistic and literacy development. Furthermore, the results of a DA of L2 Phonemic Segmentation have illustrated the role of assistance and how it functions into the subsequent second language and literacy development of primary-aged ELLs. While static assessments have a role in the education of ELLs and second language acquisition, understanding the power of DA will only enhance second language research and pedagogy. DA’s role in second language acquisition should not stop with language development and literacy. Moreover, future studies involving DA and second language acquisition must be extended to other curricular areas.
APPENDIX I

Picture Cards
APPENDIX II

Snap Cubes
APPENDIX III
Dynamic Assessment

ROYBAL-BENSON DYNAMIC ASSESSMENT OF L2 PHONEMIC SEGMENTATION

Student Name: ______________________ Date: __________

Part I: Informal Oral English Inventory

| Word # 1: |  |
| Word # 2: |  |
| Word # 3: |  |
| Word # 4: |  |
| Practice Word: |  |

Part II: Segmentation

<table>
<thead>
<tr>
<th>Practice Word</th>
<th>Prompt</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word # 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word # 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word # 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word # 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Menu of Graduated Prompts

| Prompt # 1: | 5 points | Pronounce the target word slowly |
| Prompt # 2: | 4 points | Ask the student to identify the 1st sound of the target word |
| Prompt # 3: | 3 points | Cue the student with 1st sound of the target word |
| Prompt # 4: | 2 points | Cue the student with the number of sounds in the target word |
| Prompt # 5: | 1 point  | Model segmentation using snap cubes to represent the number of sounds in the target word |
| Prompt # 6: | 0 points | Model segmentation using snap cubes with hand-over-hand support |

Scoring

<table>
<thead>
<tr>
<th>Score</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Self Regulation</td>
</tr>
<tr>
<td>23-16</td>
<td>Approaching Self Regulation</td>
</tr>
<tr>
<td>15-5</td>
<td>Emergent Self Regulation</td>
</tr>
<tr>
<td>4-0</td>
<td>Other Regulation</td>
</tr>
</tbody>
</table>

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