

THE ROLE OF PHONICS IN TEACHING ENGLISH PRONUNCIATION
TO ENGLISH AS A FOREIGN LANGUAGE STUDENTS

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by

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ABSTRACT

While pronunciation instruction has been a sorely neglected aspect in teaching English as a foreign language, recent decades has witnessed a revival in interest and investigation into how to teach pronunciation. Research indicates that where pronunciation is taught, the two principle approaches to instruction are phonetic transcription and articulatory phonetics. These two approaches can be very effective, but they have significant limits. First, many teachers themselves are not properly trained in how to teach English pronunciation. Many of these same teachers also lack a clear understanding of the principles of phonetics. Additionally, when English pronunciation is taught from a strictly phonetic viewpoint, using the International Phonetic Alphabet and phonetic transcription to teach students to produce and discriminate among sounds, students are aided only to the extent that they are able to memorize and reproduce those sounds in familiar words and intuit them in unfamiliar words. Since English never appears in the real world (except in dictionaries) in phonetic symbols, students need something more if they are to confidently deal with new words in the real world.

This thesis proposes the use of a modified phonics program to teach students basic rules that will help them to translate graphemes to phonemes in both words they are familiar with and words they are not. It is a common misconception that English is a highly irregular or irrational orthography. Quite to the contrary, English, as a morphophonemic language, has a highly regular orthography governed by systematic rules and spelling patterns that correspond to phonemes in speech. We argue that a knowledge of these rules give students the necessary tools to move from grapheme to phoneme. This also increases their confidence, develops their metacognitive awareness and produces autonomous learners whose pronunciation and

communication will improve because of knowledge of how English works and relates writing to speaking.

A study was conducted with students from a English IV for Staff class at the Universidad Latinoamericana de Ciencia y Tecnología, who participated in English pronunciation instruction based on the phonics principles presented in this thesis. We found that even in a short seven weeks, having learned a knowledge of fundamental rules of English phonics, adapted to the EFL context, students were able to improve their pronunciation in post-study analysis. Most importantly, it was found that students themselves reported great confidence in both reading and pronunciation.

Finally, this thesis presents and develops a practical project which is designed to implement the researched conducted herein. This project is a website (www.phonics4efl.com) developed to help educate educators and equip them to be more effective in their pronunciation instruction, using the techniques and research analyzed in this thesis.

Key Words: EFL; English Pronunciation; Phonics; Metacognition; Vowels; Orthography;
Phonetics; International Phonetic Alphabet

To my father

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I fear that I will leave somebody out that deserves great mention. Nobody achieves

anything in this life alone. No one is a rock or an island, to quote the great philosophers, Simon and Garfunkel. We all stand on the shoulders of those greater than us.

I am a part of all that I have met;
Yet all experience is an arch wherethro'
Gleams that untravell'd world whose margin fades
For ever and ever as I move.

“Ulysses”

—Alfred Lord Tennyson

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CHAPTER 1 OVERVIEW

It is widely recognized that in the EFL classroom, pronunciation instruction has been largely neglected by teachers (Huang, 2015; Ricketts, 2014; Miller, 2012; Saalfeld, 2011; Wei, 2006). Wei (2006) has argued that this is due to a paucity of research-based pedagogical strategies, techniques and teaching materials that teachers, who are not specialists, can incorporate into their day-to-day lesson planning. Implementation of pronunciation instruction is not only complicated by the lack of access to materials and practical strategies, but also because most universities do not provide their teacher candidates with sufficient training in how to teach pronunciation.

Additionally, learners' speech must be understood by other English speakers. The Intelligibility Principle holds that there are certain aspects of a non-native English speaker's accent that can impede understandability as well as aspects whose impact is negligible. Teachers ought to focus on remediating those features of a learner's pronunciation which most impede intelligibility and ignore those which do not.

L2 pronunciation instruction in English has been dominated by a pedagogical strategy known as the *whole word* approach, combined with a heavy dose of phonetic transcription using the International Phonetic Alphabet (IPA), at least when teachers feel comfortable enough with the IPA to teach it to their students (Fiktorius, 2013). Moreover, the *whole word* method, however much support it has had throughout certain periods of history (though by no means at all times nor in all places) relies so heavily on the students' memory and contextual guessing that it becomes impractical and holds little value in pronunciation instruction for developing autonomous learners. Given the foregoing, and since English is not a phonetic, but

a morphophonemic language, it is proposed that the incorporation of phonics rules together with a judicious use of IPA for teaching pronunciation in the English as a Foreign Language curriculum will provide the necessary cognitive and metacognitive conditions for EFL students to confidently improve their pronunciation as autonomous learners.

CHAPTER 1

INTRODUCTION

Context and Background

It is widely recognized that in the English as a Foreign Language classroom, pronunciation instruction has been largely neglected by teachers (Huang, 2015; Ricketts, 2014; Miller, 2012; Saalfeld, 2011; Wei, 2006). Wei (2006) argues that this is due to a paucity of research-based pedagogical strategies, techniques and teaching materials that teachers, who are not specialists, can incorporate into their day-to-day lesson planning. The implementation of pronunciation instruction is not only complicated by the lack of access to materials and practical strategies, but also because most universities do not provide their teacher candidates with sufficient training in how to teach pronunciation. For example, in Costa Rica, to earn a Licenciatura (an academic degree between the Bachelor and Master's degrees offered in most countries in Latin America) or a Master's Degree from the University of Costa Rica (UCR), only one course in oral and aural communication is required for either degree respectively ("Posgrado en Enseñanza del Inglés como Lengua Extranjera", 2017). In the Bachelor's Degree program, courses dedicated to oral communication are meant to improve the pronunciation and communication capabilities of the teacher candidates themselves; no course is offered to undergraduate students in the techniques of how to teach English pronunciation in the EFL classroom. In other words, in Costa Rica, by the time a teacher has earned her Master's Degree in English education, she has only received two courses (seven academic credit hours) in how

to teach pronunciation, and even these courses are not exclusively dedicated to pronunciation, but to aural communication as well. This situation, at one of Costa Rica's most prestigious institution of higher education, confirms Wei's concern that the neglect of English pronunciation in universities and colleges around the world is pandemic (Morely, 1991).

This gap in the training of future educators in Costa Rica will no doubt create a significant problem for the effective implementation the Ministry of Education's (MEP) new English curriculum, which specifically calls for phonological instruction in pronunciation, and phonics instruction in reading and oral comprehension (Mora Escalante, 2016). If teachers do not possess the requisite skills to teach these concepts and apply them to pronunciation, this aspect of the MEP's new curriculum will in all likelihood be ignored by teachers uncomfortable or unfamiliar with them or with how to teach these concepts to their students. A failure to teach pronunciation effectively in the EFL classroom, according to Wong (1993), will have a negative impact on students' ability to make themselves understood in authentic encounters with other English speakers. He also argues that students who cannot pronounce English well will suffer in their reading and writing skills. If Wong's research is right, Costa Rica will have a very difficult time achieving the goals of its new curricular implementation which include 50% of secondary school graduates testing at B2 or C1 levels based on the criteria of the Common European Framework (Quesada Pacheco, 2013).

The neglect of pronunciation instruction in the EFL classroom is not isolated to Costa Rica. The wide-spread institutional neglect of this area of English language learning can be better understood through a brief survey of the history of the different approaches to pronunciation instruction during the last twenty-five years. Morely (1991) has observed that in the early 1990s, most teachers viewed pronunciation instruction from a very narrow perspective; if they

were not teaching pronunciation as “articulatory phonetics”, they were not teaching it at all. Articulatory phonetics is the study and application of the principles of articulation (movement and placement of human speech organs in the production of sound) and our knowledge of phonology. We do not wish to imply that articulatory phonetics has no place in the ESL/EFL pronunciation classroom, but rather that many teachers, even today, more than twenty years after Morely, are poorly equipped to teach pronunciation in this way, not to mention integrate principles of articulator phonetics into their daily lesson plans.

Since the 90s, the explosion of new technologies (with often dubious pedagogical benefits) on the market and made available to educators has changed the way education itself is viewed, as evidenced by the increased availability and use of Massive Open Online Courses (MOOCs), m-learning, and the use of computers, tablets and the internet to teach English competencies in diverse contexts (Simonova, 2016). Not only has the technological revolution changed the way teachers educate, but it has also contributed to a greater focus on the individual in education. There has been a perceptible shift in educational focus from a “teaching-centered classroom” to a “learning-centered classroom” (Morely, 483, 2016). Although, in the twenty-first century, it is more common to speak of a “learner-centered classroom”. The focus of this shift has been from teacher to learner, and from a generalized approach aimed at the lowest common denominator, to an approach which values individual needs, competencies, styles, and differences.

Morely has also pointed out that these shifts have influenced the way we view language teaching. Whereas once language was seen as merely a formal system to be taught to students, we now appreciate the functional aspect of language and its role in satisfying the particular communicative needs of the learners. Lastly, English itself has come to be seen as a lingua

franca. This has led to an emphasis on global world-ready competencies such as grammatical competence, sociolinguistic competence, discourse competence and strategic competence (Canale & Swain, 1980). At the same time, the status of English as a lingua franca also raises important questions with respect to pronunciation instruction, for example, what to correct and when and how to correct it (Levis & Barriuso, 2012).

Since the early 90s when Morely wrote her analysis of pronunciation instruction during the 60s, 70s and 80s in the United States, SLA studies have seen a great deal of research and discussion on the question of how and why to teach pronunciation. Wei (2006) points out that the older pronunciation textbooks focused not so much on pronunciation, but on sound discrimination. Moreover, the goal of the audio-lingual method was to produce speakers who had acquired a native-like pronunciation, working with drills and instruction in phonetics. Two important factors were left out of the older language classroom, viz. the student as the active responsible party in his own education and the affective aspect which has become so prominent in recent SLA pedagogy. Today, pronunciation instruction is far more variegated, including instruction in intonation, stress, rhythm, consonants and vowels in different phonetic environments, with a strong emphasis on suprasegmentals and connected speech; techniques that teachers can put in practice in the classroom are far more numerous than in the past. Wei provides a summary of the techniques found in the literature which include self-motoring, self-study, modeling, communication activities designed to help students produce specific sounds, analyzing the written version of students' oral presentations, computer-assisted learning, direct phonetic and articulatory explanations, taking advantage of similar sounds in the L1 as an aid to L2 pronunciation, as well as different communication and affective strategies. In the last two decades, it has also been recognized that teachers not only need to learn strategies for teaching,

but also for teaching students' strategies for learning. According to Peterson (2000), strategies can be distinguished between direct and indirect strategies. Direct strategies include memory training and cognitive strategies such as comprehension, production and compensation strategies, all of which are meant to ameliorate linguistic deficiencies in the learner's interlanguage. Indirect strategies do not necessarily involve the active use of the L2, but are helpful in forming self-directed, culturally sensitive and competent communicators. Such indirect strategies include metacognitive, affective and social strategies.

Part of this history of pronunciation instruction in the foreign language classroom also includes how teachers' beliefs and knowledge impact praxis. Studies on the correlation between teacher beliefs about grammar and literacy and classroom practices has received significant attention in the literature, but shown mixed results (Baker, 2011). Farrell (2006) has demonstrated that there is a significant difference between what teachers believe and their practice, attributing the disparity to a deficiency in teachers' awareness of their own beliefs and the implications of the same in the classroom. In contrast, Johnson (1992) has shown a strong correlation between the two, confirming previous research into teacher beliefs and practices which had demonstrated the importance of the impact of teachers' theoretical beliefs on institutional practices. Despite these and other studies, Baker notes that little research has been done on the impact of teacher beliefs about pronunciation instruction and corresponding institutional practice. Baker laments the lack of serious study on the subject given the importance of pronunciation for effective communication and notes what has already been observed in this chapter, viz. that "few teacher education programs provide courses on how to teach L2 pronunciation".

It stands to reason that if institutions of higher education, responsible for training teachers,

do not provide a significant theoretical background in pronunciation instruction, teachers will be left to their own devices or to blindly follow the dictates of the curriculum implemented by the institution which employs them. This deficiency in teacher training could possibly explain why pronunciation instruction has been so woefully neglected; many teachers lack both adequate knowledge about English pronunciation and the requisite training to properly teach it (Baker, 2011).

The Objective and Limits of the Present Study

L2 pronunciation instruction in English has been dominated by a pedagogical strategy known as the whole word approach, combined with a heavy dose of phonetic transcription using the International Phonetic Alphabet (IPA), at least when teachers feel comfortable enough with the IPA to teach it to their students (Fiktorius, 2013). This is a version of the look-and-say method advocated by the nineteenth century American pedagogue, Horace Mann (Chrisman, 1996), combined with instruction in articulatory phonetics, as has been previously observed. Phonics instruction as such has been viewed as a technique appropriate only for teaching native speakers to read and spell, but not for teaching pronunciation in the EFL classroom (Chrisman, 1996; Yeung, Siegel & Chan, 2012; Adesope, Lavin, Thompson, & Ungerleider, 2011; Jones, 1996).

Phonics as an aid to L2 literacy has been a severely neglected area of research (Fiktorius, 2013). This is even truer of phonics in EFL pronunciation instruction. The objective of this study is to offer a modest contribution to the growing conversation on pronunciation instruction through a fresh analysis of the targeted application of phonics instruction in the EFL classroom, combined with the judicious use of IPA in order to improve ELL's pronunciation, while at the same time providing students with necessary metacognitive skills to become autonomous

learners. Since phonics as a pedagogical strategy has been largely neglected by the TOESL community in general, either due to lack of knowledge or to ideological prejudice, this study aims to offer a fresh perspective with a focus on practical curricular application and implementation.

The present study is multifaceted. In Chapter 3, a theoretical framework will be offered for the thesis herein proposed. After the same has been sufficiently laid out and defended on philosophical and scientific grounds, the results of a study conducted with six adult student volunteers from an English IV for Staff course at the Universidad Latinoamericana de Ciencia y Tecnología, applying the fruit of the theoretical framework over the course of eight weeks, will be presented and examined. Due to time restraints and the limited nature of this study, the primary focus of the pronunciation study was on the short vowel sounds /a/ and / / in differing phonetic environments. The decision to focus on these sounds was based on a series of pre-instructional sample recordings made of the participants and analyzed using PRAAT, a speech analysis program developed by Paul Boersma and David Weenink at the Department of Phonetics of the University of Amsterdam (<http://www.fon.hum.uva.nl/praat/>). Other sounds other than the aforementioned were focused on to one or another degree, but they were not taken into account in the final analysis since they were not the primary focus of classroom instruction or application of the principles articulated in the theoretical framework of this study.

It should also be pointed out that one of the recognized limitations of this study is that the students involved are English IV students who are on staff at the university. Their English is already rather developed and it is possible that their pronunciation of read words is based on memory or knowledge of how the word is pronounced, independent of any phonics instruction they may have received in our class sessions. Nevertheless, the vowels chosen for study were chosen due to the fact that these were the areas which showed the greatest deviation from

standard pronunciation in the pre-instructional phase of the study. Another limitation was the time allotted for the study, namely, only eight weeks of a fifteen-week trimester, as well as the limited sample. These limitations notwithstanding, it is believed that if phonics instruction and enhanced phonemic awareness can help these students improve their pronunciation, various applications could be made to students at different levels of English proficiency using the same or similar techniques to those employed here.

Definition of Key Terminology

In the literature on pronunciation, it is not always clear what researchers mean when they use the terms phonics and phonetics. Gillette's (1994) review of the literature concludes that a confusion of terms exists due to the modern tendency to overuse and confuse technical with laymen's terms. Therefore, it is important, at the outset of this study, to clearly define key terminology.

To begin, we will distinguish between phonetics and phonology. While the two are closely related, *phonetics* "is the study the physical properties of sounds used in human speech" (Cohn, 1993). This includes the properties of speech production, acoustics and perception. *Phonology*, on the other hand, is "the study of how speech sounds pattern together". These areas of study are intimately related. Chomsky & Halle (1968) believe that while phonology is the study of language-specific rules, phonetics is a universal and mechanical realization of those rules. Cohn (1993) has argued that this distinction is not nuanced enough to account for the advances in research. She finds that the mechanisms involved in phonetics and phonology are distinct, such that "phonological rules manipulate discrete, timeless segments, whereas phonetic rules manipulate variables which are continuous in time and space". Prator (1971) has provided a simpler definition of phonetics, namely, "the science which attempts to describe all the

distinguishable sounds that occur in the languages of the world”. If phonetics is a descriptive science whose goal is to distinguish the sounds as they occur in spoken languages, phonology is the science which studies how those sounds are organized (“SIL Glossary of Linguistic Terms”, 2017). The following chart is helpful in parsing the differences we have cited in this paragraph

Table 1
Comparison (Phonology and Phonetics)

PHONETICS	PHONOLOGY
Is the basis for phonological analysis?	Is the basis for further work in morphology, syntax, discourse, and orthography design?
Analyzes the production of all human speech sounds, regardless of language.	Analyzes the sound patterns of a particular language by <ul style="list-style-type: none"> • determining which phonetic sounds are significant, and • explaining how these sounds are interpreted by the native speaker.

In a related way, while one of phonology’s tasks is to determine which phonetic sounds are significant, phonemics is the study of differences among sounds in a given language in order to determine what differences are significant and which are not. It also seeks to determine what allophones, phonetic variants of a given phoneme (“SIL Glossary of Linguistic Terms”, 2017), each of the phonemes of a given language has (Prator, 1971). Thus, Prator distinguishes between phonemic and phonetic transcriptions. A *phonemic transcription* represents “only the phonemes” or the “meaningful units of sound that occur in the utterance transcribed”, while a phonetic transcription “usually shows much finer distinctions among sounds, representing

various allophones of each phoneme”.

Finally, how do the aforementioned terms relate to phonics? *Phonics*, as defined by Gillette (1994), is the relationship between letters and sounds. Horace Mann defined phonics as “the sounds of the letters” (Chrisman, 1996). These definitions, while true, do not describe with sufficient accuracy what we mean when we speak about phonics as an instructional method. Phonics is indeed the “sounds of the letters” and the relationship between letters and sounds, but as a pedagogical method it is more. It is better to speak of phonics as an instructional method to “teach students correspondence between graphemes in written language and phonemes in spoken language and how to use these correspondences to read and spell words” (Iadkert, 2014). I would refine this definition only slightly by defining phonics as an instructional method by which students are systematically taught the rules which govern the grapheme-phoneme correspondences in a particular language in order to equip them to read and spell. Phonics is, therefore, different than phonetics, phonology and phonemics. Phonics is not a science, but rather a *method* of organizing and teaching the product of the linguistic analysis (viz., the rules) of a language.

Having defined the most salient terminology to be used during the course of this study, as well as the background and context of the same, we are now in a position to lay out in summary form what it is we hope to explore and demonstrate. What follows is the thesis which will be examined and explicated in the following chapters.

Thesis Description

Phonics has been a highly debated pedagogical method in the United States for over two hundred years. Since the time of Horace Mann, literacy education in the United States has vacillated between the Scylla and Charybdis of phonics versus whole word instruction (Emans,

1968; Morley, 1991). Nevertheless, the debate over phonics as a pedagogical strategy is primarily restricted to teaching reading and spelling to native English speakers (NES) or to remediate the literacy problems of L2 speakers studying in an L1 environment (ESL). The dearth of literature dealing with the application of phonics in the EFL classroom for teaching reading and writing is striking. In part, this is due to the prevailing prejudice which is against the use of phonics with non-native English speakers (NNES) studying English in an L2 classroom (Fiktorius, 2013). The literature is even scarcer with regard to the application of systematic phonics instruction for teaching English pronunciation to NNES. Nevertheless, some researchers have made efforts to explore and exploit the relationship between phonics and pronunciation in EFL (Chien, 2014; Iadkert, 2014) and Huang (2015) notes that spelling strategies can have a positive impact on pronunciation. Additionally, Schmidt's Noticing Hypothesis lends further support to the idea that students could benefit from systematic instruction in how the English language regulates sound through orthography since "learners must be aware of a feature in order for it to become part of their linguistic system" (Saalfeld, 2011). If students are not provided with the tools for understanding the mechanics of English orthography, they will be forced to rely heavily on memory and contextual guessing, both of which are severely limited vis-à-vis systematic phonics instruction combined with other proven methods for improving phonological awareness in reading and spelling.

The present study argues that phonics, as a pedagogical strategy, is not a method exclusive to NES, but can significantly improve NNES's phonological awareness, not only in reading and spelling, but also in pronunciation. It is imperative that any pedagogical technique be consistent with the nature of the language being taught. Since English is not a phonetic language (i.e. where every grapheme has a one-to-one correspondence with a phoneme, such as in

Spanish), but rather a morphophonemic one, it is ever more imperative to include basic phonics instruction at all levels of ESL and EFL education. This study seeks to demonstrate that the incorporation of phonics rules together with a judicious use of IPA for teaching pronunciation in the English as a Foreign Language curriculum will provide the necessary cognitive and metacognitive conditions for EFL students to confidently improve their pronunciation as autonomous learners.

Research Questions

The present study will address the following questions.

1. What is the theoretical foundation for the use of phonics as a pedagogical strategy in teaching English pronunciation?
2. In what ways can phonics instruction benefit students at all levels in becoming autonomous learners?
3. What role can IPA and phonological transcription play in integrated phonics instruction in teaching English pronunciation?
4. What short vowel sounds present the greatest challenge for Spanish-speaking EFL students and how can these pronunciation challenges be successfully remediated?
5. What steps can ESL/EFL teachers take to better serve their students' needs in the area of English pronunciation?

Organization of the Present Thesis

This thesis is organized into four subsequent chapters. Chapter Two provides a comprehensive answer to Research Question #1 (RQ #1) through a review of the salient literature on issues in pronunciation instruction in ESL/EFL with a special emphasis on integrated phonics

instruction, as well as other relevant areas of concern. Chapter Two also answers RQ #2 in exploring the relationship between phonics, phonemic awareness and metacognitive strategies in pronunciation instruction. Chapter Three is a detailed description of the present thesis and a discussion of the research methodology adopted herein. Chapter Four develops the thesis in answer to RQs #3 and #4 by describing an experiment conducted with six native Spanish speaking EFL students at the Universidad Latinoamericana de Ciencia y Tecnología. The chapter also provides a discussion, based on the research findings, of how teachers can help native Spanish speakers improve both production and perception of spoken English. Chapter Four will also conclude with practical application of the research findings, providing sample resources and a suggested curriculum map for phonics integration in pronunciation instruction. Chapter Five will answer RQ #5 by summarizing this paper's findings and providing both suggestions for classroom application as well as for teachers' continuing education.

CHAPTER 2 OVERVIEW

The present chapter provides a review of the salient literature on pronunciation, English orthography and phonics instruction. The chapter is divided into two sections: 1) a discussion of differing views on the nature of English orthography, and 2) a review of the literature on the relationship among reading, spelling and pronunciation instruction for EFL/ESL students. The second section is divided into three basic sections which deal with pronunciation teaching and metacognition, the relationship of reading and spelling instruction to teaching pronunciation, and the usefulness and limits of systematic phonics instruction for teaching English pronunciation.

CHAPTER 2

LITERATURE REVIEW

Views on the Nature of English Orthography

Richard Hodges (1972) has pointed out that there are essentially three ways of viewing English orthography. Still today there are many people from all walks of life, even professional educators, who view English orthography as essentially irrational and chaotic. Many have likely seen the litany of clever poems that demonstrate the differences which can exist among words which share a similar spelling. One such poem by an unnamed author comes to mind. It begins, “I take it you already know / Of tough and bough and cough and dough? / Others may stumble, but not you / On hiccough, thorough, laugh and through?” This particular poem ends light-heartedly, jesting with the reader, “A dreadful language? Man alive! / I’d mastered it when I was five.” A similar poem by Gerard Nolst Trenité ends on a more despairing note: “My advice is -- give it up!” Poetry is a venerable critic of English orthography. The first known work to indirectly criticize English orthography, written in early middle-English verse, was penned by Orm who authored a metrical collection of homilies on the Gospels in the thirteenth century. He tried to create a consistent orthography to help itinerant preachers (The Editors of Encyclopædia Britannica, “Orm”, 2008). Others, however, have been less than poetic in their criticisms. In the 1960s in the United States, the controversy among educators over phonics versus the so-called “look-and-say” method for teaching reading was very much alive. Rudolf Flesch, in 1955, wrote the famous book, *Why Johnny Can’t Read*, arguing that students were

failing at reading because too many schools were teaching children to read with the “look-and-say” method which forced students to rely too heavily on memory instead of on the systematic rules of English orthography. However, not everybody was in agreement with Flesch. Gertrude Hildreth (1961) has argued that the irregularity of English spelling had long been overlooked by researchers. She cites various authorities who decry the “booby-traps” which English orthography sets for unsuspecting readers and goes so far as to decry English spelling as “chaotic” and as “an impediment in learning to read and spell”. She concludes that “the use of our alphabet for encoding the English language is both obsolete and illogical”. Her sentiments may not be as poetic as Orm’s, but they are shared by many others, at least on a popular level.

While waxing long on the “handicaps” of English orthography arguably belies a superficial understanding of the nature and history of English spelling, nevertheless, a clear philosophy of the purpose of an alphabetic writing system emerges. The presupposition underlying the “irrational orthography” view (IOV) is that the written language is inherently a representation of the spoken. On this view, it is imperative that written English mirror spoken English. This idea that the visual symbol and the spoken word must have as close to a one-to-one correspondence as possible, while not currently in vogue in most academic circles today, has and continues to have a tremendous impact on pronunciation instruction in the foreign language classroom. As early as the 1920s, Churchman (1928) lauded the use of phonetic transcription to teach French pronunciation (with its 16 vowel sounds), arguing that it is clear that “the five vowel letters of the traditional alphabet were inadequate” (p. 39). Orlow (1951) laments that English spelling “serves anything but a representation of sounds” (p. 389) and advocates for the use of phonetic transcription in remediating pronunciation in ESL students, where which each symbol in the IPA stands for one sound heard and spoken. Orlow is not alone. In fact, phonetic

transcription using IPA is perhaps the most common method of teaching pronunciation used in ESL/EFL classrooms today (Banathy & Sawyer, 1969; Fiktorius, 2013; Fromkin, Rodman, & Hyams, 2011; Krause, 1999).

This practice in pronunciation instruction views speech both as more primitive than writing and based on it (Banathy & Sawyer, 1969). Fiktorius (2013) touts the benefits of phonetic transcription in and for teaching pronunciation. In the first, instance, Fiktorius contrasts phonetic transcription with standard written English in that transcription is “an exact representation” of the sounds of spoken English, “without any ambiguity, redundancy, or omission”. The second benefit that phonetic transcription has is that it can be used to prescribe for students the ideal pronunciation of any particular word or phrase. It is because of its utility in indicating “standard pronunciation” that the use of phonetic transcription is adopted by dictionaries.

Finally, not only is phonetic transcription useful in indicating standard pronunciation and in prescribing remediation for errors in pronunciation, but it can also be a very useful tool for both students and instructors in diagnosing, recording and analyzing student’s speech patterns. Fiktorius, as well as Krause (1999), suggest various ways in which the International Phonetic Alphabet (IPA; the customary means for rendering phonetic transcriptions) can be integrated in the ESL/EFL classroom to teach literacy and pronunciation.

There is no doubt that IPA is immensely valuable, not only to linguists and researches, but also to educators and students. Nevertheless, as Kreidler (1972) rightly observes, no matter how useful IPA is in aiding students’ mastery of the phonological system of the English language, they will eventually have to deal with English as it is in the real world, and that means interacting with, deciphering, interpreting and translating the written orthography into spoken form.

Structuralism and English Orthography

Hodge recognizes second and more prevalent position regarding English orthography as an incomplete, but highly patterned system. This view is most closely represented by the linguistic school called structuralism. Structuralism was a movement chiefly influenced by the work of Ferdinand de Saussure in France and Leonard Bloomfield in the United States (Algeo, 1969). These linguists argued that it was important to take into account how a language is structured in order to explain its functions and changes over time. Structuralists recognize that English orthography is far more consistent than previously believed (Bandle, Elmevik, & Widmark, 2002). Structuralists too consider spoken language as primary, at least in chronology, and written language as a subservient form of linguistic expression. However, a significant difference exists between Structuralism and IOV in that Structuralists, acknowledging the close relationship between spoken and written language, view them as independent expressions of one underlying language system. This was Saussure's view and is representative of Structuralism in general (Hodges, 1972).

The history and development of English orthography. Seeing language as a system, structuralists try to trace the historical factors that have influenced a given language in an attempt to provide an explanation for its present state. The writing system of a language usually changes much more slowly than does the spoken system, and so changes to standard orthographic forms will by the nature of the case take longer to become normative. Competing orthographic forms can and do exist side by side historically until one gradually replaces the other. English orthography is no exception. Yule (2010) rehearses the a brief history of the development of English, noting what he calls both external and internal factors. Many of our modern words find their origins in what is known today as Old English (or Englisc back in the days

of the Angles, Saxons and Jutes). With the conversion of the Anglo-Saxons to Christianity in the seventh century C.E., Latin inserted itself into the language spoken in Britain. It was the missionaries who used the Latin alphabet with its 23 letters to create a writing system for the language of the time. Later, English would be influenced heavily by the Old Norse of the Vikings, and Norman French. Additionally, between the fourteenth and sixteenth centuries, English underwent what became known as the Great Vowel Shift, in which the language experienced a change in the pronunciation of the long vowels. Near the end of the fifteenth century, the printing press was brought to England and the spelling reflective of that period in the history of the language was codified in print.

In addition to this, Yule points out that we can trace internal changes such as sound loss (loss of initial h's and initial g and k's before a nasal [n] losing their former pronunciation and becoming silent), metathesis (the reversal of the position of sounds in a word) and epenthesis (the addition of sounds to the middle of a word). These historical changes can account for most of the exceptions to English orthographic rules so often pointed out by proponents of the IOV view.

For structuralist linguists, this colorful history also makes English orthography inherently incomplete and very complex. Bloomfield (1933), the American father of structuralism, cautioned that while English orthography was by its nature alphabetic, the number of deviations from the norm were so many that teachers were wise to take care in how they instructed students so that they would not become unduly confused. He even lamented that English was not more like Spanish, Bohemian or Finnish, whose orthographies are far more phonetic with one-to-one correspondences between phonemes and graphemes.

Relating the English Orthographic and Phonological Systems

Katz & Frost (1992) take up as their primary concern the question of the relationship between the processes involved in reading and the structure of English phonology and morphology. They look at English orthography historically and describe how the changing historical structures of the morphology and phonology have shaped spelling. Still others have tried to show the relationships between the two systems of written and spoken language. Mattingly, for example, argued that reading and phonology were inseparably linked and that a reader “activates” the phonological form of the word and its corresponding meaning, showing that underlying the two systems was a single unifying system. Applied linguistics has reaped the fruit of the systematic nature of both English orthography and phonology. Mattingly applied his theory to the conversion of the printed word to synthetic speech. Taking Mattingly one step further, Holmes and Shearme adapted his algorithms to an automatic look-up program that converted alphabetic texts into phonetic symbols to create a more efficient reading machine for the blind (“The Science of the Spoken and Written Word”).

The structuralist recognition of the relative independence of writing and speaking is beneficial in that it respects the nature of the different media through which the one language is expressed (Hodges, 1972). While some have argued for a radical independence of the two systems, Hodges cites Josef Vachek as one linguist of the Prague school whose more moderate view is that orthography functions as a bridge which connects speaking and writing. Speech is dynamic and always in flux, but writing is static and controlled. Writing is much more than codified speech. It is a separate expression of language. Orthography, argues Vachek, is what mediates the two expressions of the one language. A similar argument is made by linguist Richard Venezky (1967). Venezky observes that in the past, most philologists who have studied English

orthography have assumed that writing is a technique which is meant simply to mirror speech and that any deviation from the spoken language in the orthography is to be considered an irregularity. However, Venezky argues that this understanding of the nature of orthography is mistaken. In other words, writing is not just an imperfect image of speech, as Bloomfield believed (1933). The underlying belief behind this is that an alphabet “should be perfectly phonetic”. This, says Venezky, is not reflective of the nature of English orthography as we see it unfold historically. English orthography is not a system which gives the reader a mere one-to-one correspondence between phoneme and grapheme, but rather a regular system which “wherein phoneme and morpheme share leading roles”. He develops his arguments based on an analysis of the spellings and pronunciations of the 20,000 most common words in English.

Structuralists commonly refer to language as a system comprised of systems (Josiah & Udoudom, 2012). For example, in a morphophonemic language like English, the phonological system deals with phonemes and the relationship which sequences of phonemes have. Morphemes are related to the grammatical system with respect to their “combination into words and larger units”. Venezky argues that the rules which govern English orthography must be understood by taking into account both systems and the way in which they interact with one another. This interaction is studied through morphophonemic analysis, which Chomsky and Halle (1968) termed as “phonological representation”.

English orthography can be generally divided into two different parts. The first of these parts is graphemic system and the allowable patterns, which Venezky calls graphotactics. The other part is a set of patterns that relate spelling to pronunciation. The graphotactics of English orthography deals with graphemic or spelling units. This is complex since English graphotactics allows more than a simplistic combination of the 26 letters of the English alphabet. There are

also digraphs and diphthongs, a combination of letters which form distinct, indivisible sounds. Venezky classifies these units into major and minor relational units which are further classified as consonant or vowel major and minor relational units. These units include simple and compound units among consonant relational units and primary and secondary units among vowels relational units. *Figure 1* shows the graphotactical units which exist in English orthography. These units can be combined into different patterns in spelling which follow rules or habits that English has acquired historically.

Venezky also argues for the existence of a second class of units called markers which are graphemic indicators of spoken correspondences. Examples of these markers would be the u after a g in order to indicate a hard g pronunciation or a final e representing the lengthening of the previous vowel in the syllable. The interaction of these units in the formation of predictable patterns follow regular rules which can also be related to sound or pronunciation correspondences.

Figure 1

Table 4 Major and minor relational units (Venezky, 1967)

Table 4 Major and minor relational units

<i>Major relational units</i>										
<i>Consonants</i>					<i>Vowels</i>					
<i>Simple</i>		<i>Compound</i>			<i>Primary</i>	<i>Secondary</i>				
b	gh	n	s	w^a	ck^a	a	ai/ay	ie	ue	
c	h	p	sh	y^a	dg	e	au/aw	oa	ui	
ch	j	ph	t	z	tch	i	ea	oe		
d	k	q	th		wh	o	ee	oi/oy		
f	l	r	u^a		x	u	ei/ey	oo		
g	m	rh	v			y	eu/ew	ou/ow		
<i>Minor relational units</i>										
<i>Consonants</i>					<i>Vowels</i>					
<i>Simple</i>		<i>Compound</i>			<i>Secondary</i>					
	kh				gn		ae			
	sch						eau			
							eo			
							uy			

The “graphemic labyrinth”, a term used by Venezky to refer to English orthography’s system of “intra-graphemic complexities”, can be related to corresponding sounds in human speech. Here, Venezky analyzes differing correspondences among graphemic units that comprise a word. He attempts to show something of the complexity of these relationships, pointing out as an example the *gh* in initial and medial positions. In the initial position, the *gh* corresponds to the /g/ sound, as in *ghost* or *ghastly*. In contrast, the *gh* in medial or final word position produces sounds other than /g/, as in the word *though*, *thought*, and *tough*. In all, he mentions variant correspondences in which the same spelling unit can correspond to two or more pronunciations depending on its “regular graphemic, phonological or grammatical features”.

He also mentions another correspondence in which stress plays an important role in palatalization of certain graphemic units. One example he gives is the retention or deletion of the medial /h/, as in *prohibit:prohibition*. Retention or deletion is not an arbitrary phenomenon (see *vehicle* versus *vehicular*), but depends on whether the vowel following the /h/ is stressed or unstressed. In cases where the following vowel is stressed, the /h/ is retained; in words where the vowel following the /h/ is not stressed, we witness deletion. These and many other rule correspondences hold for a whole host of different patterns, at least among the 20,000 most common words analyzed by Venezky.

Finally, Venezky argues that since English is a morphophonemic language, “morpheme boundaries must be known to predict certain spelling-to-sound correspondences”. A morpheme is the smallest meaningful unit in a word. Venezky takes an example of the *ph* which often sounds like /f/. He gives as examples words like *phase*, *sphere* and *morpheme*. Here, *ph* clearly corresponds to /f/, but not in the case of *shepherd*. On a strictly one-to-one

correspondence between graphemes and phonemes, this would present itself as some kind of exception to a general phonological rule. Nevertheless, when analyzed from a morphemic point of view, we see that in the previous cases, the ph clearly forms a indivisible digraph which must be treated as a single unit, whereas in the latter example, the p and the h must be treated as separate letters. Venezky explains this “morpheme boundary problem” by explaining that these digraphs must be treated according to the general rule for digraph pronunciation when they lie “within a single graphemic allomorph” (p. 90). However, when they split across morpheme boundaries, they are to be treated as separate letters. This phenomenon is not restricted to digraph or trigraph spellings, but also to different patterns such as geminate consonant clusters (tt, dd, nn), and the spelling of n (for example, before /g/ or /k/ in the same morpheme, the n corresponds to /ŋ/, such as congress, but across morpheme boundaries, this does not usually apply, such as in the word ingrain). Venezky’s work is one the most complete and in-depth analyses of the morphophonemic nature of English orthography in the literature to date. Its value lies in Venezky’s ability to not only provide a myriad examples, but also to elucidate the particular rules which govern the spelling-sound correspondences emerging from these rules.

Hodges (1972) cites David Reed as saying that the only hypothesis that makes sense of the data that we have about English speaking and writing is that they are two different systems, each of which is a regular representation of the language without being regular representations of each other. Reed (1965) argues that while speech may be chronologically primary to writing, it does not follow, for that reason, that writing should be seen as a secondary representation and speech as the language. On that view, a deaf mute who can write, but cannot speak, could not be said to have learned English. Nevertheless, we know that this is not true. Reed avers that writing and speaking are representational systems, while neither are an exact representation of

the other, they both are absolutely regular representations of English. What he means to say by this is that in both speech and writing, phonological and graphical symbols are used respectively in a regular way (so that horse, for example, is always horse in written and /hɔ:rs/ in spoken English) so as to facilitate meaningful communication. If this regularity did not obtain, both spoken and written communication would be impossible.

On the other hand, there is a certain arbitrariness that obtains within the symbolic representations of each system, in that the speech system uses particular phonological symbols while the written system uses graphical symbols; each system uses symbols fitted to the nature of the means by which they communicate. Each of these systems has its own history and development and neither is to be understood as an exact representation of the other, although because each is representing the same linguistic form, there must be, what Reed calls, a degree of correlation between them. Because of this absolute regularity in each system and the correlation that exists between the systems, given that each system is representing the same linguistic form, Reed believes that rules can be devised which will enable a child to read and even to arrive at the proper pronunciation of a word, moving from one system to another through the rules.

The Generative-Transformational Theory and English Orthography

The last perspective that dominates the field of English orthography, according to Hodges (1972), is that English orthography is “nearly optimal for its purposes”. In contraposition to Venezky and others, Chomsky & Halle (1968) argue that linguists should not refer to English as morphophonemic since this word implies the existence of an abstract phonemic intermediary level between phonological and phonetic representations (both also abstract). They

doubt the existence of such a phonemic intermediary level and so prefer to speak of phonological representations. These theorists sustain that while certain phonetic representations such as the word *we* cannot be derived from their singular form, *I*, others follow very regular rules. The different phonetic variations in the linguistic form *telegraph* (e.g. telegraphic or telegraphy) can be easily predicted based on regular rules that apply, not only to this lexical item, but to many others like it. Since these aspects of orthography do not relate to the phonemic level, the existence of which is highly doubtful, it must be related to other levels of language. According to this theory, the level to which orthography must be related is the phonological level, hence, the term *phonological representation* instead of morphophonemic representation. In other words, the phonological level underlies the phonetic and so pronunciation can be predicted based on spelling. So Chomsky & Halle:

There is, incidentally, nothing particularly surprising about the fact that conventional orthography is, as these examples suggest, a near optimal system for the lexical representation of English words. The fundamental principle of orthography is that phonetic variation is not indicated where it is predictable by general rule. Thus, stress placement and regular vowel or consonant alternations are generally not reflected. Orthography is a system designed for readers who know the language, who understand sentences and therefore know the surface structure of sentences. Such readers can produce the correct phonetic forms, given the orthographic representation and the surface structure, by means of the rules that they employ in producing and interpreting speech. (p. 49)

In other words, English linguistic forms may retain the same morphemic identity

and yet be pronounced differently. As in the example given by Chomsky & Halle, *telegraphy*, *telegraphic* and *telegraph* all retain the basic morphemic structure found in the linguistic form telegram, and yet while the morphemic structure has not changed (because pronunciation is anticipated based on predictable rules), their phonetic representation in a system such as IPA will be different (tɛlɪgræm, tɛlɪgræf, tɛləgræfɪk, tɛləgræfi). Thus, English orthography is “a near optimal system” for representing lexical forms in the English language. On this view, English orthography is far from irregular and is a more than adequate way of representing the underlying linguistic forms of words in such a way as it makes itself independent of varied pronunciations in different contexts (Hodges, 1972; Chomsky, 1970; O’Neil, 1969; Smith, 1972).

Preliminary Considerations for Pronunciation Instruction

English Language Learners’ poor pronunciation can create serious impediments to communication, especially in contexts where they must interact with native speakers (Wei 2006). Wei points out that it is not a question of whether pronunciation should be explicitly taught, but rather how and what techniques should be used in order to teach it. His research suggests that pronunciation cannot be taught as “merely a system of rules but instead as part of an overall system of communication” (p. 5). He draws the conclusion that of the techniques surveyed for pronunciation instruction, “none of the results appeared to overwhelmingly favor one teaching technique” over another (p. 6). This finding in and of itself may not be too worrisome as it seems to suggest the need for the use of an eclectic approach, a position strongly advocated by Susan Peterson (2000) who identifies at least twenty-one different techniques that can be used to effectively teach pronunciation. She distinguishes among different approaches such as 1) direct strategies, 2) memory strategies, 3) cognitive strategies, 4) compensation strategies, and indirect strategies such as metacognitive, affective and social strategies. What is perhaps

noteworthy in Peterson's research is that she discovered that of all the strategies employed in pronunciation teaching, there were four tactics which were not used: 1) trying to avoid producing inappropriate native language sounds, 2) practicing sounds first in isolation and then in context, 3) listening to pronunciation errors made by TL speakers speaking one's native language, and 4) acquiring a general knowledge of phonetics.

With respect to the use of phonics instruction in ESL, Peterson finds that while students studying English pronunciation make very little use of this technique, acquiring a general knowledge of English phonics rules can be an important component in developing a student's metacognitive strategy. Wei concedes that these rules are not difficult for students to acquire and are important for teachers to learn as well in order for them to be equipped to give more than a superficial explanation of the relationship in English between spelling and pronunciation. Nevertheless, teachers are generally underprepared and ill equipped where the techniques of English pronunciation instruction are concerned (Wei, 2006; Morely, 1991).

Additionally, the literature on the subject of how to teach pronunciation reveals a serious divide among researches with respect to the philosophy which should guide pronunciation instruction, and in consequence, there is no unanimity on the question of best practices either. Approaches to pronunciation instruction can be divided into two basic categories, i.e. the nativist approach and the intelligibility approach (Levis, 2005). Levis argues that while audio-lingualism gave pronunciation the highest status possible in second language acquisition (SLA), other philosophies found in cognitive linguistics and communicative language teaching, deemphasized pronunciation to such an extent that they came to virtually ignore it altogether. From these differing perspectives have arisen two opposing principles. The Nativist Principle (NP) holds that achieving a native-like pronunciation is possible and what students and teachers

should strive for (Lanpher, 2011). While researchers have produced significant evidence against the NP, it still holds sway, not only in how educators often view the status of pronunciation, but also in the popular mind, as evidenced by the popularity of the many services promising to rid English Language Learners (ELLs) of their accents (Murno, 2011). In opposition to the NP is the Intelligibility Principle (IP). This principle states that what ELLs need is not to achieve native-like production in their speech, but rather to make themselves understood through intelligible pronunciation (Levis & Barriuso, 2012).

Learners' speech must be understood by other English speakers. The IP holds that there are certain aspects of a non-native English speaker's accent that can impede understandability as well as aspects whose impact is negligible. Teachers ought to focus on remediating those features of a learner's pronunciation which most impede intelligibility and ignore those which do not. However, the questions of Nativist versus Intelligibility principles is not nearly as clear-cut as it may seem. Sociolinguistics has shown that accent plays a very important role in determining the speaker's sense of belonging and status in a speech community (Derwing & Murno, 2005; Pullen, 2013). Moreover, any comprehensive approach to the question of accent and pronunciation must take into account Wardbaugh's (2006) view on speech communities, which are defined as groups which manifest a regular relationship between their use of language and the norms of their social structure. This includes such things as dialect, style and occupational parlance. While the NP may be naïve in believing that a "pristine" English pronunciation even exists, the IP advocates may be equally as naïve in ignoring the important role that accent, self-perception and social belonging play in SLA. In other words, pronunciation is not value-neutral, nor is pronunciation instruction insignificant or ancillary to the task of EFL instruction.

The following review summarizes the literature in two key areas of English pronunciation instruction: 1) the role of metacognitive strategies in teaching English pronunciation; and 2) systematic phonics instruction and its usefulness in improving students' pronunciation and fostering ELL autonomy.

Pronunciation Instruction and Metacognition

Creating a learning atmosphere and strategy that promotes phonemic awareness is a vital component in developing students' faculties for self-monitor and self-correction. Vitanova and Miller (2002) studied students from diverse ethnic/language backgrounds, all of whom were taking a graduate-level pronunciation class in a mid-western university in the United States. They, along with Morley (1994), argue that in order for students to be able to self-monitor, they must first have an understanding of the L2's underlying phonetic and phonological structure. While they recognize that the current wisdom emphasizes the teaching of suprasegmental aspects of pronunciation as opposed to phonetic/phonological instruction, the students interviewed in this study reflected on how they had already developed bad habit that they had never noticed until receiving formal phonetic/phonological instruction. Only then did they realize their error and were subsequently able to self-monitor.

These researchers also found that students responded very positively to strategies such as active listening and mirroring. Students reflected on the activities that helped them gain a greater realization of the correlation between listening and pronouncing. They reported feeling more motivated to actively engage in creating opportunities to practice speaking outside the classroom. It was also reported that socio-affective factors had a significant effect on their motivation and self-confidence in speaking. Fear of criticism and rejection, personal frustration

and even sadness are emotions that impede improvement. Metacognitive strategies must take into account the whole person; the effect that teacher strategies has on the affective aspect of the student cannot be ignored. A student who feels comfortable and confident that he can adequately bridge the gap between the written and the spoken word, will be more inclined to seek out opportunities to practice and grow outside the classroom.

Difficulty in achieving native-like pronunciation is in large measure due to students' inability to "hear" particular sounds or features of the target language (Samuel, 2010). By "hearing" we mean "being aware of". Students may hear the target features just fine, but be unable to grasp them because of lack of awareness. Metacognitive strategies for pronunciation must seek to raise student awareness of the target language. According to Samuel (2010), this is in large measure due to the fact that students filter what they hear through their L1. Another obstacle for ELLs is the low phonological-spelling correspondence. A letter like "a" can have at least five different pronunciations (æ , ei , ɔ , a , ə) depending on its relationship to the letters around it and syllable stress. This variety of phoneme-grapheme possibilities can be very confusing for beginning students. For this reason, the researcher experimented with what he calls "pronunciation pegs".

Pegs are mnemonic devices to aid student memory and rely on background or existing knowledge in order to function. They serve to minimize the instructor's intervention and maximize student self-awareness and independence. Used with stress, linking, rhythm and intonation, actions like making cutting gesture for stress, or touching one's throat for linking or some other gesture for indicating vowel correction can be beneficial in aiding memory and learning. Other pegs can be vocal, using similar sounds in the L1 to approximate sounds in the L2. The present author of this paper uses a similar strategy that he calls "imagining and projecting".

For discriminating between spoken sounds which are similar in nature and in physiology, such as /i/, /ɪ/ and /ε/, students are asked to imagine the directionality of the sound and then use their hands to “project” the sound in certain directions that help them to differentiate among them. As they make the gestures, they are to imagine the sound traveling in the direction of the gesture. These are activities that students can practice at home once they become comfortable with them in class. These activities and other like them also promote metacognitive awareness in students who can use these techniques outside of the classroom for self-monitor.

Liu and Fu (2011) argue that good pronunciation can be greatly enhanced by instruction and monitor. They argue that the two are interrelated where pronunciation is concerned. They believe that effective instruction and insistence on students’ adopting a monitoring strategy will “lead to reflection and conscious use of monitor” outside of the classroom. They also argue for positive transfer in the case of sounds learned in one word and applied to previously unlearned words. In a study conducted with 60 juniors at a local university, they found that through the use of “systematic instruction and application of monitoring strategies”, the student can achieve a change in his or her pronunciation in a relatively short period of time. In a similar vein, Ouni (2013) found that combining metacognitive strategies with intentional instruction on tongue animation in the production of sound helped speakers to gain a better control over their own body gestures. Students watched simulations of the production of different vowels and were then asked to model the sounds, coupled with instructor feedback. It was found that participants who received visual feedback were able to improve their own awareness of their bodily gestures.

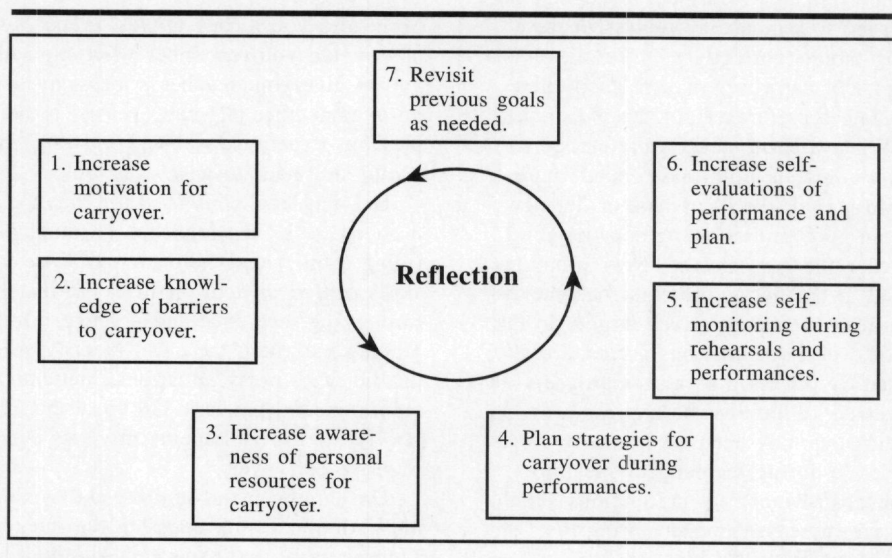
Ertmer and Ertmer (1998) argue for using constructivist strategies for facilitating “self-regulated carryover”. They define carryover as that “aha” moment a student has when he

finally understands. Their goal in using a constructivist approach is to involve the student in understanding both process and motivation in the production of speech and to equip them with learning strategies that foster greater awareness. They look at the difference between metacognitive knowledge, that is, knowledge about task requirements and personal resources available for achieving the task, and metacognitive control, which is the process of self-reflection itself. The metacognitive knowledge, or self-awareness, and awareness of the task at hand, is vital to carry out the control, which involves intentional planning, monitoring and evaluating. Ertmer and Ertmer illustrate their suggestions for pedagogical implementation in Figure 2.

Figure 2

Sequence of goals for the development of motivation, metacognitive knowledge, and metacognitive control for phonological carryover.

Figure 3. Sequence of goals for the development of motivation, metacognitive knowledge, and metacognitive control for phonological carryover.



While the aforementioned studies looked at the effectiveness of differing metacognitive strategies on pronunciation, Madden and Moore (1997) studied students attitudes toward pronunciation and found that the majority of students studied placed a very high priority on native-like pronunciation, as well as on the need for error correction and pronunciation instruction. Students themselves seem to challenge the prevailing wisdom of many educators who do not think that error correction is necessary or beneficial in most cases. Students, on the other hand (94% of those who participated in this study), expressed a contrary opinion. They felt that error correction was vital, not only for helping them improve in class, but also so that they can work on correcting their errors outside of class. This would seem to indicate that error correction is an important part in the formation of metacognition outside of the classroom, at least for most students, who seem to be motivated by, rather than discouraged by, having their mistakes corrected (23).

Self-awareness and monitor in developing students' pronunciation skills also depends on their perceptive capabilities, which in turn have to do with listening (Yule, Hoffman, & Damico, 1987). Yule, Hoffman, & Damico observe that pronunciation textbooks typically dedicate a substantial space to listening exercises which focus on phonemic distinctions. What they discovered was that as students improve their ability to self-monitor, their phoneme discrimination skills correspondingly worsened, only to improve again after a time and as the students becomes increasingly more confident. Their study of 100 adult, intermediate ELS students enrolled in pronunciation courses confirmed an earlier finding of theirs that as students' metacognitive skills improve, they may experience what can be observed as a temporary set-back in pronunciation and listening skills in which they previously seemed to excel. The reasons given for this phenomenon is that in the earlier stages of development, students were able to achieve

simple identification, but they caution that simple identification should not be confused with confidence in the accuracy of their speech production. As they learn to monitor, students become more confident, but at the same time, they are more cautious and this produces what is observed to be a temporary setback, which in turn results in better and more confident skills in sound discrimination and production over time. They conclude that providing students with metacognitive strategies to improve their self-awareness will have an overall positive effect on their pronunciation and accuracy over time.

Finally, while the body of literature available on metacognitive strategies in pronunciation teaching pales in comparison to that available on strategies for reading and listening, in many ways, the strategies from the aforementioned disciplines are very applicable to pronunciation as well, since metacognitive strategies in general are, according to Huang and Nisbet (2012), just another kind of language learning strategy. Many of the metacognitive strategies used for teaching reading can be modified for use in pronunciation. Practitioners recommend adapting techniques that foster self-reflection, self-assessment, and even sharing as ways to get students to become ever-more aware of their pronunciation, both inside and outside the classroom.

Motivation and Second Language Acquisition

An important factor in developing autonomous learners and metacognition is motivation. In identifying the theoretical structure behind L2 motivation, Hunt & Beglar (2005) have proposed that learners have three subjective aspects to their motivation, namely, their ideal self, their ought-to self and their learning experiences. The Ideal L2 Self refers to traditional integrative and internalized motives for learning an L2. There can be a discrepancy between the

“Actual” and the “Ideal” self that can play a factor in motivation. The ideal self really refers to what a person imagines what they would like to attain in learning a foreign language. Of course, this can vary from learner to learner depending on what their reasons for studying a language might be. The difference between the ideal self and the actual self is just the difference between the student’s current level of proficiency and where they would ideally like to end up.

Hunt & Beglar also discuss the ought-to self, which self refers to attributes that the learners believe they “ought to possess to meet expectations and to avoid possible negative outcomes”. This dimension of motivation refers to those motives which are often more external than internal. In other words, external motivations, such as job and family pressures, societal pressure and peer influence can be an important factor in motivating L2 students, especially in oriental cultures where family expectations play a significant role in development and education vis-à-vis Western cultures.

Finally, Hunt & Beglar identify the learning experiences of an L2 learner as also playing a key role in the level of motivation and success in learning a foreign language. Learning experiences are related to the immediate learning environment, impact of the teacher, the curriculum, peer group, and experience of success or failure. As most learners have seen, when the learning experience is negative, this often affects motivation corresponding way.

When they applied these three categories to a study of eleven Chinese students studying English in New Zealand for three months, they identified five types of learners.

Table 2
Learner Types and Outcomes (Hunt & Beglar, 2005)

LEARNER TYPE	IDEAL SELF	OUGHT-TO SELF	LEARNING EXPERIENCES	OUTCOME
Learner 1	X	X	Positive	Positive Motivation
Learner 2		X	Positive	Positive Motivation
Learner 3	X	X	Negative	No Change
Learner 4			Positive	Negative Motivation
Learner 5		X	Negative	Negative Motivation

In spite of the limited study sample, the results can still be of benefit to those studying motivation in L2 learners. For example, the most important aspects seem to be the combination of external motivation plus a positive learning experience. Internal motivation may be lacking to some degree, but this seems to be compensated for by healthy outside factors plus a good learning experience. What the research does tell us is that teachers should still help students to internalize their goals and be self-motivated, excited learners. In order for this change to take place, students should be taught strategies for self-regulation and learning. Another important aspect of this study affirms what many have known for a long time, that is, that teachers need to teach for more than tests. Students require a higher purpose than passing exams in order to succeed in learning.

Harmer (1991) speaks of students' goals in motivation. Students can have short-term goals for those things they wish to master in the near future or long-term goals when learning a language has other ends in mind other than the language itself, such as job advancement. Gardner (1982) speaks of three aspects in language learning, namely, one's effort, desire and affect. Effort refers to the time and energy investment that the student makes in their language education. Desire refers to how much the student really wants to learn and affect, to their

emotional state while learning. Finally, Lightbrown and Spada (1999) identify only two factors, namely, a learner's need for communication and their attitudes toward a language community.

Some researchers (Harmer, 1991; Wimolmas, 2013) have identified four factors that influence motivation. These factors are 1) the physical condition or atmosphere of the classroom. This factor looks at elements of the physical space of learning, such as the lighting, seating, and the student-to-teacher ratio, among others; 2) method of teaching; 3) the teacher. This can be one of the most influential factors in the learning experience. The teacher and their disposition and ability, as well as their interpersonal skills, are all key factors in motivation; 4) Success. This refers to the level of challenge versus reward that a student experiences in the learning process.

Among the various approaches to motivation in L2 learners surveyed above, the first study mentioned holds real promise for further exploring motivation among students in English pronunciation. While the first two categories used in the original study may not be the most suitable (ideal self and ought-to self), the concepts behind them are. For example, it is very likely that internal and external motivation play off of one another in influencing motivation. Students may believe that to pronounce English well, they need to sound like a native speaker. The way in which the teacher guides the students and tries to form their "expectations" vis-à-vis what can realistically be expected of them will influence their attitudes and motivation. Likewise, the learning experience will also influence the learner's motivation, but may itself be offset by stronger motivations either internally or externally, what we may call self-discipline and social or family pressure. Exploring these three components of motivation seems to hold the most promise for applying strategic techniques to motivation in teaching English pronunciation.

Summary

In sum, students tend to have similar problems with pronunciation, regardless of their L1. For example, motivation and other affective factors seem to have a significant influence over most students' learning outcomes regardless of their origin. Likewise, the need for instruction in phonetics and phonology would seem to benefit students from any background. Moreover, some strategies such as pegging or journaling will foster a greater self-awareness and self-regulation. While these components of the overall strategy for teaching pronunciation are independent of the student's L1, this should not be ignored when it comes to developing a more individualized instructional strategy, since ELLs with differing native tongues tend to have different struggles with English pronunciation, depending, of course, on the character of their native language (King, 2007). Developing strategies to foster self-awareness and self-regulation is necessary and has a positive impact on the majority of students and their pronunciation.

Spelling, Reading and Pronunciation

Phonological awareness is defined as the "ability to identify and manipulate speech sounds mentally" (Yeung, Siegel & Chan, 2012). Phonological awareness in native English speaking children has been found to be a reliable indicator of later reading outcomes (Whitehurst & Lonigan, 1998; Blachman, 1997; Muter & Snowling, 1998, Wagner, Torgesen, & Rashotte, 1994, Bradley & Bryant, 1983; Wagner & Rashotte, 1997, as cited in Yeung, Siegel & Chan, 2012). The question raised is whether the findings with respect to native-speaking children can be generalized to ESL and EFL children. The researchers cite studies which show that among Chinese kindergarten students in Hong Kong, phonologic awareness was likewise found to be the "strongest predictor" of reading performance along various measures (Cheung et al.,

2010; Keung & Ho, 2009; McBride-Chang & Ho, 2005; McBride-Chang & Kail, 2002; McBride-Chang & Treiman, 2003, as cited in Yeung, Siegel & Chan, 2012). Likewise, they argue that phonological awareness is not only a predictor of success in reading, but in oral proficiency as well (Bernhardt & Kamil, 1995; Gottardo, Collins, Baciu, & Gebotys, 2008; Lindsey, Manis, & Bailey, 2003; Nation & Snowling, 2004, as cited in Yeung, Siegel & Chan, 2012).

In their own study of the relationship among phonological awareness, oral language proficiency, reading and spelling conducted with Chinese ESL children, the researchers tested for six phonological awareness measures, namely, “syllable deletion, rhyme detection, rhyme generation, phoneme identification, phoneme deletion and pseudoword reading”. Teachers were first instructed by the researchers in the goals and aims, as well as the specific content of the twelve-week study. Teachers were also given a workshop in phonology, phonetics and phonological awareness. They were encouraged to teach in English, although some Cantonese was used during the course of the study. It was concluded that phonological awareness in young Chinese EFL students not only resulted in better reading and spelling skills, but also in improved oral proficiency.

Lin (2012) agrees with these findings and argues that phonological awareness in young EFL learners is important for maximizing the benefits of formal reading instruction, in sounding out words and in producing different lexical forms. She argues that phonological awareness plays an important role, not only in the beginning stages of reading acquisition, but also in EFL students’ development at all subsequent stages, enabling learners to “map sounds to words” and develop word recognition. The improved phonological awareness which Lin describes not only benefits literacy, but pronunciation as well, since reading and spelling instruction have both been shown to result in ELLs being able to pronounce words correctly, as well as identify

and understand problems they have with English pronunciation. The principles of spelling and reading are closely related and applicable to pronunciation, as well as to improved metacognition in EFL/ESL students (Gillette, 1994; Jam, Domakani, & Kasegari, 2014; Chrisman, 1996; Piña, Algara, & González, 2009; Dickerson & Finney, 1978; Kreidler, 1972; Dickerson, 1985).

Dickerson (1983) argues that English's phonological system can be distributed among its various elements and their relations, namely, vowel and consonant sounds and stress and pitch. The rules that govern these elements organize them into words, phrases and sentences which are accessible to ESL students when they come to understand the organizational rules in play. It is not enough for students to learn the sounds of the English language merely; they must learn when and why to use these sounds. Pronunciation is not a matter of learning to pronounce the long and short sounds of the English vowel system, but also to know when the vowels in a word are short or long or reduced.

However, there are limits to the impact of rule learning for pronunciation. Previously learned rules, he argues, are not directly active in spontaneous speech production. But here, the key word is directly. There is a connection between direct rule instruction and accurate pronunciation. For the relationship of these two to be realized in the student's oral production of the English language, the rules must be reinforced in tandem with pedagogical strategies which establish the rule in the student's mind. These rules, once realized in the student's oral language production will give the student independence and confidence. Learning the rules by rote or making predictions on paper is only the beginning stage of application and assimilation. Rules must be elaborated and practiced and students' predictions put to the test under diverse conditions in order for the rules to function effectively as a guide to accurate pronunciation.

Gillette (1994) notes the importance of teaching rules to students. She observes that while English may seem crazy to students, this is due to the already acknowledged fact that English is not a phonetic language. However, it is a rule-based language and over 80% of English words fit into predictable patterns. She argues that due to the regularity with which English words conform to specific spelling patterns, if students are able to hear a sound, they can predict how to spell it too. The reverse is true also; when students can recognize specific patterns in written language, they are able to predict, based on the rules, the word's accurate pronunciation. While she recognizes that "spelling is not pronunciation" (an important distinction between the written and spoken linguistic systems), when students learn spelling patterns and their phonological correspondences, as well as exceptions to these rules, they are able to predict pronunciation more accurately.

Jam, Domakani, & Kasegari (2014), in a study of 60 freshman EFL learners in three different Iranian universities, found that Iranian students had a more difficult time pronouncing silent consonant letters. Learners' tendency to reproduce words in speech exactly as they are written leads them to erroneously pronounce silent letters in English words. The suggestion is that this is due to a lack of students' understanding of the rules which govern correspondence between graphemic and phonetic forms. In other words, English orthography influences ELL's pronunciation. These researchers argue that teachers, researchers and curriculum designers need to take this fact into account in such a way as to overcome phonetic and phonological problems through improving learners' awareness of the rules and in consequence, their pronunciation.

Dickerson & Finney (1978) aver with no hesitation that "spelling is a major pronunciation resource". ELLs need to be shown how to exploit this resource in order to "increase their

oral intelligibility and expand their active, speaking vocabulary”. The problem set forth by Dickerson & Finney (c.f., Dickerson, 1983) is that students do not only need to know how to pronounce sounds, but also which sounds to pronounce and when to pronounce them in any given context. Learning spelling rules and phonological correspondences can help students achieve this competency more easily. Another benefit of applying spelling to pronunciation in the EFL classroom is that students will inevitably expand their working vocabulary. They argue that students are not being taught how to take advantage of the “richest pronunciation resources available”, viz. rules governing spelling patterns and their corresponding sounds. In addition to spelling patterns, students need to recognize stress patterns in order to identify proper “vowel quality”, i.e., accurate vowel production. They propose that not only do spelling rules improve students’ pronunciation, but they also serve to foster autonomous learning in that students will be able to monitor and expand their own active speaking vocabulary outside of the classroom.

Kreidler (1972) concurs with Dickerson & Finney’s assessment that English orthographic rules are not taught in pronunciation classrooms. Instead, they are replaced “by a more regular transcription in which each graphic symbol has a consistent value and every unit of the sound system has a consistent representation” (p. 4). Kreidler argues that this practice is counterproductive since it treats English as if it were a phonetic language, which it is not, and that students will “eventually need to deal with the spelling system” in the real world. Eventually, students will be on their own, outside the comfortable womb of the classroom and will need tools that can help them cope with linguistic contexts found in authentic encounters with other English speakers. Kreidler argues that it is not correct to think of English spelling as irregular, as is often claimed, because regularity can be understood in other terms than a simple one-to-one

phoneme-grapheme correspondence. He observes that too much emphasis is given to the exceptions in English spelling and pronunciation (e.g., *tough*, *cough*, *though*, *through*, and *hiccough*), while neglecting the fact that these words are not representative of what is typical in the spelling system. Since the EFL learner has not grown up speaking English, she must often learn to pronounce words through the written English she encounters. In other words, writing (and thus, spelling) often mediates the spoken language. Careful word study and attention to the rules of English orthography will enable students to accurately pronounce words previously unknown to them and even to better cope with exceptions to the rules.

A case study on the “invisible y” (the unwritten /y/ required in the pronunciation of words such as *continue* and *community*) is used by Dickerson (1985) to argue for the use of spelling in pronunciation learning for ESL/EFL student. Dickerson argues that while one could simply go to the dictionary and look up the pronunciation of the word (a feat far easier in today’s digital-dominated world), this is unnecessary since the standard rules of English orthography can allow a student to predict when the “invisible y” is required. In Dickerson’s estimation, learner mistakes with respect to the use of this feature are not due to a lack of “articulatory skill”, but to a lack of information about the rules that govern the system. In fact, the rules that govern the invisible y are simple, and they can be used as a pronunciation resource for EFL/ESL students. He sets out four simple spelling rules that predict the invisible y 90% of the time. He concludes that “without rules, learners can only grope and flounder”. On the contrary, with the rules, not only can a student predict the accurate pronunciation in most words, but he will also become a more autonomous learner, able to improve his own speech without external guidance. This same point is made by Morely (1991), who argues that “pronunciation/spelling information and analysis tasks help learners unlock some of the mysteries of

sound/spelling interpretations”. Additionally, this knowledge can aid them in reducing inaccurate pronunciations.

Finally, Helman (2004) makes the point that the knowledge that beginning readers have of how words are spelled can best be described as “spelling by sound”. This is characteristic of students whose L1 is phonetic, like Spanish. They are constantly trying to hear and recognize as many sounds as possible and represent them as well as they can in writing. While English shares many similarities with Spanish on the consonant level, the vowel systems are very distinct. English contains many vowel sounds that are non-existent in Spanish. When this situation obtains, a language user whose L1 lacks this phonetic information will likely have trouble, not only pronouncing those sounds, but also hearing them. This accounts for many spelling and pronunciation errors of English speakers whose L1 is Spanish. Helman argues that teachers should utilize out-loud reading in order to assess and correct pronunciation errors. Pronunciation can be improved through the use of developmental spelling tasks which include words that are likely to cause confusion to beginning English learners. Students need understanding; teachers should not merely correct errors, but explain the errors and the corresponding rules to students in order to improve their understanding.

Phonics and English Pronunciation Instruction

It has been said that the most important theoretical problem faced by researchers in teaching English literacy to adults is how the written language relates to the spoken (Jones, 1996; Stubbs, 1980). In adult ESL programs, phonics instruction has been underemphasized since the latter half of the twentieth century (Jones, 1996; Iadkert, 2014; Adesope et. al., 2011). Jones argues that this neglect is mistaken and does not serve ESL students well. It has been shown that English orthography is highly regular, with over 75% of words conforming

to regular orthographic patterns. Only 3% of English words conform to no discernible pattern and must be learned by memory. In most cases, this irregularity can be attributed to the English language's penchant for borrowing from other languages, such as French or Spanish (Venezky, 1967); Jones points out other historical factors such as the Great Vowel Shift and to the sixteenth century's tendency to conform English spelling to reflect Latin and Greek etymology. As she observes, to artificially reduce English to a system of phonemic consistency results in the loss of vital morphological information. For example, the final-position morpheme -ed indicates English preterit (and past participle), but has three different pronunciations (/d/, /t/, and /ɪd/) depending on the vocalization or identity of the preceding phoneme or phoneme cluster. However, if words such as walked, studied, and flirted were written phonetically (wahrkt, stuhdeed, and flurtid), the morphological information for the preterit in regular verbs is completely lost; likewise, Vachek argues that catz, dogz and foxez is "a retrograde step, because it renders the morphological information less clear than in the present, traditional way of writing" (Vachek, 1973, as cited in Jones, 1996). Thus, the student must not only learn phonemic correspondences, but also morphological information and their corresponding spelling and pronunciation patterns. Spelling and pronunciation are rendered more difficult for ELLs because they are not taught the principles which apply to the correspondence between writing and speaking. Teachers who over-emphasize phonemic consistency do so at the expense of vital morphological information.

In most adult ESL classrooms, phonetic transcription and some version of the whole word approach (see-and-say) is used to inform pronunciation instruction. Jones defines this method as an approach whereby if students are exposed to enough interesting texts, they will gain a large "sight vocabulary", and learn the grapheme-phoneme correspondences ostensibly

through osmosis. Even if this is true, students are left with limited resources for handling new words encountered in “the wild”, so to speak, and any informed guesses will only be based on intuition and inference. For this reason, Jones argues, that systematic phonics instruction is vital for adult ESL students who need to master “a mechanical command of English” in order to cope with real-world language. Since spelling is so closely related to speaking (as previous observed in this chapter), phonics instruction assists a student in being able to both write spoken sounds and pronounce written language with more confidence. Without a systematic knowledge of the rules governing the orthographic system and its relationship to speech, a student will be forced to rely too heavily upon his own memory. She concludes that with phonics, a student is enabled to “make use of phoneme-grapheme relationships that transfer directly (as with many consonants), while making adjustments when these are expressed differently (as with vowels).”

Other researches have come to similar conclusions about the usefulness of phonics for ESL students. Lanpher (2011) exuberantly avers that students’ errors or problems with English pronunciation are related to a lack of knowledge of phonics, phonology and phonetics, and that with an adequate knowledge of these three related areas, a student can achieve “pristine” pronunciation. While his enthusiasm may be regarded by most as misplaced, his fundamental view is shared by others with more temperate expectations for the quality of student production, especially from adult learners.

The Newcastle ESOL Service in Newcastle upon Tyne in the United Kingdom implemented a trial phonics program in order to build phonological awareness in students with little or no formal schooling. Since this service attends a significant public whose second language is English and who have a very low level of education, the center needed to establish a cohesive

strategy for literacy education. They found through trial and error that the look-and-say method coupled with some phonics instruction in initial sounds was ineffective in achieving their desired results. One of those desired results included fostering learner autonomy. The challenge was not only the students' low level of education, but the teachers' own lack of understanding of the English orthographic system. They determined that systematic phonics instruction helped students improve their pronunciation and promoted their autonomy as learners. They also found that most materials developed for ELLs presupposed that students had knowledge of the Roman alphabetic system. The Newcastle center's experience was that many students coming from an L1 which uses a script other than the Roman script had not mastered the basic principles of the graphical representations inherent in the Roman system and as a result, their progress was hindered. A program was developed which combined two and a half hours of whole language instruction with thirty minutes of phonics and spelling instruction. They implemented this synthetic phonics program to keep student from drifting around unsuccessfully in the lower level classes and increase their measurable progress (Macdonald, 2009).

In systematic phonics instruction, students learn how to read, write and pronounce words out loud by learning what relationships obtain between graphemes and phonemes in English orthography. These students learn how letters and sounds are linked. With respect to reading instruction, Adesope et. al. (2011) cite a wealth of evidence that systematic phonics instruction can improve "reading literacy for beginning readers" (August & Shanahan, 2006; Ehri, Nunes, Stahl, & Willows, 2001; Ehri, Nunes, Willows, Schuster, et al., 2001; National Reading Panel, 2000, as cited in Adesope et. al., 2011). They indicate that their meta-analysis of 66 treatment-control comparisons found that systematic phonics instruction provided a significant advantage for students over against other methods such as non-systematic phonics or the

whole-word approach, which neglects phonics instruction altogether. In spite of these and other findings which indicate the usefulness of phonics in reading and spelling instruction, its application for ESL (and less for EFL) students has been very limited. The meta-analysis showed that collaborative reading, systematic phonics instruction and diary writing were the most useful techniques in teaching literacy to ESL students. The researches also conclude that based on the evidence, these strategies are at least as useful for ESL students as they are for native speakers.

Iadkert (2014) reports that among Thai students, over 50% indicated that a failure to pronounce correctly led to a breakdown in communication with native English speakers. This observation is also made by Owolabi (2014) who argues that minimum standards exist for communication between native and non-natives alike and while non-natives cannot be expected to achieve a native-like pronunciation, they should conform to these minimum standards in order to ensure mutual intelligibility. Iadkert argues that this minimum can be achieved through the use of phonics instruction in the EFL classroom. He defines phonics instruction as a way of teaching reading that “focuses on letter-sound relationships”. He argues that this method works because students learn the “predictable patterns” of the sounds and symbols (i.e., the phoneme-grapheme patterns) that obtain in the English language. Iadkert evaluated English consonant pronunciation of English majors at four different universities in Thailand. He researched the effect of phonics instruction on student’s English pronunciation ability. He found that phonics instruction can indeed improve students’ pronunciation. He also argues that if phonics were combined with other techniques to enhance phonemic awareness, students could do even better.

Owalabi’s work with EFL students who speak Yoruba (Owalabi, 2014), a language which does have a one-to-one correspondence between phonemes and graphemes, recognizes

that for Yoruba speakers, one of the biggest challenges in pronunciation is relating sounds to spelling. He recognizes the importance of teaching students these letter-sound correspondences in order to improve pronunciation. His recommendation is that teachers identify and focus on particular problems which students have in order to remediate their pronunciation errors for intelligibility. While Owalabi does not mention or advocate for phonics instruction directly, his emphasis on phonological awareness presupposes it and many of the examples he gives could certainly warrant the assumption that phonics principles must be employed and used in order to achieve his stated aims.

Dwyer & Ralston (1999) argue for the importance of using phonics in literacy instruction, but find that most programs are needlessly complex. They try to simplify the approach into four basic principles that they argue should be used when designing phonics instruction for reading. The first principle is that “children need to learn the sounds typically associated with single consonants at the beginning of words”. Secondly, in order for students to read well, they must “be familiar with high frequency consonant digraphs” (like ph, sh, th and ch). This includes learning the sound associated with *ng* and those associated with *gh*. Their third principle includes learning blended sounds in consonant clusters. They provide 24 high frequency clusters, such as dr, pr, pl, bl, cl, etc., to be taken into account when designing phonics instruction. Finally, Dwyer & Ralston suggest that rimes be taken into account since these graphemic bases and phonograms are highly consistent in the way they are pronounced in different linguistic contexts. An analysis of different graded readers found that 37 common rimes (which they list) can account for the 500 most frequent words found in these readers. These four principles are not given to the exclusion of other important phonics instruction principles, but rather as of primary importance. They also suggest that rimes in particular can be used effectively to foster

phonemic awareness. While Dwyer & Ralston's work does not mention its application to ESL/EFL, their insights, combined with much of what has previously been mentioned in this chapter, could prove very useful for designing phonics instruction for ELLs.

Conclusions

The purpose of this literature review was to survey the literature on English orthography and its relationship to teaching pronunciation to ESL/EFL students. The literature on reading, writing and spelling related, even tangentially, to pronunciation instructions was also summarized. What the literature seems to support is a clear relationship between techniques for teaching spelling (and reading) and pronunciation. This is not surprising given the earlier relationship explored between the spoken and written systems of the English language. Most linguists recognize that English has a highly regular orthography which obeys rules and patterns which can be learned and taught. The orthographic system is related to the phonological system and the correspondences between them also obey rules which follow regular morphophonemic patterns. Since phonics is an instructional method used primarily to teach reading through a knowledge of grapheme-phoneme patterns and their sound correspondences, phonics can serve as a mediator between the two systems and their rules, which makes it ideal, not only for teaching reading and spelling, but also for teaching pronunciation. While the relevant literature stops short of suggesting that phonics instruction is the most optimal, the best or only choice for teaching pronunciation to in the ESL/EFL classroom, it is highly suggestive that the neglect of phonics instruction for teaching pronunciation to ESL/EFL students is not warranted by the evidence and deserves a second look and further study.

THESIS DESCRIPTION

Statement of the Thesis

Pronunciation instruction in ESL/EFL has been long-neglected by educators and researchers. However, the tides have been turning over the last twenty years as evidenced by the every-growing body of research in the academic literature. This is very positive for EFL practitioners who want to help their students grow as effective communicators in English. Of all the areas of research in the field of pronunciation instruction, perhaps the most neglected tool at the foreign language teacher's disposal is phonics instruction. Since phonics has been traditionally seen as a pedagogical strategy for teaching native speaking children how to read, its value for teaching adult ESL/EFL students how to pronounce has been largely overlooked. Phonics has also been largely ignored as an important tool in developing students' metacognitive awareness and personal confidence. The goal of this thesis is to advance the discussion regarding the usefulness of phonics instruction in the EFL classroom. It is the contention of the present author that the incorporation of a modified phonics program as a complement to the use of phonetic transcription and articulatory phonetics for teaching pronunciation in the English as a Foreign Language curriculum will provide the necessary cognitive and metacognitive conditions for EFL students to confidently improve their pronunciation as autonomous learners.

Theoretical Framework

Language production does not occur in isolation. It depends very much upon the student's perceptive and predictive faculties. In a real world, authentic context, EFL speakers must

regularly make educated predictions about such things as pronunciation, syntax, and situational appropriateness. These predictions are made with respect to the rules that govern language and communication. Language rules, as such, may not be laws of nature like gravity, but they are consistent and predictable conventions which govern communication. Without a knowledge of the rules, ELLs will grope in the dark with little hope of improvement, especially if their L1 is significantly different than English. Even the most gifted ELLs will reach the limits of their natural potential unless they are given tools to overcome these barriers. However, before arguing how the foreign language teacher ought to equip students and with which tools they ought to be equipped, it is necessary to set forth the theoretical foundation behind our proposal.

Perception, Prediction and Production

We may consider the task of second language acquisition as a series of interrelated triads. The first of these triads is the three p's of Perception, Prediction and Production.

All communication, both linguistic and non-linguistic, is predicated upon our mental faculties of perception and prediction. The structuralist school has properly observed that language is a system of systems, but it must be recognized that to varying degrees, these systems are fluid and conventional. In other words, systems change and language evolves. Language is a bearer of culture and so takes on cultural nuances, imposing a culture's worldview on the speakers (Sapir-Whorf Hypothesis). This means that for communication to be successful, one must become adept at perceiving norms and patterns, both those that are obvious and those that are subtle. Perception, then, makes prediction possible. Without perception, prediction is nothing but clumsy guesswork.

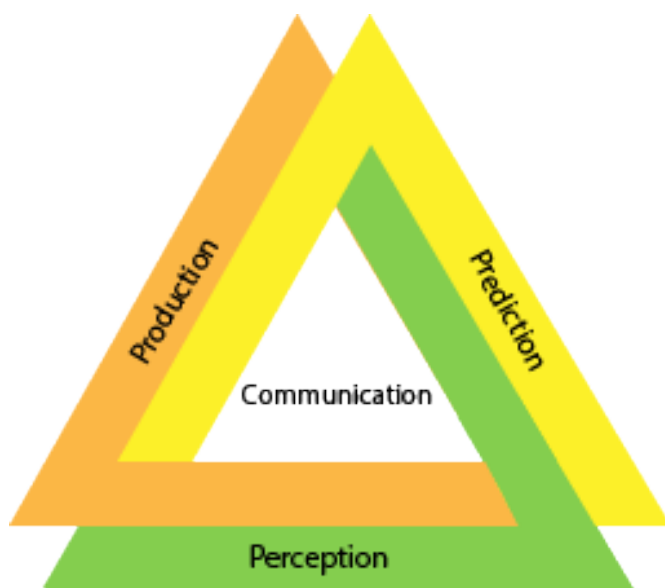
If prediction rests on perception, a logical question is, what must be perceived? It is

precisely this question that we seek to answer. In order for there to be true perception, something must exist that can be perceived. In the case of language, what one must perceive are the rules governing communication. These may be linguistic or non-linguistic rules, but without their adequate apprehension by the speaker, miscommunication will inevitably result.

A Theory of Perception. According to Schmidt (2010), “input does not become intake for language learning unless it is noticed, that is, consciously registered”. Language learners who are in regular contact with the L2 are by the nature of the case in regular contact with the rules that govern the L2. Nevertheless, language learners cannot accommodate those rules into their interlanguage until they notice them. Theorists in the latter half the twentieth century emphasized the unconscious nature of language learning and processing, many opting for a nativist approach to SLA, but Schmidt argues that this view does not comport with the research on intentional versus unintentional learning. While learning by osmosis is possible, for example, in the case of learners who intuit the meaning of new words based on the context, active and intentional learning is far more effective (Roehr, 2008).

Noticing something is not the same as understanding it, nor is understanding required for noticing; noticing, on the other hand, is required for understanding. Likewise, it is not possible for language learners to form hypotheses about their own or other’s language use until they come to notice the patterns and inherent rules at work. Schmidt avers that “in the case of explicit learning, attended and noticed instances become the basis for explicit hypothesis formation and testing”. In some measure, this is what children do when they learn their first language. They notice and experiment with the language on a daily basis. Through error correction and formal training in their L1, children can come to master their first language’s conventions. For second language learners (SLLs), they too need to experiment and hypothesize, something

Figure 3
Perception, Prediction, Production Triad



which is not possible unless they are aware of the rules in play. Unlike children, however, SLs learn most effectively through explicit exposure to the target language.

Truscott (1998) takes a contrary view to that presented by Schmidt. He criticizes the Noticing Hypothesis (NH) on multiple grounds. First, he claims that there is not sufficient support for the hypothesis in cognitive research. The NH claims that a conscious awareness (i.e. noticing) of grammar is necessary for learning grammar, and that *attention* is a necessary component of learning. Truscott argues that there is no clear consensus among researchers with respect to equating awareness with attention, and much less with their corresponding relationship to human consciousness. Additionally, the NH argues that learners must consciously notice *particular details* in order for learning to take place. Truscott argues that the theory is too vague and untestable to be truly useful for SLA, because it does not provide a *principled means* of determining what learners need to notice. The distinction between noticing and

understanding is likewise problematic for Truscott. He claims that the proponents of the NH have not been able to provide a principled means whereby to draw boundaries between the concepts.

While agreeing with Schmidt in the essentials of his argument, his definition of noticing as “a conscious registration of the occurrence of some event” (1995) is far too restrictive. It does not take into account “unconscious” recognition, which is part of Truscott’s contention. Schmidt’s definition of noticing simply cannot account for real world situations where a learner notices something but is unsure what he notices. In such cases, this noticing can be said to be pre-cognitive, but certainly not conscious. This kind of “noticing” does not fit into the Schmidt’s paradigm.

Central to discussions of the NH among its advocates is the concept of rule recognition and no place is allowed for genuine unconscious or implicit learning. In order for learning to happen, all cognitive activity must be of an active nature at the level of awareness. However, in the real world, not all noticing happens at this level. Take, for example, Lewis Carroll’s *The Jabberwocky*. If read fluidly, it sounds like something familiar, but it clearly is not. Carroll’s first stanza is a perfect example of what we mean to demonstrate.

‘Twas brillig, and the slithy toves

Did gyre and gimble in the wabe:

All mimsy were the borogoves,

And the mome raths outgrabe.

The reader will inevitably feel like he recognizes something, even if he doesn’t understand. The reason for this recognition is that Carroll invents words by using standard English orthographic and grammatical conventions. It isn’t a foreign language, really. “’Twas” is

recognizable as “It was” “gyre and gimble” must be verbs since they follow “did” and “wabe” is a nouns because it has the article, just like “borogoves” which is also recognized as plural because of the -es ending. Carroll’s use of standard English orthography and grammatical conventions make his made-up words sound familiar. In other words, the reader notices something, even if he doesn’t know why he notices, what he notices or what it means.

In this case, noticing (to use Schmidt’s terminology) is distinct from both conscious awareness and understanding. Here we have made a distinction between conscious and pre-conscious understanding. It would be incorrect to say that no understanding has taken place. On the contrary, the reader who feels familiar in the unfamiliar world of the Jabberwocky has noticed (and understood) certain conventions of English orthography and clear morphological markers that indicate both number and parts of speech. We can recognize this as *pre-cognitive knowledge* since it does not in every case rise to the level of consciousness understanding. When it does, and the reader can explain it, we can refer to it as metacognitive awareness.

While Schmidt’s NH suffers from certain deficiencies pointed out by Truscott, Truscott’s revision of the NH is no more satisfying. He points out that in linguistics, the standard view “is that knowledge of language (competence) is unconscious, as is its acquisition” (Chomsky, 1975; Jackendoff, 1993, as cited in Truscott, 1998). This may be true of L1 acquisition, but it is harder to make this case for SLA. Consequently, Truscott’s attempt to revise the NH in metalinguistic terms is not convincing. His reformulation is that “the acquisition of metalinguistic knowledge is tied to (conscious) noticing; development of competence is not”. The problem with his revision is not that metalinguistic knowledge is not developed in the way he posits; it most certainly is. The problem is the assumption that a second language, at least in the case of adults, is acquired in the roughly the same way as the first language. This argument is

unconvincing in the light of more recent evidence in SLA that shows that L2 learners exposed to high levels of comprehensible input still “fail to achieve high levels of grammatical accuracy” (Harley, 1986, 1992; Harley & Swain, 1984; as cited in Izumi & Bigelow, 2000).

In this chapter, we wish to propose a revision to the whole concept of noticing, at least as it is defined by Schmidt and proponents of the NH. Instead of noticing, it is preferable to speak of *perceiving*. Noticing seems to require consciousness and active awareness. But, perception can be strong or weak. In the previously given case of the Jabberwocky, morphemic, syntactic and grammatical elements were *perceived* weakly. They were perceived implicitly based on pre-cognitive knowledge of English orthography. This is similar to a case where one perceives that a given situation is dangerous, but does not know why. *Something* is perceived, even if that *something* is unclear to the consciousness. What is often referred to as a sixth sense is usually no more than weak perception.

Even so, perception is not mere implicit noticing; it also involves *interpretation* on some level. In the case of the perceived danger, an uncomfortable situation is perceived and it is interpreted as dangerous or threatening. In the case of the Jabberwocky, the English morphology, syntax and grammar are perceived and while the words are not understood, it is interpreted as familiar; it is interpreted as English.

We can contrast weak perception with *strong perception*. Strong perception is more akin to Schmidt’s *noticing*, but differs in some important ways. In strong perception, some element is perceived in a conscious way such that the object of perception can be interpreted and understood in context. This kind of perception happens in the case of metalinguistic awareness, direct rule instruction and when a student comes to identify by herself patterns in syntax and orthography. In strong perception, we have everything that happens in weak perception with

the addition of conscious analysis and understanding in context. Nevertheless, learning can take place under both conditions. What we will argue is that learning, in the sense of being able to use what is learned to predict and produce, takes place more efficiently when perception is strong than when it is weak.

A deficiency in both of the aforementioned linguists' arguments is that neither takes into account that language is not merely received or noticed, but also interpreted. Language is not merely a question of cognition (active or passive), but also of interpretation and interpretation is based on sociolinguistic assumptions which also include the worldview and culture embedded in the language itself, as well as in the mind of the sender and the receiver. This concept of interpretation is a key factor in communication, both linguistic and non-linguistic.

To put this another way, language is inextricably related to human intentionality, which in pre-linguistic terms is comprised of "beliefs, desires perceptions and intentions" (Searle, 2000). Since the mind in linguistically structured, beliefs, desires, perceptions and intentions are conveyed in meaningful ways through the use of language. We imbue language with meaning and expect other human beings to understand us. Given this, we can define communication as a complex exchange or dance between the sender and receiver; it is the exchange, not merely of messages, but of human intentionality which is conveyed through language and interpreted.

On this understanding of perception and its role in communication, perception is not to be confused with mere reception of input. While researchers like Krashen argue that what SLLs need is enough constant, comprehensible and authentic L2 input (Krashen, 1985; Jelinski & Vanpatten, 1997), what we argue is that merely having an input rich environment will not guarantee ELL's success in communication or language learning. Furthermore, we must ask what makes input comprehensible in the first place? Input may be comprehensible to one and

entirely recondite to another. It becomes comprehensible under two conditions. First, the input must be perceived by the mind and second, there must exist an interpretive grid by means of which the input can be adequately made sense of. In other words, for something to be understood, it must be perceived and interpretable. Only then can input become *intake*, as Schmidt puts it. In sum, only under these conditions can input be meaningfully accommodated into one's pre-existing knowledge base. All of this is prior to and requisite for prediction and production to take place.

We only need to provide one example of the foregoing argument before moving on to the concepts of prediction and production. By way of contrast with the Jabberwocky (which while not comprehensible, is recognizable and interpretable), the following poem by Hashil S. Hashil (2000) in Swahili does not produce the same effect upon the English speaker as Carroll's poem does.

Natowa kitandawili / mwenye jawabu kutowa

Wako watu sura mbili / majaraha yasopowa

Kuchupa kwao kuwili / nyoyo zao zaunguwa

Watakayo ni muhali / milele hayatokuwa.

A reader may be able to identify the repetition of words and even that the previous language is a poem, by the way it is structured, but he will only be able to haphazardly guess at parts of speech and pronunciation. With respect to meaning, if he has no knowledge of Swahili or related languages, he will be utterly unable to perceive and interpret the message. What makes perception possible is a shared background knowledge functioning as an interpretive grid that assures communication will be possible. Conversely, prediction and production are made impossible by the reader's lack of background knowledge.

Learning Theory and Prediction Making. The theory of perception, as defined and defended above, needs a corresponding theory of learning. How do human beings learn? And, how human beings learn language? Ausubel's Meaningful Learning Theory (MLT) claims that new information is learned through relating it to previously existing cognitive concepts or propositions. In order for human beings to learn anything, the learning must be meaningful. Ausubel defines meaningful learning as a "clearly articulated and precisely differentiated conscious experience that emerges when potentially meaningful signs, symbols, concepts, or propositions are related to and incorporated within a given individual's cognitive structure on a non-arbitrary and substantive basis" (Brown, 2014). When students learn in a meaningful way, they anchor new information to previous information in a relevant way. In other words, for learning to take place, learners must relate the new material or task to what they already know. What is learned is meaningful only in so far as it can be relevantly related to the overall cognitive system.

This is what we meant when speaking of the necessity of an interpretive grid. An interpretive grid is the whole cognitive set of background, sociolinguistic, and cultural information that makes any given perception meaningful. If a fact has not been interpreted in this way, it cannot be said to have been perceived. If it cannot be said to have been perceived, it has not been learned. Learning, therefore, depends on both perception and the mind's ability to process what has been perceived against an enormous store of complex information that allows us to assign meaning to what we perceive in the world and thereby learn new tasks or material.

Under this theory of learning, we can speak of *positive transfer*. This happens when "prior knowledge benefits the learning task". Conversely, negative transfer happens when previous knowledge interferes with new knowledge. Negative transfer occurs in SLA when the L1

interferes with an adequate production of the L2. This notwithstanding, for the purposes of this discussion, the most salient feature of Ausubel's MLT is that human beings will use any and all of their previous knowledge and experience to facilitate new learning. This is why negative L1 transfer is even possible. Learners depend on structures they already know in order to accommodate what is new and unfamiliar.

Given these features of human learning, we may add one more aspect about the nature of human inference. Inference is important for prediction. Dan Neshet (2017) discusses Charles Pierce's Pragmatic Theory of Meaning and identifies three levels of inference. The first level of inference has to do with rules of which we are conscious or which we consciously formulate that guide or inform our inferences. Next, there are rules of which we are only vaguely conscious that guide us in our inferences, and finally, there are rules of habit which determine our behavior, but of which we are unconscious. Rational or higher-level consciousness necessitates interpretation, according to Neshet. Nevertheless, interpretation is not absent at lower levels of awareness. So, a child who has no formal understanding of English morphology will, based on inference, often make mistakes in forming the preterite of irregular verbs. He might say, *He readed me the book*, instead of *He read me the book*. This example of overgeneralization in L1 acquisition is an example of Pierce's second category. The child is not completely unconscious of the rule for forming the English preterite or regular verbs, but is rather vaguely conscious of it. His inference that -ed is added to a verb in order to express past tense action results in the prediction, *readed*. His prediction is mistaken, but only because he is still unaware that *to read* is an irregular verb in the preterite.

Inference relates perception to prediction, both of which are necessary for learning new information. The reliability of our predictions will depend upon our level of consciousness. If

the learner is operating at a high level of consciousness, where well-formulated rules are influencing inference, the predictions made about new or unfamiliar material will be far more reliable than predictions made based on vague intuition. This is why it has been shown that adult learners are often much more adept than children at acquiring L2 “literacy, vocabulary, schematic knowledge, and even syntax” (Scovel, 1999, as cited in Brown, 2014). At least for adult SLLs, a conscious knowledge of the rules of the language facilitate better inference which leads to more reliable predictions.

A perfect anecdote is a student who had to translate the word *crockumentary* into Spanish. This student knew that the word for documentary in Spanish was *documental*. Additionally, he knew that a *crock* was a lie (*una mentira* in Spanish). As in English, this student pieced the words together as *documentira*. This was a clever guess based on inferences about meaning, morphology and how words are formed in one language and the other. As it turned out, a quick Google search revealed that somebody else had made the same prediction when translating the same word. This is why EFL teachers teach their students to recognize root words, prefixes and suffixes in English, because these morphological elements follow regular patterns, allowing students to make good predictions about the form of words they may not know based on the rules they have consciously learned. Without knowledge of the specific rule, the student must rely solely on intuition and memory, which may lead to less accurate predictions.

Truscott’s Challenge. Truscott’s challenge to the Noticing Hypothesis is that Schmidt’s theory does not provide any principled means for identifying the items to be noticed by the students so that learning can take place. Ausubel’s Meaningful Learning Theory, however, does give us a principled approach to element selection which corresponds to our concepts of perception and prediction. Ausubel (1968) says that “the potential meaningfulness of a learning

task depends on its relatability to a particular learner's structure of knowledge in a given subject matter area." In other words, elements selected for emphasis should correspond to what the student already knows and to those elements which most naturally and relevantly relate to the learner's prior knowledge.

Meaningful learning is also organized in an inverted hierarchy where the most general concepts are at the top and the more exclusive features at the bottom (Thelen, 1986; Goodman, 1976; Smith, 1982). Meaningful learning takes place when instruction begins with broad, inclusive concepts and works from the top down to the more detailed ones. For example, before a student can understand what an adjective is, he must have some concept of a noun. In order to understand what a noun is, he has to have the concepts of persons, places, things and ideas in his cognitive framework. Even these broad concepts are part of even broader social and cultural contexts. A whole complex of background knowledge comes into play in the narrower concept of the adjective. This top-down hierarchy of learning is important for fostering student perception and prediction, since it relates specific information to a meaningful context in relation to parent, sister and child categories.

Criteria for meaningful learning must be taken into account when determining both how to organize a subject matter as well as what features to emphasize in a dynamic classroom setting. In order to assist with this task, we can summarize the foregoing concepts with five practical questions (where X is the feature chosen for *noticing*).

1. Does X relate meaningfully and logically to the learners' prior knowledge?
2. Does X have specific and direct relevance for subsequent learning?
3. Does X possess sufficient explanatory power to give meaning to seemingly arbitrary details within the context of the subject matter?

4. Is X sufficiently stable to provide a firm anchor for detailed material?
5. Does X relate new facts to a common theme, whereby elements of X are related meaningfully to each other and to prior knowledge?

Production. The role of input in SLA has been the principle focus of discussion in this chapter, as it is in the literature on acquisition in general (Robinson, 1995; Schmidt, 1990, 1995; Tomlin & Villa, 1994, as cited in Izumi & Bigelow, 2000). The role of output in acquisition has received relatively less attention. As has been argued here, successful language production relies upon the successful use of our perceptive and predictive faculties, but it can also contribute reciprocally to perception and prediction. In other words, production is not only the fruit of those faculties, but nourishes them as well (Ellis & Widdowson, 2017). Krashen (1985) takes a contrary position that output plays no role in acquisition, but is rather the result of it. However, Krashen's view has been seriously challenged by a more robust view of output found in Swain's Output Hypothesis, and subsequent researched on the value of L2 production for acquisition.

Swain's Output Hypothesis claims that language production forces students to analyze language syntactically, a process that under the right circumstances can force students to focus on their own gaps or deficiencies (Izumi & Bigelow, 2000). Swain hypothesizes that when learners produce the L2, they will be able to "consciously recognize" linguistic problems in their L2 interlanguage. The typical EFL curriculum has a great number of output activities and assessment. The assumption is made that in order for learners to acquire a language, they need to use it. Still, the assumption that more output will necessarily yield improved results is not supported by the research. Output can play a very important role in the development of a student's metacognitive abilities, but only under the right circumstances. In order for students to improve as a result of their production, they need to be able to perceive their own errors. This

is usually beyond the ability of most learners to do on their own, especially if they are not immersed in an L2 context. What students need is additional input that focuses their attention on their own production. In other words, mere production will not result in corresponding metacognitive awareness; the student's output must be met with strategic engagement that will activate the student's perceptive faculties in such a way that the student will evaluate his production based on his own pre-knowledge in his cognitive framework. This process is rarely automatic and must be triggered by additional input from the teacher or another interlocutor.

Production is a vital part of pronunciation instruction. While students must produce to pronounce, they need to be made aware of what good pronunciation sounds like, what it looks and feels like (physiological aspects of pronunciation), and strategies that they can use to evaluate their own progress. It is hypothesized here that the most important factor in making output a meaningful source of acquisition is providing students with effective metacognitive strategies by which they will be able to consciously analyze and evaluate their own output. Students will not always have a teacher with them, nor is the classroom an authentic context, but only seeks to simulate authentic contexts. Students need tools beyond the mechanics of the target language features themselves in order to self-monitor and self-correct. In terms of English pronunciation, what we argue is that students need tools other than the knowledge of phonemes. We will argue that phonics instruction is one of those necessary tools for triggering the perceptive faculties of consciousness, reinforcing the predictive faculties and enhancing students' metacognitive awareness for autonomy.

Reading, Spelling and Speaking

Human language, as structuralists have observed, is a complex system comprised of

complex systems (Josiah & Udoudom, 2012). What this means is that the English language is a system governed by regular and predictable rules, expressed either orally or graphically in spoken or written forms respectively. Each of these forms, the spoken and written, while a genuine expression of the English language, is at the same time its own system with its own rules. While these systems are distinct, they are by no means separate from one another. On the contrary, they are interrelated and function in tandem as two expressions of one the one language, two complementary systems which are themselves expressions of the one primary system. It is in this way that we can consider the relationship among reading, spelling and pronunciation, as a triad of interconnected systems.

The written and spoken systems of the English language are predicated upon regular and predictable rules. These rules that govern written and spoken language are not fixed, natural laws like gravity or electromagnetism, but rather more like habits or conventions which serve the goal of human communication through the media of writing and speaking respectively. Each system's rules or conventions are suited to the medium. This is the case for all languages, but it is more evident in non-phonetic, morphophonemic languages like English. For example, in Spanish, the phrase "para adelante" is regularly pronounced as "pa' lante" and "para que" in written Spanish is regularly pronounced as "pa' que". The elision of the "-ra" in both examples and of the "ade" in the second word of the first example is due in no small measure to the economy and comfortability of pronounced speech. Speakers will normally seek the most comfortable pronunciation within standard or understandable limits. The conjunction of the double-A in the phrase "para adelante" is uncomfortable for fluid speech, and so the letters are elided and the two words modified. This is the case with examples from a phonetic language like Spanish. English connected speech can produce examples such as the interaction of two

similar phonemes like /z/ and /s/ in “wise sage” which is *heard* as one word, waɪsɪʒ, or the phrase “pay for it” which is heard as peɪfɜːɪt. A closer analysis of these examples would reveal rule-following on multiple levels of linguistic competence. What these and many other possible examples mean to show is that the differences between the written and spoken systems can be explained by appeal to regular and predictable conventions (we call them, rules) that are adequately fitted to either medium respectively.

While the rules of each system, spoken and written, could be analyzed discretely, we are concerned with the rules that govern the relationship between the systems. The rules that concern us are related to reading and speaking. Reading and speaking, while distinct competencies, are profoundly related, so much so that post-doctoral researcher, Dr. Paula Clarke, suggests that oral language weaknesses in pre-literate children is one of the best indicators of later reading performance (The Open University, 2009a). Glynnis Smith, a researcher in England who has developed a program of reading intervention for primary school children, argues for the importance of developing phonological awareness in children who have difficulty reading. Her program brings together both reading and phonology for effective literacy remediation. She says that “the importance of phonology is that unless you are able to decode those symbols on a page, and translate them into phonemes, then the task of reading is virtually impossible” (The Open University, 2009b).

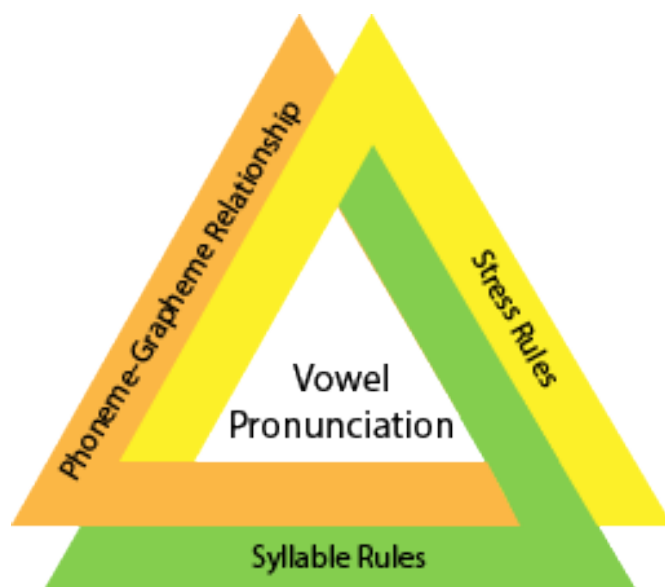
Given that speaking and reading are so intimately related in the decoding and translation of graphemes to phonemes, reading, or rather spelling rules, are also applicable to pronunciation. This is why Dickerson & Finny (1978) say that “spelling is a major pronunciation resource”. The rules for spelling and reading tell us how words are supposed to be pronounced. This is easiest to demonstrate on the level of discrete words. At this level, rules of syllabification

Figure 4
Reading, Spelling and Pronunciation Triad



are important for students to apply the fundamental rules of vowel pronunciation. When the basic rules of vowel shortening or elongation are paired with the rules of syllabification in the reading context, teachers call this “sounding out words”. However, words in the real world are rarely unaccompanied, and so suprasegmental rules for stress, intonation and connected speech are also important, not so much for reading, but for teaching pronunciation. This last category of rules is important for students to understand the rules for vowel reduction in English, a phenomenon not found in phonetic languages like Spanish. This triad of rules is foundational for structuring a pronunciation teaching strategy which goes beyond mere phonological instruction and transcription, and that takes into account the structure and rules that govern English orthography.

Figure 5
Vowel Pronunciation: Triad of Rules



Spelling rules must be taken into account when teaching pronunciation since the only real form of the word available to students upon which they might base a prediction is the written form. The rules permit ELLs to make *informed predictions* for themselves about the pronunciation of unfamiliar words. Phonological transcription itself is not a safe guide since words in this form do not exist in authentic contexts. Students who only learn English pronunciation through phonological transcription will be forced to rely too heavily on memory and guesswork. They will also lack the confidence that rule-based instruction will give them for autonomous language production. The system most appropriate for teaching L2 learners the rules of English spelling and reading is phonics instruction.

Phonics for English Language Learners: A Modified Approach

Phonics is a widely used and recognized method for teaching native speaking children how to read and spell. However, it has not enjoyed a wide implementation in the EFL

curriculum. Whether this is due to a lack of knowledge about the nature of English orthography or to a prejudice for phonological transcription and instruction, the fact that the same principles which underly English spelling also underly English pronunciation, makes phonics a good candidate for inclusion in the EFL classroom. After all, unless the EFL student is expected to memorize, by sight, the pronunciation of every word in English or unless the student is expected to always consult a dictionary when the adequate pronunciation of a given word is in doubt, he will need to depend on reliable criteria to deal with previously unknown words in real world contexts. Phonics instruction provides ELLs with the tools to do just that.

However, we recognize that a phonics program designed to teach primary grade children how to read is not necessarily adequate for teaching adult or adolescent ELLs how to pronounce. Not all phonics rules taught to pre-literate children will be relevant to ELLs, and one of the most important criteria established here for meaningful learning is the relevance of new information both to prior knowledge and to learning gaps in the student's cognitive framework. What this means is that a phonics program needs to be adapted to what the students know and need to know in order to achieve better and more confident pronunciation.

In order to determine the relevance of specific learning tasks for ELLs, a number of preliminary questions need to be asked and answered.

1. What language is spoken by the students? Is the L1 monolingual or mixed?
2. Is the students' L1 an alphabetic language? (If not, students will likely need more instruction in the principles which govern alphabetic languages)
3. What phonemes common to English does the students' L1 lack?
4. What phonemes or aspects of English pronunciation cause the greatest trouble for speakers of the L1 identifies in Q.1?

5. Which phonemes or aspects of English pronunciation have the greatest potential to result in miscommunication for speakers of the L1 identified in Q.1?

These five questions will help to narrow down the field of relevant instructional material to be incorporated in the EFL classroom, based upon the above-mentioned criteria for meaningful learning that promotes strong perception, prediction and production.

Study Methodology

The purpose of the present thesis project is not only to argue that a modified phonics program, as a complement to the use of phonetic transcription and articulatory phonetics for teaching pronunciation in the English as a Foreign Language curriculum, will provide the necessary cognitive and metacognitive conditions for EFL students to confidently improve their pronunciation as autonomous learners, but also to produce a practical guide for teachers and curriculum designers to integrate this research in a practical way for use in an EFL classroom.

In order to accomplish these twin goals, students from an English IV for Staff class at the Universidad Latinoamericana de Ciencias y Tecnología were recruited to participate in the experimental pronunciation study incorporating phonics as a tool to promote greater metacognitive awareness and improve student accuracy.

The first step in designing the study was to answer the fundamental questions in determining the most relevant features to be incorporated in the eight week study. Second, the study was designed, the material organized and resources either created or compiled. An online platform was chosen for distribution as a virtual classroom where a select number of students could access the materials for self-study. Prior to initial instruction, samples were taken from eight of the study participants and analyzed with PRAAT, a speech analysis program. Upon concluding the study, the same eight students were retested and the final samples analyzed and compared

to the original pre-instructional samples. Finally, interviews were conducted with each of the participants to assess affective and metacognitive factors related to the instruction received.

The creation of a guide was based on the aforementioned research and the theoretical framework which supports it. This guide was arranged and designed to aid foreign language teachers in incorporating phonics in pronunciation instruction in the foreign language classroom.

The language teacher needs to be able to teach students not just how to pronounce problematic phonemes, but when to pronounce them as well. The value of an organized guide to instruction is that teachers will be able to give students tools for learner autonomy.

THESIS DEVELOPMENT

Establishing a Meaningful Scope

To establish a responsible and principled criteria for the selection of material and tasks to be included in our modified phonics instruction, in the last chapter we developed five important questions for determining what knowledge ELLs possessed as part of their existing cognitive framework and what gaps could be expected by the foreign language teacher. These questions, together with the five questions we derived from Ausubel's Meaningful Learning Theory, were used to select the scope and sequence of phonics spelling patterns included both in the study as well as in the teacher's guide.

Question #1: What language is spoken by the students? Is their L1 monolingual or mixed?

The students under consideration, not only for the present research, but also for the development of a guidebook for EFL/ESL teachers, are native Spanish speakers learning English as a foreign language in Costa Rica. Their L1 is monolingual in that none of the students have two native L1s.

Question #2: Is the students' L1 an alphabetic language?

The L1 of the students targeted for research speak Costa Rican Spanish which is an alphabetic language. It should also be pointed out that Spanish is a phonetic language in which each grapheme has a corresponding phoneme. This differs from the morphophonemic character of English.

Question #3: What phonemes or spelling patterns common to English does the students' L1 lack?

Both from the literature on the subject and the present author's own experience over fourteen years working with Spanish ELLs, trouble areas for students in this class are not hard to identify. Often the problems experienced by the students are the result of negative transfer or the absence of certain sounds or patterns in Spanish. For example, many students have difficulty discriminating between the two final-position, lingua-velar plosives /k/ and /g/ in oral production. Since Spanish does not have words with /g/ in final position, students tend to resort to /k/ which could result in miscommunication if, for example, if dug (/dʌg/) were to be heard as duck (dʌk). There are certainly other kinds of interference that we have tried to detect, such as loanword interference.

The following chart provides a details summary of the sounds which Spanish speaking ELLs have a difficult time producing or whose misproduction would result in potential miscommunication (King, 2007; Gillette, 1994; Samuel, 2010).

Table 3
Troublesome Consonants for L1 Spanish Speakers

IPA REPRESENTATION	PHONEME OR SPELLING PATTERN	PRONUNCIATION PROBLEM
/g/	g, gg,	Usually replaced by /k/ because Spanish does not have words with a voiced /g/ in final position.
/d/		Usually replaced by /t/
/b/		Usually replaced by /p/

/ʃ/	sh; ti, ci, si in -on endings	Spanish does not have the /ʃ/ sound. It usually becomes /tʃ/. This can occur with sh, ch, tch and j spelling patters. In final position the /ʃ/ can also be confused with /s/ as in the word push.
/h/		Spanish speakers will often leave this letter, especially in initial position, unpronounced, since in Spanish the h is a silent letter.
/θ/	th	The voiceless th sound does not exist in Latin American Spanish. It's closest equivalent in Latin America will be the pronunciation of the letter d. In Spain, the z and c (before e or i) will be pronounced /θ/.
/ð/	th	Beginning students have a hard time with /ð/ and may tend to pronounce it as /s/ or /d/
/z/	z, s	The /z/ is often mispronounced as /s/ since in most Spanish dialects, /z/ does not exist.
/s/	s, c	There are no word-initial consonant clusters in Spanish that begin with an s. Speakers will typically add an "e" (/ε/) before initial /s/. In other cases, the letter s can sound like /ʃ/. In the final position, the student may drop the /s/ entirely. This is due either to difficulty in pronouncing some plural words in English or the fact that certain Spanish dialects regularly drop the final /s/ on plural words.
/ɹ/	r	The letter r in Spanish is formed in the front of the mouth, as is the trilled r (rr), while English forms this sound in the back of the throat.

/y/	y	The letter y is often pronounced /dʒ/ by Spanish speakers, as it is in many Spanish speaking countries.
/dʒ/	j, g (before), dge	In Spanish, the letter j is pronounced /h/. In words with -dge, the -dge is often pronounced as /tʃ/
/v/	v	The letter v will usually be pronounced by Spanish speakers as /b/ because in most Spanish speaking countries, no phonological distinction is made between the letters b and v. In final position, a Spanish speaker may try pronouncing the letter v as /f/.
/m/	m	The final /m/ is often pronounced as /n/ or /ŋ/ as in <i>drean</i> or <i>dreang</i> instead of dream.
/ʒ/	vision	Spanish does not have this sound. It will often be pronounced as /ʃ/.
/ŋ/	ng, nk	Spanish does not have this consonant combination, but it is very common in English and for that reason merits special attention. While its mispronunciation may not cause miscommunication, its frequency makes it important as a focus item.

In a pronunciation class, the whole vowel system should be taught systematically. Nevertheless, there are certain vowels that present greater challenges to Spanish-speaking EFLs (SS-EFLs) than others. Table 4 is not a complete list of vowel sounds that should be taught, but rather sounds that should be given greater attention due to their problematic nature for SS-EFLs.

Table 4
Troublesome Vowels for L1 Spanish Speakers

IPA REPRESENTATION	PHONEME OR SPELLING PATTERN	POSITION PROBLEM
/eɪ/	a + final e; ai; final ay; a in an open syllable	Spanish does not have this vowel sound.
/æ/	a in a closed syllable, au	Spanish does not have this vowel sound.
/aɪ/	y at the end of one syllable words; the i in an open syllable; igh; ei; i with final e; uy at the end of a word.	Spanish does not have this vowel sound.
/ɪ/	i, in a closed syllable; y; hy	Spanish does not have this vowel sound.
/ʌ/	u in a closed syllable; ou; words with -other; sometimes -on	Spanish does not have this vowel sound.
/ʊ/	oo, ou	Spanish does not have this vowel sound.
/ə/	Found only in unstressed syllables.	Spanish does not have reduced vowels.

The previous chart lists the vowel sounds that are likely to be difficult for Spanish speakers since the vowel sounds do not exist in the Spanish language. Spanish has five vowels with corresponding sounds. In English, there are somewhere in the neighborhood of twenty-eight possible sounds across different dialects. The sounds chosen here represent common vowel sounds found in standard American English which have no correspondence in the Spanish phonological system. Because of the diversity of vowel sounds in the English vowel system, many of these sounds are physiologically similar and so are difficult for ELLs to discriminate and produce. These sounds are often referred to as minimal pairs. The following chart is a suggested list of the most important minimal pairs that could cause the most disruption for Spanish speaking

ELLs. The “Closest Pairs” column lists the two pairs whose average formant frequencies are closest in range (University of Southern California, 2017)

Table 5
Minimal Vowel Pairs

IPA PRESENTATION	TYPICAL SPELLING PATTERNS	IMPORTANT PAIRS	CLOSEST PAIRS
/eɪ/	a + final e; ai; final ay; a in an open syllable	/aɪ/, /ɛ/, /æ/, /ɪ/	/ɪ/
/æ/	a in a closed syllable, au	/a/, /eɪ/, /aɪ/, /ə/, /ʌ/	/ɛ/
/aɪ/	y at the end of one syllable words; the i in an open syllable; igh; ei; i with final e; uy at the end of a word.	/æ/, /a/, /ʌ/, /eɪ/, /ɔɪ/	/æ/
/ɪ/	y, i, in a closed syllable; hy	/ɛ/, /i/, /eɪ/	/i/
/ʌ/	u in a closed syllable; ou; words with -other; sometimes -on	/a/, /ə/, /ɛ/, /æ/, /ʊ/	/ə/, /a/
/ʊ/	oo; ou in would, could, should; and u normally before dark l and sh.	/ɔ/, /ʌ/, /ə/, /u/	/u/, /ʌ/

While there are many diphthongs in the English language (aʊ, ɔɪ, and aɪ, eɪ, for

example), ai and ei represent the long vowel sounds of the letters I and A. So, for the purposes of this analysis they will not be taken into account in diphthongs that need to be singled out for learning, as this would create both redundancy and possible confusion in the mind of the learner. The two diphthongs that do need to be taught specifically are aʊ and ɔɪ.

Table 6
Diphthongs

IPA REPRESENTATION	TYPICAL SPELLING PATTERNS	POSITION
/aʊ/	ow, ou	ou is found mostly in initial and medial positions, and ow in all positions.
/ɔɪ/	oi, oy	oi is found in initial and medial positions, while oy is found in final position.

Aside from diphthongs, there are a host of digraphs that may cause trouble for SS-ELLs due to their absence in the L1. The following digraphs which are not found in the L1 are marked with an asterisk.

Table 7
Digraphs

SPELLING PATTERN	IPA REPRESENTATION
th*	/θ/ and /ð/
dge*	/dʒ/
ph	/f/
ch	/tʃ/

qu*	/kw/
ti, si, ci	/ʃ/
zh*	/ʒ/

There are some spelling patters that should be singled out because they contain silent letters. In most cases, these letters were pronounced over a millennium ago and became silent, but have been retained in spelling as the orthography became fixed.

Table 8

Unfamiliar spelling patterns

SILENT LETTER	SPELLING PATTERN AND PRONUNCIATION
Silent l	The l is often silent before k (but this will depend on the regional accent)
Silent k	The k is silent before n.
Silent h	In American English, the h is silent in the initial position before o and ei
Silent w	The w is silent before r.
Silent g	The g is silent before n, and in -gh- (which can also say /f/ in final position), except in the word ghost, where the h is silent.
Silent s	Words with silent s: aisle, island, debris, Arkansas, Illinois
Silent b	The b is often silent after m.
Silent p	The p is silent before s.

Question #4: What phonemes or aspects of English pronunciation cause the greatest trouble for speakers of the L1 identified in Q.1?

In general, the phonemes identified under Q.3 should cause the greatest difficulty for SS-ELLs. Nevertheless, the scope can be further narrowed down. To my own observations, I will add those of King (2007), Gillette (1994) and Samuel (2010).

Table 9

Most Difficult Phonemes for Spanish Speaking English Language Learners

DIFFICULT PHONEME	IPA REPRESENTATION
h	/h/
j	/dʒ/
r	/ɹ/
s	/z/
sh	/ʃ/
th	/θ/ and /ð/
v	/v/
w	/w/
z	/z/
a	/æ/
e	/eɪ/
i	/ɪ/ and /aɪ/
o	/ɑ/
u	/ʌ/
oo, ou	/u/
The reduced vowel in unstressed syllables	/ə/

To these difficult sounds, we would add rules pertaining to connected speech, which are not less affected by the rules of phonics, and rules of stress which modify certain phonics rules. These should be meaningful components of the pronunciation instruction, taught after and in light of the regular phonics rules pertaining to the above-mentioned phonemes.

Question #5: Which phonemes or aspects of English pronunciation have the greatest potential to result in miscommunication for speakers of the L1 identified in Q.1?

This may be the most difficult question to address here. In many ways it is very much a subjective question. There are, however, a number of difficult sounds for SS-ELLs that can result in confusion or very serious miscommunication that could be considered inappropriate speech in many contexts. The following words or sounds are common mispronunciations.

Table 10
Common Mispronunciations

DIFFICULT PHONEMES	PROBLEMS
A voiced g in the final position	The voiced g in final position is typically difficult for SS-ELLs because no word in Spanish ends in a voiced g. Students will tend to say /k/ instead of /g/. This can create confusion in words like dog and dock, or worse in words like fog and fuck.
The long o in focus	It is necessary to help students understand rules for pronouncing long and short o, since confusing these can create an uncomfortable situation for speakers and hearers, where the word focus mispronounced as fak-as or fakΛs can very easily be heard as “fuck us” by native speakers.
/z/	The /z/ can create confusion in final position in words like bus and buzz, fuss and fuzz, loose and lose
/y/	For many Spanish speakers, the y commonly says /dʒ/ in Spanish. In English, this is not the case. This may cause problems with words like joke/yolk, yes/Jess, you/Jew.
Initial s+consonant consonant cluster	While this may or may not cause misinterpretation, it is a common pronunciation error that can usually be easily corrected with minimal instruction. Spanish does not have words that begin with the s+consonant clusters. All words in Spanish that have s+consonant in initial position begin with e. Spanish speakers will naturally add e to the beginning of these words.

sk in final position	The sk in final position is often mispronounced as /x/ or /ks/. While this may not create miscommunication, it is also a common error that can be corrected. It might also be pointed out that native speakers in certain dialects confuse the /sk/ and /ks/, /x/ sounds too.
/v/	The /v/ sound is often replaced with /b/ due to the fact that the b and v in most Spanish dialects in Latin America make no phonetic distinction, pronouncing both as /b/.
/ʌ/ in hungry	This involves a double problem, namely, that in Spanish the h is silent and Spanish speakers do not have the /ʌ/ sound in their L1. The mispronunciation of this word can sound like angry

There are doubtless myriad other examples that can be given, and teachers will and should draw from their experience in knowing which sounds to focus on in which contexts. These are given as examples of problems which may result from already-discussed gaps in a SS-ELL's interlanguage phonology.

Establishing a Meaningful Sequence

Since meaningful learning happens when new information is related in a relevant way to what the student already knows, the order or sequence of instruction is important. This strategy of elaborative teaching will allow students to better process new information and aid in memory enhancement as well. This is particularly important for our concept of perception and prediction (see Chapter 3).

To establish this sequence, we have take into account the five questions from Chapter 3 proposed to establish responsible criteria for meaningful learning. For any learning task or element X, we can ask:

1. Does X relate meaningfully and logically to the learners' prior knowledge?
2. Does X have specific and direct relevance for subsequent learning?
3. Does X possess sufficient explanatory power to give meaning to seemingly arbitrary details within the context of the subject matter?
4. Is X sufficiently stable to provide a firm anchor for detailed material?
5. Does X relate new facts to a common theme, whereby elements of X are related meaningfully to each other and to prior knowledge?

Based on these questions as guiding principles for establishing the sequence of material presented earlier in this chapter, we propose the following for organizing the previously discussed material.

Organizing the Vowels

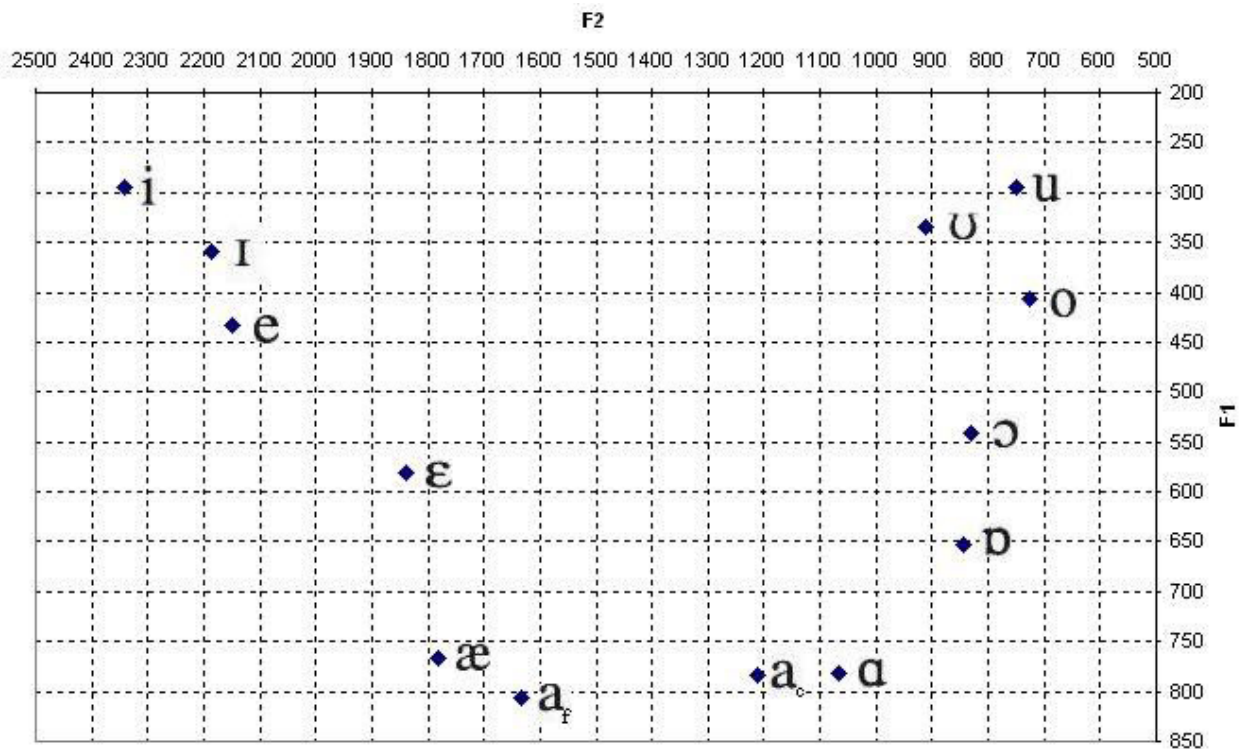
Good English pronunciation depends on a solid command of the vowel system, which is very different from its Spanish counterpart. Vowels in English can be measured in four dimensions, namely, frequency, amplitude, duration and spectral distribution (Wells, 1962). When analyzing vowels, we look at their vowel formants. A vowel formant is a value of the frequency of the vowel. Wells says that in order to identify a vowel in acoustic terms, the frequencies of formants characteristics of that vowel must be identified. The formants are peaks of energy which correspond to frequencies of each vowel. There is one vowel format in approximately every 1000Hz band (PRAAT Beginners Manual). These formants are different for each vowel and correspond to the varying shape of the vocal tract and position of the tongue characteristic of each vowel.

For this research, samples were taken from SS-ELLS and their short vowel sounds (/æ/, /ɛ/, /ɪ/, /a/, /ʌ/) were analyzed and graphed using PRAAT. Students' values were also

compared to the frequencies of an average native speaker’s vowel formants. The reason for focusing on short vowels is simply because three of the five sounds have no corresponding vowel sound in Spanish, the vowels that do have a corresponding sound are produced differently in the vocal tract than their Spanish counterparts, and they typically present problems for SS-ELLs. The aforementioned reasons make the short vowels a convenient object of study.

For teaching vowel sounds, it was determined that the vowels which are closest to one another in frequency on the graph should be grouped together. In theory, these vowels will share minimal pairs and present pronunciation and discrimination challenges for ELLs. If we look at a typical graph of vowels by frequency, we can easily identify which vowels can be logically grouped together for learning.

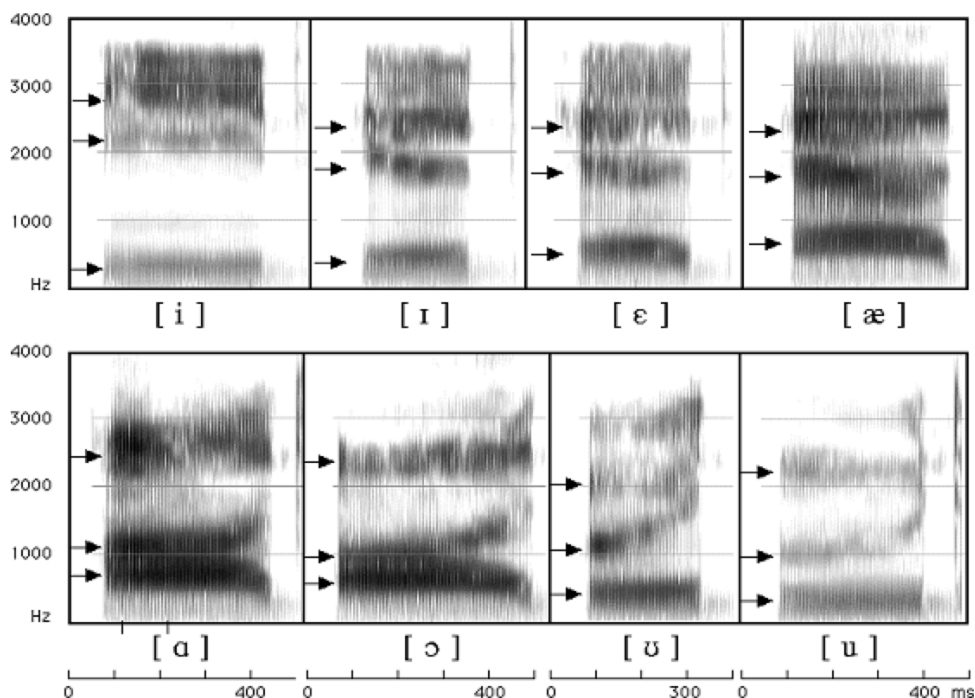
Figure 6
Vowel Formant Chart (Hayes)



The previous chart shows the arrangement of vowels according to their frequencies, using two primary vowel formants as references (F1, F2). A vowel formant is We can chart these vowel formants on an excel. While there are three useful formants, the third formant (F3) is not as commonly used in research as the first two. The first vowel formant (F1) has an inverse relationship to the height of the vowel. In other words, the higher the vowel is, the lower will be the first formant, and vice-versa. The second formant (F2) has a corresponding relationship to the frontness or backness of the vowel. These values can be graphed analyzed using spectral analysis in PRAAT. A spectrogram is a graphic representation of three dimensions of sound according to their frequencies. *Figure 7* shows a spectral analysis of front and back American vowels. The x-axis represents time or duration of the vowels and the y-axis represents frequency in Hz. The arrows indicate the location of the formants which appear darkest on the spectrogram.

Figure 7

Spectrograms of American English Vowels (Ladeforged, 2006: 185-187)



An analysis of the spectrogram can show us which vowels are closest in frequency. Theoretically, these vowels should present a greater challenge to students in both production and listening. It is for this reason that these vowels should be taught together. *Table 11* displays the frequency values for the ten canonical sounds of English vowels (long and short vowel sounds).

Table 11
Vowel Grouping by Frequency (Hayes, 2017)

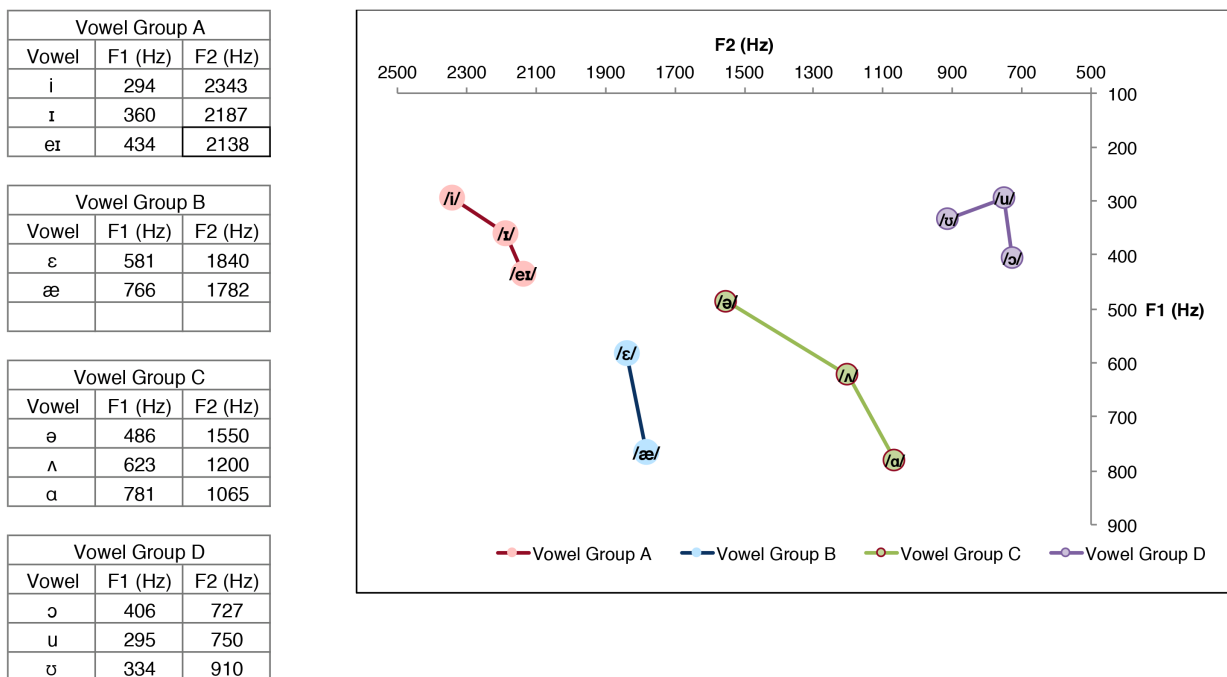
VOWELS	F1 (FORMANT 1)	F2 (FORMANT 2)
/i/	294	2343
/ɪ/	360	2187
/eɪ/	434	2138
/ɛ/	581	1840
/æ/	766	1782
/ɑ/	781	1065
/ɔ/	406	727
/u/	295	750
/ʌ/	707	1354
/ə/	486	1439
/ʊ/	334	910

Based on this information, we can begin to group vowels together based on their physical similarities on the assumption that these sounds will tend to be confused by SS-ELLs. The

following chart illustrates the vowel grouping according to the methodology outlined above.

The above four vowel groups contain the primary sounds found in most English words. Knowledge of these sounds and the rules that govern the phoneme-grapheme relationships will give students a strong basis for perception and prediction when encountering new words in unfamiliar contexts.

Figure 8
Vowel Grouping for Research and Pedagogical Purposes According to Frequency (Hayes, 2017)



In sum, as far as sequence goes with respect to the English vowel system, we suggest following that sequence illustrated above, from left to right (in the graph) or top to bottom (in the format frequency charts). While this order is hardly necessary, it is convenient.

Modifying Systematic Phonics Instruction for EFL

Having established a meaningful scope and sequence for teaching vowel sounds to SS-ELLs, we must now establish a method for teaching these sounds which incorporates and relies upon the theoretical framework established in Chapter 3. It has already been recognized that systematic phonics instruction as it is implemented for reading instruction in primary grade schools in English speaking countries, may not always be adequate to the needs of EFL students learning English in countries whose native language is not English. Furthermore, some aspects of sequence and scope in traditional phonics programs may not be necessary nor serve the needs of students learning to read and pronounce English since each language group will generally present different challenges with respect to English pronunciation. That is why, as we have already indicated, this chapter focuses on modified phonics instruction for Spanish speaking English Language Learners (particularly from Central America).

What Do EFL Students Need To Know First?

Before students can be expected to apply rules specific to particular sounds, especially if those sounds “seem” to break conventional rules like the reduced vowel, schwa, students must master the general rules of English phonics. Those rules include: 1) the basic long and short sounds of the five English vowels; 2) rules for when a vowel is short or long; 3) the basic rules of syllabification; 4) the basic IPA symbols associated with the ten long and short vowel sounds; and 5) rules for vowel stress. Once these rules are mastered, the student is in a position to deal with *ruler breakers* and more advanced rules such as rules for silent letters and reduced vowels. Furthermore, it is the contention of this thesis that these rules are basic to understanding more advanced pronunciation instruction on suprasegmental aspects of production, like vowel

contraction and reduction in connected speech.

The Big Four. *The Big Four* refer to the four principle rules governing the pronunciation of written English. These four basic rules will be repeated and referred to over and over again in all subsequent lessons and practice. For this reason, the student should master these rules. *The Big Four* are:

1. Every syllable must contain at least one vowel, but every syllable has one and only one vowel sound.
2. In closed syllables (a syllable that ends in a consonant), a lonely vowel is normally short.
3. In closed syllables, when there are two vowels, the first vowel is normally long, and the second is silent.
4. When a word ends in a final -e, the previous vowel is long and the -e is silent.
5. These four rules form the basis for all instruction. When teaching these initial rules, it is recommended to associate vowels and their sounds with IPA symbols right away and explain to students that the symbols are not to be confused with letter, but represent sounds.

Figure 9

The English Vowels and Their Sounds

	Long		Short	
A	/eɪ/	paid	/æ/	pad
E	/i/	meet	/ɛ/	met
I	/aɪ/	bite	/ɪ/	bit
O	/ɔ/	road	/ɑ/	rod
U	/u/	tube	/ʌ/	tub

The Big Nine. *The Big Nine* refer to rules of syllabification. The rules for determining when a vowel is short or long are determined by the rules of syllabification. There are nine basic rules that students should master. These rules will be helpful in determining most cases of vowel pronunciation in both discrete words as well as in connected speech. The first two rules are repeated from The Big Four.

1. Every syllable must contain at least one vowel, but every syllable has one and only one vowel sound.
2. When the letter "e" is the final letter in the word, it usually makes the previous vowel long.
3. When two consonants form a single sound (digraphs: th, ch, sh, ph, ck), they always remain together.
4. Whenever a vowel comes before the letter r, the r always stays with the previous syllable.
5. In a compound word, the syllable breaks between the words first before making any other divisions.
6. The word endings -cal, -ed, -ful, -ish, -ing, -ment, -ness, -tive, -sive, -ture, -tion, -sion, -ty, -ly, -fy, -ity, -less, always form their own syllable.
7. When a word ends in "le", the "le" joins with the previous consonant to make the final syllable.
8. Words with two consonants in the middle will divide between those consonants.
9. Prefixes and suffixes that contain vowels will form their own syllables.

When these rules are combined with The Big Four, the student will be able to parse and pronounce most English words. Some rules, such as Rule #2 in The Big Four have been found to work 99% of the time, and so are highly regular.

Where To Put the Stress? Unlike Spanish, English does not, except in the case of loan words, use accent marks to indicate which syllable of the word receives the stress. In Spanish, whether one stresses the ultimate or penultimate syllable can make all the difference in the world, especially in verbs, where *hablo* is the first person singular of the present tense and *habló* is the third person singular of the simple past. This is not untrue in English either, where stress can change the meaning of the word entirely. For example, the word *absent* when stressed on the penultimate syllable means *not present*, but when stressed on the ultimate syllable, means *to take one's self out of some activity or to remove one's self from something*. The first is an adjective and the second is a verb. The only difference is syllable stress. In general, syllable stress is easily detected by the application of four simple rules.

1. **Stress the first syllable of:**

- Most two-syllable nouns (examples: CLImate, KNOWledge)
- Most two-syllable adjectives (examples: FLIPpant, SPACious)

2. **Stress the last syllable of:**

- Most two-syllable verbs (examples: reQUIRE, deCIDE)

3. **Stress the second-to-last syllable of:**

- Words that end in -ic (examples: ecSTATic, geoGRAPHic)
- Words ending in -sion and -tion (examples: exTENSion, retriBUtion)

4. **Stress the third-from-the-last syllable of:**

- Words that end in -cy, -ty, -phy and -gy (examples: deMOCracy, unCERTainty, geOGRAPHy, radiOLOGy)
- Words that end in -al (examples: exCEPTional, CRItical)

These rules will not only help students to pronounce better, but they will also be

invaluable when learning about rules for the schwa sound, which is only found in unstressed syllables. These rules can be taught once and then incorporated over and over into in-class instruction and activities. It is also helpful if students are able to have a printed copy of the rules on hand for consultation. Since there are three sets of rules, students will want to be able to refresh their memories often and teachers will be well served to be able to refer to Rule #X from List X whenever they want to emphasize a rule or point out an example, or even an exception of which students need to be made aware.

Other Related Phonics Rules

There are some phonics rules that should be introduced at the same time as the rules for vowel pronunciation because of their fundamental nature for spelling and pronunciation. These rules have to do with phenomena that correspond to the aforementioned rules, especially to rules of syllabification, and knowledge of which will aid students in the beginning stages of pronunciation instruction. Rules identified here are (Spalding, 2012):

1. The letter q is always followed by the letter u, and they say /kw/. The letter u is not considered a vowel when combined with q.
2. The letter c before e, i or y says /s/, but before o or a, says /k/.
3. The letter g before e, i or y can sometimes say /dʒ/, but before an o, a or u will say /g/.
4. The letter y, not i, is used at the end of words in English.
5. The phonogram “or” will say /ɜ:/ after the letter w.
6. The phonograms ir, er and ur all make the same sound, /ɜ:/.
7. /ʃ/ is used at the beginning or end of a base word, at the end of a syllable, but never at the beginning of a syllable, except in the word *ship*.

8. -ed has three sounds, depending on whether the previous consonant is voiced, unvoiced or the letters t or d.

In Conclusion

This rule-based approach can be meted out over the course of an English curriculum or used as a basis for a stand-alone pronunciation class. All other rules for individual sounds (both consonant and vowels sounds) are governed by the aforementioned Big Four, Big Nine and Syllable Stress Rules. These form the basis for working with all other rules and sounds. For implementation of the aforementioned rules and principles, we suggest: 1) A general introduction to the vowels, long and short (in that order), together with their IPA symbols and corresponding examples; 2) An introduction to The Big Four in the order given above, with corresponding examples; 3) The Big Nine, Rules 1-5, with corresponding examples, in the context of The Big Four; 4) The Big Nine, Rules 6-9, with corresponding examples, in the context of the Big Four and with reference to the first five rules; 5) Syllable Stress rules with corresponding examples; and 6) Further vowel practice following the suggested vowel groupings given above.

Pronunciation Study

In the preparation of this thesis, a small-scale study was conducted with eight students studying English in an English IV for Staff course at the Universidad Latinoamericana de Ciencia y Tecnología (ULACIT) during the fall trimester from September to December of 2017. The study participants were all volunteers. The aim of this study was to provide students with modified phonics-based pronunciation instruction integrated with their regular class instruction and to monitor their progress in class as well as their self-reported confidence level at the beginning and at the end of the trimester. There was no control group.

The Content and Aims of the Study

The study consisted in a pre-study and a post-study. The pre-test involved the reading of selected vocabulary words containing short vowels. These readings were recorded and monitored using PRAAT to analyze and compare speech patterns. The post-study consisted of a re-reading of the the original pre-study vocabulary list and analyzed by PRAAT. All recordings were analyzed and compared to evaluate improvement among participants of in the study.

In general, the study sought to analyze the pronunciation of vowel sounds which do not exist in Spanish and which prove to be more difficult for native Spanish speakers to produce, especially when reading, due to the superficial incongruity between orthography and phonology. These vowels included:

- /ɪ/ labial-nasal (m) trim, coronal-nasal (n) spin, voiceless alveolar sibilant with a voiceless velar plosive (sk) brisk, voiceless bilabial fricative (b) bib, voiceless dental plosive (t) skit
- /æ/. labial-nasal (m) tram, coronal-nasal (n) plan, voiceless alveolar sibilant with a voiceless velar plosive (sk) mask, voiceless bilabial fricative (b) blab, voiceless dental plosive (t) flat
- /ʌ/ voiced alveolar plosive (d) dud, coronal-nasal (n) sun, voiceless alveolar sibilant with a voiceless dental plosive (st) must, voiceless bilabial fricative (b) tub, voiceless alveolar sibilant with a voiceless dental plosive (t) trust

The study also included other short vowel sounds, such as:

- /ɑ/ voiceless dental plosive (t) plot, voiced alveolar plosive (d) plod, voiceless alveolar sibilant with a voiceless dental plosive (st) lost, voiceless bilabial fricative (b) slob, voiceless bilabial plosive (p) stop.

- /ɛ/ labial-nasal (m) stem, coronal-nasal (n) pen, voiceless bilabial plosive w/ voiceless dental plosive (pt) kept, voiceless alveolar sibilant with a voiceless dental plosive (st) pest, voiceless dental plosive (t) met.

A small group of words containing the target sounds in different linguistic contexts, some of whom are given as examples of the target sounds above, were selected to test students' ability to discern sounds before and after instruction based on the application of rules. The full list of words is as follows:

Blab	Brisk
Tram	Skit
Plan	Slob
Mask	Plod
Flat	Stop
Stem	Lost
Pen	Plot
Kept	Tub
Pest	Dud
Met	Sun
Bib	Must
Trim	Trust
Spin	

Finally, students were presented with a survey containing six questions to evaluate their feelings toward English pronunciation after receiving instruction. Students were asked to 1) rate their confidence level in pronouncing English before participating in the study; 2) rate how much they enjoyed learning the rules during the course of the study; 3) rate how important they felt learning the rules were for improving their English pronunciation; 4) rate their current level of confidence after participating in the study; 5) rate how helpful learning the rules had been for improving their pronunciation; and 6) rate their interest in continuing to study

English pronunciation.

Analysis of Pre-Study Vowel Recordings

For the pre-study recordings, Formant samples were taken from short vowel sounds only. For each short vowel sound, /ɪ/, /ɛ/, /æ/, /ɑ/, /ʌ/, the first and second formant values of five tokens or samples were record. These values were compared to a sample taken from a native English speaker, and the comparison was plotted for each student on a scatter graph. *Figure 10* shows the values of the native speaker and *Figure 11* shoes samples taken from “Non-Native Speaker A” (NNS-A). *Figure 12* is a graphical comparison between the two.

Figure 10
Native Speaker Samples Formant Values

NATIVE SPEAKER SHORT VOWEL SAMPLES																				
Vowel	NS SV Token 1				NS SV Token 2				NS SV Token 3				NS SV Token 4				NS SV Token 5			
	F1 (Hz)	F2 (Hz)	Lemma	Duration	F1 (Hz)	F2 (Hz)	Lemma	Duration	F1 (Hz)	F2 (Hz)	Lemma	Duration	F1 (Hz)	F2 (Hz)	Lemma	Duration	F1 (Hz)	F2 (Hz)	Lemma	Duration
/ɪ/	479.15	1660.73	trim	0.089	470.85	2084.9	spin	0.092	528.98	1813.16	brisk	0.096	439.54	2027.46	bib	0.066	464.68	2091.56	skit	0.083
/e/	607.86	1932.66	stem	0.158	616.45	2020.46	pen	0.17	663.45	1975.61	kept	0.09	681.56	1872.49	pest	0.102	615	1894.37	met	0.087
/æ/	663.16	1838.54	tram	0.185	637.15	1890.24	plan	0.1989	785.27	1750.81	mask	0.1898	740.87	1418.99	blab	0.1944	740.23	1377.4	flat	0.15
/ɑ/	704.98	990.87	plot	0.301	722.38	1147.03	plod	0.2788	705.17	1020.19	lost	0.284	696.97	1017.86	slob	0.3737	694.58	1077.19	stop	0.251
/ʌ/	667.12	1262.95	dud	0.157	643.39	1184.57	sun	0.144	683.38	1078.35	must	0.154	647.86	1154.88	tub	0.155	672.79	1138.42	trust	0.125

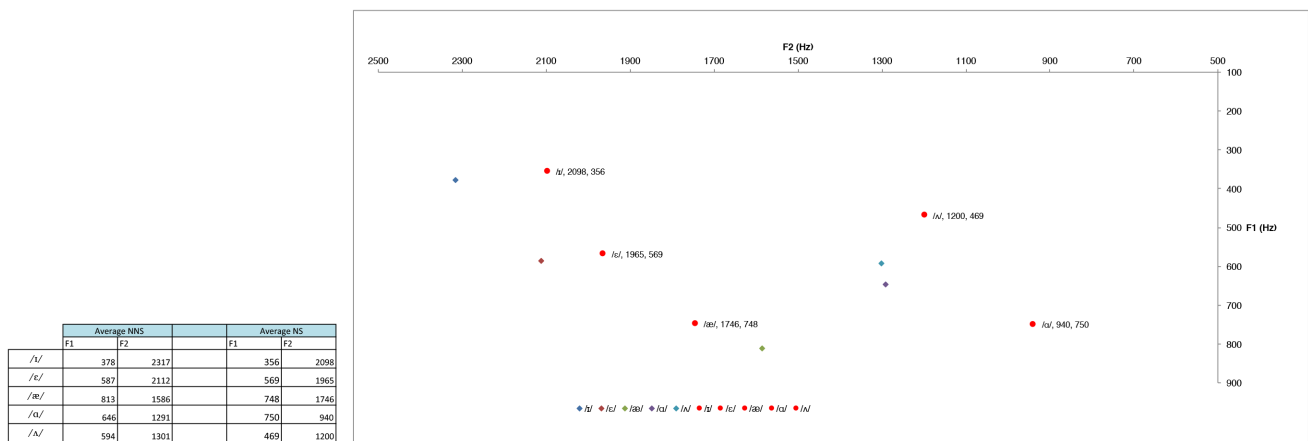
Figure 11
Non-Native Speaker Formant Values

NON NATIVE SPEAKER "A" SHORT VOWEL SAMPLE																				
Vowel	NNS A Token 1				NNS A Token 2				NNS A Token 3				NNS A Token 4				NNS A Token 5			
	F1 (Hz)	F2 (Hz)	Lemma	Duration	F1 (Hz)	F2 (Hz)	Lemma	Duration	F1 (Hz)	F2 (Hz)	Lemma	Duration	F1 (Hz)	F2 (Hz)	Lemma	Duration	F1 (Hz)	F2 (Hz)	Lemma	Duration
/ɪ/	421.56	2469.85	trim	0.0625	377.32	2689.45	spin	0.0898	494.85	2397.68	brisk	0.053	469.03	2668.74	bib	0.111	450.24	2607.01	skit	0.03127
/e/	819.94	2188.96	stem	0.076	788.42	2363.68	pen	0.1568	826.34	2203.79	kept	0.096	724.37	2264.34	pest	0.11	819.84	2328.71	met	0.1238
/æ/	1011.45	1518.09	tram	0.085	1103.33	1580.08	plan	0.145	1067.67	1763.62	mask	0.133	1037.81	1827.74	blab	0.13	1026.18	1748.49	flat	0.133
/ɑ/	765.61	1224.65	plot	0.156	874.38	1297.85	plod	0.175	852.7	1354.11	lost	0.179	845.33	1417.9	slob	0.109	851.58	1251.79	stop	0.102
/ʌ/	391.37	1176.2	dud	0.109	664.87	1179.8	sun	0.1538	824.14	1154.66	must	0.1932	809.66	1260.61	tub	0.135	383.89	1321.33	trust	0.052

Here, we are using samples from NNS-A as representative of the study samples taken over all. An analysis of the study participants showed that the /ʌ/ sound was particularly difficult to pronounce and decipher while reading. *Figure 13* shows the contrast between the spectral analysis of the /ʌ/ for both NS and NNS A.

As one can see, while the first two formants are similar (824, 1155 and 683, 1078 respectively), there is significant different between F3 and F4. The small difference between the first two formant is illustrated in Figure 12, where what seems like a small difference is actually significant. Figure 12 also illustrates the difference between the NNS A and NS in that the NS vowel sounds are more tightly grouped, while those of NNS A are spread out across the spectrum. We can see this same phenomenon when we take the average of all the participants' formants and compare them with the NS formants, as seen in *Figure 14*.

Figure 14
 Comparison between NS Short Vowel Formants and the Average of Study Participants' Short Vowel Formants



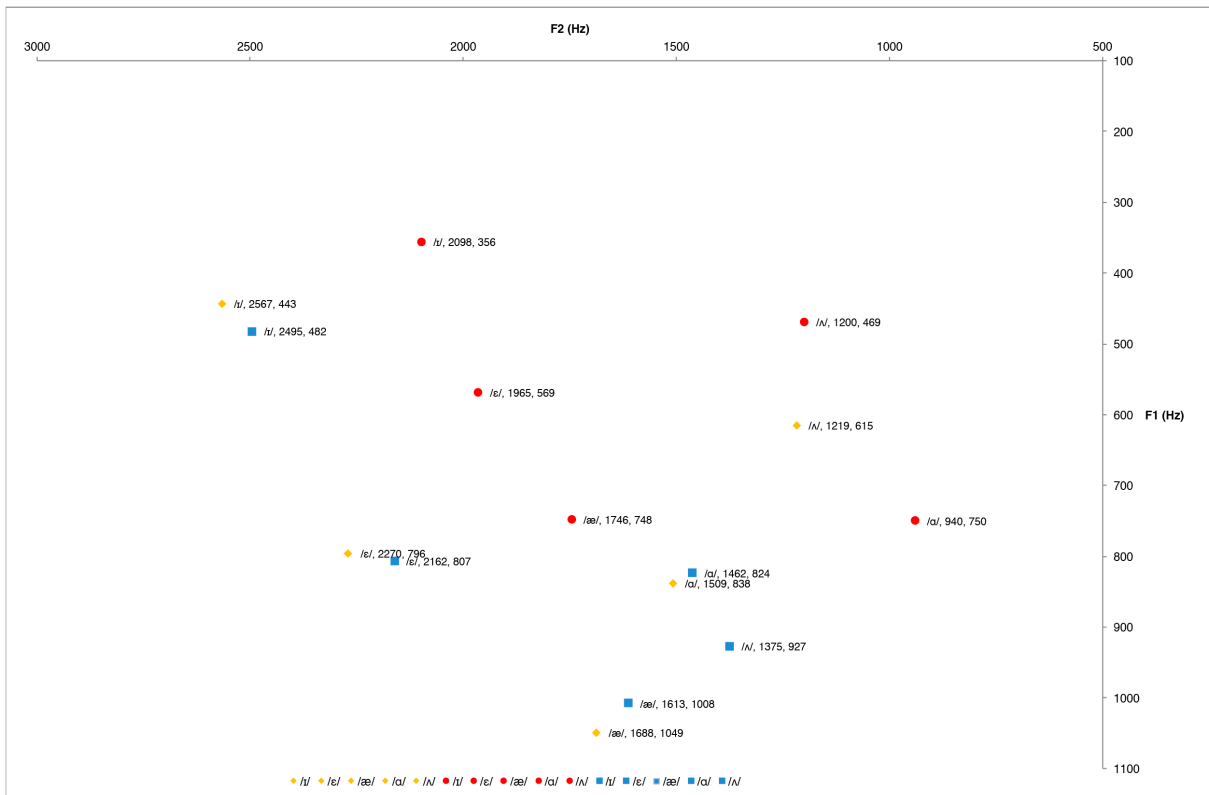
As can be seen from Figure 14, the average NNS vowel formants have higher frequencies which would indicate that the students are producing the vowels closer to the front of the oral cavity and not to the middle or back like the native speaker formants. From the aforementioned indicators, the study should focus its attention on the vowels which are formed in the back of the mouth such as /ʌ/ and /ɑ/, and which have correspondingly lower frequencies.

Post-Study Analysis

The post-study analysis focused on recordings of the same five tokens analyzed in the pre-study and on a survey of students’ attitudes and feelings toward English pronunciation and their own learning. The results for NNS A can be seen illustrated in Figure 15. NNS A’s results were typical of most students’ results in the post-study analysis.

*Figure 15
A Post-Study Comparison of NNS A’s Pre and Post Recording*

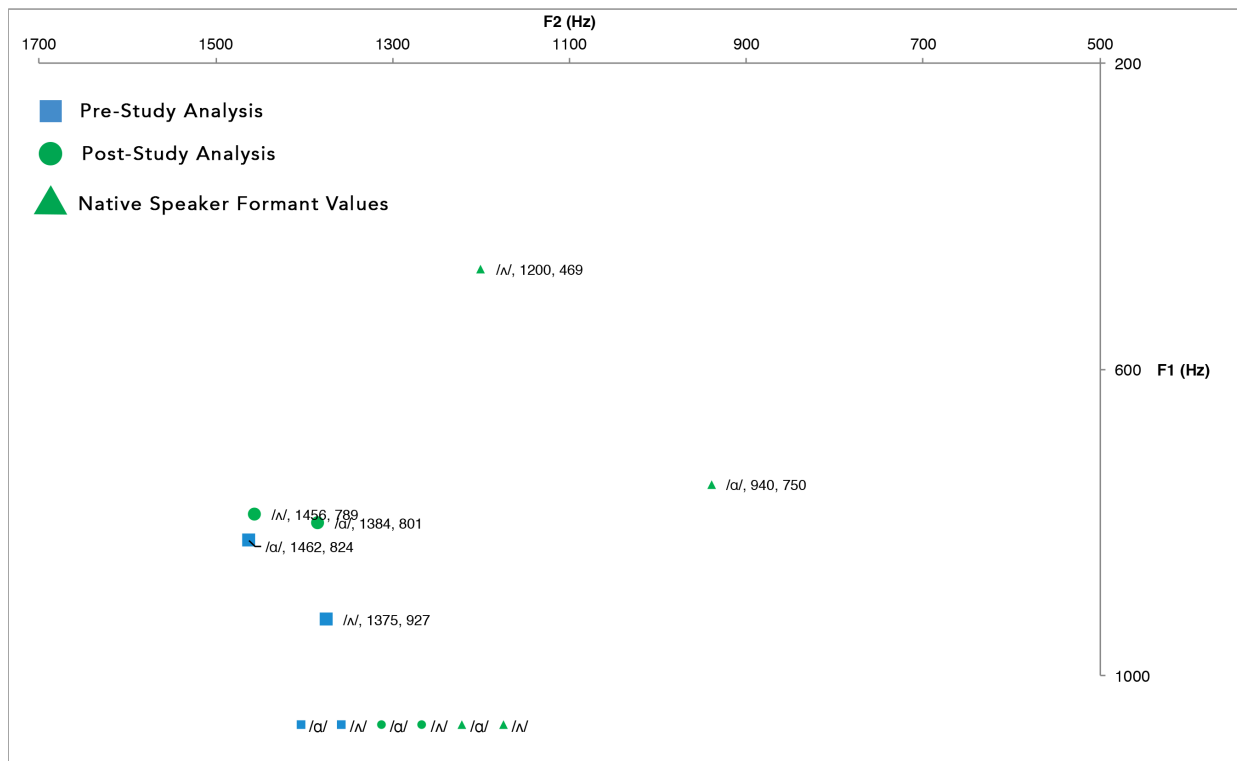
	Average NNS		Average NS		Post Study Average NNS A	
	F1	F2	F1	F2	F1	F2
/ɪ/	443	2567	356	2098	482	2495
/ɛ/	796	2270	569	1965	807	2162
/æ/	1049	1688	748	1746	1008	1613
/ɑ/	838	1509	750	940	824	1462
/ʌ/	615	1219	469	1200	927	1375



From an analysis of the post-study results, we can see that in most cases, the post-study formant analysis, represented by the blue squares, most closer to the red circles which represent the NS vowel formants. This is the case with vowels /ɪ/, /ɛ/ and /æ/, but not in the case of /ʌ/ and /ɑ/, which were the focus of analysis and instruction. In the case of NNS A, her final results show that more work is needed on these vowel sounds Nevertheless, these results must be put into context with the results of the post-study survey.

Some students showed some improvement during the seven-week instructional period of the study. Figure 16 shows the pre and post study analysis of NSS F's /ʌ/ and /ɑ/ formant values. NSS F showed some general improvement in her ability to produce these sounds.

Figure 16
Non-Native Speaker F's Pre and Post-Study Comparison of /ʌ/ and /ɑ/ vowel Formants



Not only is there measurable progress when comparing the pre and post-study results of individual students involved in the study, but there was evident progress among students in the English IV for Staff class during in-class reading where students were made to read out loud. Whenever students mispronounced a word, more often than not, they were able to self-correct when their error was pointed out. The individual results surveyed here reflect group results as observed during the course of the study.

Finally, not only were their measurable results on an individual and group level analysis, but the results of the survey indicated students felt that knowledge of the rules gave them greater confidence to pronounce new words on their own. The survey results also indicated that this new knowledge of the rules, increased student motivation to continue learning English.

Post-Study Survey Results

The post-study survey consisted of six questions. The results confirmed the study's thesis that knowledge of the rules would result in an increased confidence in students' ability to perceive and predict pronunciation patterns in English.

The first question asked students to rate their confidence level in pronouncing written English prior to undergoing the study instruction. 50% of respondents reported feeling "kind of confident", while 33.34% indicated being either not confident at all or not very confident. Only one respondent reported feeling "very confident" prior to undergoing the study instruction.

The second question asked students to rate how much they enjoyed learning phonics-based rules for pronunciation. 66.67% reported enjoying it "a lot", while 33.33% "kind of enjoyed it". None of the study participants indicated that learning the rules was unenjoyable. This may be due to the fact that the respondents overwhelmingly (100%) indicated that

learning these rules was, in their estimation, “very important”. If students believe that these rules are important for improving their pronunciation, they are also likely to enjoy learning them.

Question five asked students to rate how much they believed the rules had helped them to improve their pronunciation. Only one student answered that the instructor had helped them “a little”. All other respondents, 83.33% of them, answered that the study helped them “a lot”. The important point to recognize here is that no participant believed that the instruction had no impact on their English pronunciation.

Finally, students were asked if they were interested in continuing to study English pronunciation. 100% of respondents indicated that they were interested in continuing to study pronunciation. In informal conversations with students, they all indicated that they would be interested in taking a dedicated pronunciation course. They also gave positive assent to the idea that it was important for them to continue learning and practicing the rules to which they were introduced in the study.

Conclusion

In sum, phonics instruction when modified to meet the needs of EFL students learning to pronounce written English, is shown to have a positive impact on students’ ability to produce more native-like sounds. Moreover, this kind of rule-based instruction also has a positive impact on students’ affective domain, as it increases confidence, which in turn help to develop their metacognitive abilities.

The results of the study confirmed that the short u sound, /ʌ/, is characteristically difficult for SS-ELLs. But it also indicated that other back-ward vowels like /ɑ/ were also difficult to properly reproduce, even though there is a similar sound in the Spanish language. The study

also suggests that certain sounds, such as the /ʒ/ and the rules for the three sounds for the -ed ending are important elements to be taught alongside initial vowels instruction.

Finally, the study, while limited in scope and lacking a control group, was important for gathering data on sounds which posed significant difficulty for SS-ELLs and for verifying that a modified phonics, rule-based pronunciation instruction increases student confidence and performance. While not all the results were positive, it is supposed that given a more-scientifically structured study with a control group over a greater period of time, the results would be even more promising.

CHAPTER 3 OVERVIEW

Chapter 3 presents in general terms a proposal for developing the research presented in the previous chapter into a practical resource for EFL teachers. A proposal is developed and four basic pillars of the website's aims and purposes are described. EFL teachers are identified as the principal beneficiaries of the project, with students of course, being the final beneficiaries as their teachers learn the methods proposed and begin to incorporate them into their classroom plans and program curricula.

CHAPTER 3

PROPOSAL DESCRIPTION

Given that both the research as well as the development of the same in the foregoing chapters supports the integration of phonics into the English pronunciation curriculum, here we seek to outline a proposal for bringing innovative resources and current research into one place for the benefit of teachers and curriculum developers who would seek to improve the way in which they bring pronunciation instruction into the classroom and curricula.

Teachers are on the front lines in education children, adolescents and adults in EFL and ESL. Therefore, while the concepts analyzed and defended in this thesis are not likely to find their way into curricula or into the teacher education programs of most universities in the near future, it is important to provide a forum where teachers who are seeking researched-based guides and information to improve their pronunciation instruction can not merely educate themselves on the importance of phonics for English pronunciation, but also have access to resources developed for this purpose.

With the rise of the internet as one of the most accessible and promising resources at the disposal of teachers world-wide, this chapter seeks to propose the development of a website where teachers (and in the future, students themselves) can have free and easy access to learning resources and practical guides which will enhance their own teaching strategies.

How will this website benefit EFL teachers who are looking to improve their knowledge of English pronunciation. The website is designed in such a way as to provide four fundamental

areas of assistance to EFL teachers. To begin with, as has been demonstrated in Chapter 2, a prevailing misconception exists among theorists and practitioners alike that English orthography and its relationship to pronunciation is not systematic, but random and chaotic. Chapter 2 argued forcefully for a perspective which seeks to understand the grapheme-phoneme relationship as both systematic and predictable. Nevertheless, teachers who have never been exposed to the research presented in the previous chapter will struggle with those concepts and will fail to understand the value of the practical resources developed for the website. For this reason, one of the primary goals of the website is education, namely, to educate teachers to think differently about English, English orthography and the grapheme-phoneme relationship. When teachers are educated about the fundamental nature of English orthography, they will more readily see the importance and practicality of incorporating phonics into their lesson planning and classroom pedagogy or andragogy.

The second pillar of the website is the development of resources that teachers can use in their classrooms to teach pronunciation based on the theory described and defended in Chapter 2. Based on these resources, teachers will feel more comfortable trying out what is without a doubt a new strategy in their classrooms. For teachers who are interested in testing the theories defended in the previous chapter, the website also provides links to free tools for research that teachers may make use of in their own classrooms and research.

The third pillar of the website is to provide teachers with links to other researched-based resources which have proven effective in English pronunciation instruction. These links are links to other sites where teachers may find complementary and even contrasting approaches to pronunciation instruction. The goal is to give teachers more resources, since most text books do not.

Finally, the fourth pillar of the website, which is still in development, is two-fold. The first is a blog which will provide a forum for further learning and reflection on the most recent literature and research available in this area of study. The second will be a teacher community where teachers will be able to share their ideas, experiences, and resources that they are developing along the lines of the research behind phonics-based English instruction. The blog will allow for a degree of reflection and interaction with readers, while the community will create an environment of international collaboration that will prevent the website from stagnating, spur on further research in the area and create a community of teachers dedicated to EFL. The initial stages of the community plans (mid-range goals) will involve a Facebook page dedicated to the dissemination and ideas, resources and generating conversation among educators from all over the world.

In sum, the proposal made in this chapter is to distill the research from Chapter 2 into a practical tool for educators to learn, grow, improve their students' performance and collaborate with one another all over the world. We believe that a resource with these elements will be of benefit to teachers and students, and will serve to advance thinking, research and development in the field of pronunciation instruction in EFL?

CHAPTER 4 OVERVIEW

This chapter provides a detailed description and rationale of the project proposal presented in Chapter 3. Each section of the website is discussed and its relevance to teachers and the educational process of pronunciation instruction is explained. The website address and a description of resources available to the public, as well as its relevance to the current research is also included.

CHAPTER 4

PROPOSAL DEVELOPMENT

In Chapter 3, we provided in general terms a description of a website whose purpose it is to educate teachers, provide free resources, generate discussion and collaboration in the area of English pronunciation instruction for EFL, based on the research presented, analyzed and the thesis which was defended in Chapter 2.

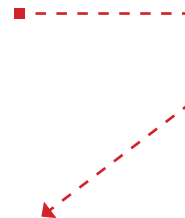
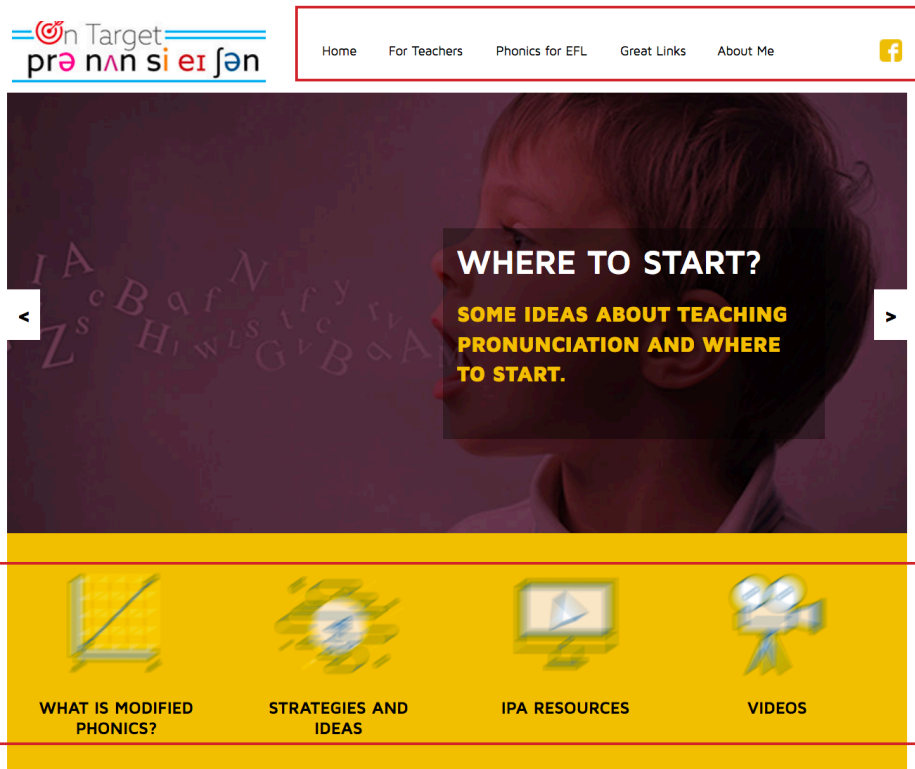
This website (www.phonics4efl.com) is divided into four basic section with subsection. Those section include the Home page, a For Teachers page, a Phonics for EFL page, and a page for Great Links. The website includes resources such as videos, both for teachers as well as videos that teachers can use with students, articles based on research presented in Chapter 2, handouts, suggested readings and books to use in a pronunciation class, and links to other research and resources pertinent to the goals of the website project. We will look at each section of the project in turn, its design, its purpose and the use that teachers can make out it.

The Home Page

The Home Page is the face of the website and the first thing that any visitor will see (in general). The home page has been designed to provide an overview of the entire sites content and easy access to important links of interest to visitors. The Home Page is divided into four logical sections. These include the navigation bar, a light box with photos that links to important fundamental aspects about using phonics in the EFL pronunciation classroom, a quick guide to important topics, and a link to the blog (still under development).

The navigation bar gives the visitor the option to visit a page just for teachers, information on how to use phonics for pronunciation instruction, and a page for external links. The Nav bar is designed to be easily usable by visitors.

The first think that visitors will see is a light box which displays different links to topics of interest for teachers. These are links the fundamentals of teaching pronunciation with phonics.



Underneath the light box is a quick link section to important topics and videos related to phonics and pronunciation instruction. This provides visitors with quick access to the most salient topics addressed in the research.

The final section of the Home Page is the blog link. When this is active, it will display the latest entries from the blog using an RSS feed and give a link for visitors to go to the blog and read, investigate, interact and learn.

For Teachers Page

The For Teachers page is designed with a minimalist approach for easy use by teachers. It is designed to provide teachers with access to videos, presentations, worksheets and handouts, readings, and other links. The videos are all about how to understand and teach English sounds, short and long vowels, consonants, and others. The presentations section provides teachers with pdfs and PowerPoint presentations for teaching grapheme-phoneme combinations to students. The worksheets and handouts provide additional resources for teachers to copy and distribute to students. Finally, the readings sections provides teachers with suggested resources, readings and books that can be used in teaching pronunciation, as well as some other resources on teaching literature in the EFL classroom.

Practical Help for Teachers



Videos



Presentations



Worksheets and Handouts



Readings



Links

Resources for teachers: videos, presentations, handouts, readings and books, as well as external links.

Tools for Research

Disclaimer: I DO NOT get paid for promoting these tools. I use them. Some are free and some are not. But, they are all good.



PRAAT is an awesome program that allows you to do analysis of speech sounds. It is FREE.



JSTOR is an academic journal database with thousands of current and former journals covering every topic imaginable. This was an invaluable resource for doing research. A month pass costs only \$10, \$100 for a year. Highly recommended.



This is a great app for the phone (and online) that lets you make educational videos. You can also make other resources with it. It is free, but you can unlock more resources if you have an Adobe Creative Cloud subscription.

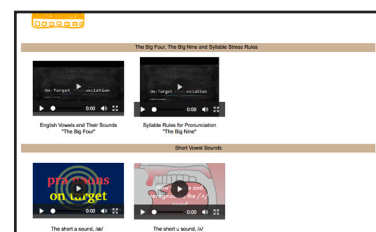
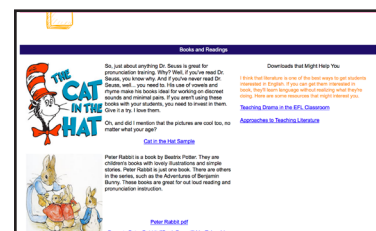


Scrivener is a writing program that allows you to organize complicated long documents. I used it for my thesis and am using it for other projects. I highly recommend it. They have an educational license for \$38.25.



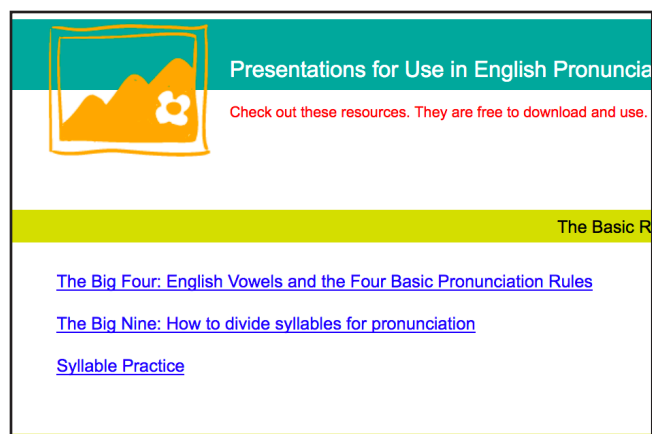
Citation Machine
a Chegg service

Citation Machine is a free online citation creator. If you need to make citations quickly, I highly recommend this resource as well. You can make any kind of citation in just about every major format. Did I mention it's free?

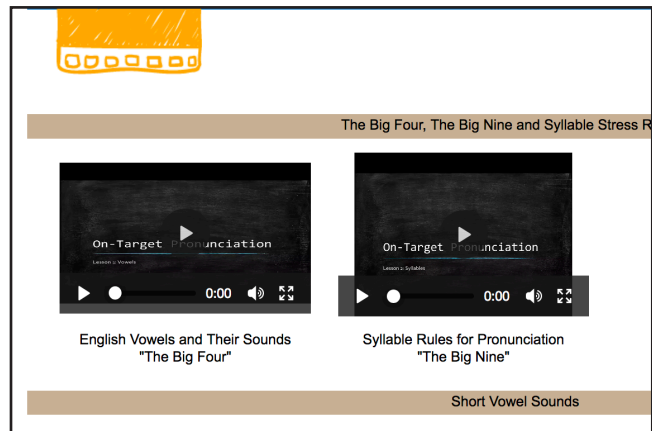


Teachers are provided with external resources for investigation and research.

Screen shots of the videos page and the Readings page.



The presentations section provides important resources for teachers who want to give their students a solid understanding of how English works and the basics of English pronunciation using phonics as a tool for autonomy. These presentations are divided up into two sections: The Basic Rules and Vowels, Consonants and Minimal Pairs



The video page is divided up into three sections: Basic Rules, Short Vowel Sound instruction, and Long Vowel sound videos. In the future, we will also add videos on consonant sounds.

Phonics for EFL

The Phonics for EFL page is designed to give visitors an overview of the research presented in this thesis. These are a series of videos developed with the aid of Adobe Spark which give accessible, clear, visually attractive and relatively brief introductions to topics such as 1) Why to use phonics in teaching pronunciation, 2) the nature of English orthography, 3) the concepts of perception, prediction and production as they relate to phonics-based pronunciation instruction, 4) a video on tough sounds for English speakers. This page is designed to grow as more videos are added that elucidate and apply the principles of the research presented in Chapter 2 of this thesis.

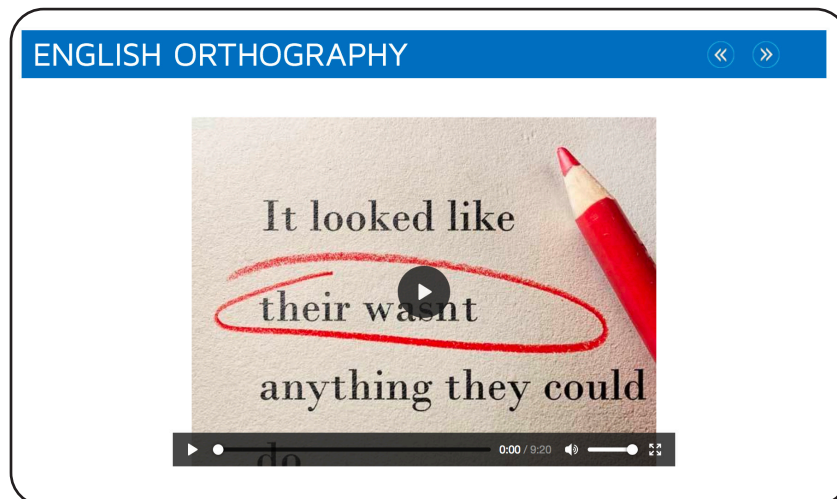
Theoretical Concepts for Teachers



Start Here



English Orthography

Perception, Prediction
and ProductionTough Sounds for
Spanish Speakers

Great Links

Finally, we have added a page of “Great Links” for the teacher to use in developing their ideas beyond what is currently available on the present site. These great links include links to other pronunciation resources that can be used in the classroom, such as YouTube video series, dictionaries which give students easy access to IPA, syllabification of English words, definitions and a thesaurus. Other resources include a link to a glossary of linguistic terms, phonics rules made simple, a podcast on the use of phonics in teaching pronunciation, an online IPA

keyboard, and a keyboard which can be installed on a student's or teacher's personal computer that will allow them to type in IPA symbols. These links to other sites will continue to grow as more good, research-based resources are discovered.

Conclusion

The website project which is the practical application of the research and analysis in Chapter 2 of this thesis is currently live on the internet and available for public use. It can be found at www.phonics4efl.com. The aims and goal of the website is a resource for teachers to improve access to information on pronunciation instruction, practical help and resources and as a medium for generating conversation, collaboration and new research based on that presented here in this thesis.

CHAPTER 5 OVERVIEW

Chapter Five concludes this study with review and reflection on discussion and research into the usefulness of phonics for pronunciation in the EFL classroom. It addresses weaknesses of the present study with suggestions for improvement, obstacles to the implementation of the proposal herein defended and the virtues of the present proposal. Finally, possible areas for future research are discussed briefly and concluding remarks are made.

CHAPTER 5

CONCLUSIONS

Introduction

In Chapter One of this thesis, we laid out the context and background of the present study, placing the problem of English pronunciation in its Central American context, particularly in Costa Rica. Chapter One also presents the objectives and limits of the present study. We established that pronunciation instruction has not been given its due in contemporary EFL instruction and that present methods have proven to be inadequate to the task of creating independent learners. Finally, Chapter One establishes key terminology to be used during the course of the study.

In Chapter Two, we present a review of the salient literature on the questions of the nature of contemporary English orthography and approaches to pronunciation instruction, as well as a review of the literature on phonics instruction as it relates to teaching SS-ELLs pronunciation. This chapter also clearly states the thesis to be developed in this study. Additionally, the chapter provides a thorough defense of the theoretical framework used to support the development of the thesis, its subsequent conclusions and the study implemented to test the thesis in a real-life context. This chapter also seeks to develop a theory of perception and prediction, as well as a solid research-based foundation for establishing learning goals for teaching pronunciation to EFL students using a modified phonics-based program.

Chapter Two attempts to pull together in a unified whole the research and theory from

the literature review and the thesis development in order to establish a logical scope and sequence for implementing a modified phonics-based pronunciation program. We attempt to establish a set of basic rules that form the foundation for all pronunciation instruction and independent learning. Finally, we discuss a study conducted in order to test the theory defended in this thesis, its results and preliminary conclusions.

The final aspect of Chapter Two is a presentation in general terms of a proposal for developing the research presented in the previous chapter into a practical resource for EFL teachers. A proposal is developed and four basic pillars of the website's aims and purposes are described. EFL teachers are identified as the principal beneficiaries of the project, with students of course, being the final beneficiaries as their teachers learn the methods proposed and begin to incorporate them into their classroom plans and program curricula.

Chapter Three provides a proposal, based on the work and researched analyzed in Chapters One and Two, for a practical project designed to disseminate, in a practical way, the research conducted, for the benefit of educators and students. We propose the creation of a website and describe in brief the different parts of the website, its purpose, who the beneficiaries are and how they benefit from the project.

Chapter Four is a detailed presentation of the website developed for this thesis (www.phonics4efl.com). The chapter presents each aspect of the website with some discussion of its rationale and usefulness. We also discuss how the website could be improved upon and what plans we have for the website in the future.

Findings and Preliminary Conclusions

The thesis presented in this study is that the incorporation of a modified phonics program as a complement to the use of phonetic transcription and articulatory phonetics for

teaching pronunciation in the English as a Foreign Language curriculum will provide the necessary cognitive and metacognitive conditions for EFL students to confidently improve their pronunciation as autonomous learners. Not only has pronunciation instruction been neglected in modern EFL curricula, but the instruction that does exist is inadequate. It is also the case, as shown in Chapter One, that EFL teachers are not being adequately prepared to help students improve their pronunciation. Something must be done to enhance both articulatory phonetics and phonetic transcription, which are the principle means by which pronunciation is taught today in EFL classrooms, when it is taught at all. In most cases we find that teachers do not have a firm grasp of the principles underlying phonetics and as a consequence, students may have a difficult time understanding them as well.

This thesis has argued that nature of the English language and its orthography make some form of phonics instruction indispensable for helping students to grapple with the phoneme-grapheme relationship that exists between writing and speaking. What has been shown in Chapters Three and Four, and supported by a review of the literature in Chapter Two, is that phonics is a natural bridge between writing and speaking, and that students themselves feel a sense of confidence when the teachers gives them rules which allow them to decipher regular patters for reading and pronunciation in English. We have found this to be true with respect to the students who participated in our study.

What we verified is that in seven short weeks, students were not only able to improve their pronunciation of most canonical vowel sounds, but they were also able to self-correct when an error was pointed out to them. Both their performance as well as their confidence to predict the correct pronunciation of unknown words improved. While it is true that not all students showed the same progress in production, and not all students excelled in all vowel

sounds, this study never anticipated that phonics instruction would result in completely native-like speech, but only improved pronunciation and coincidence in dealing with the transition between the writing and reading systems. This thesis has argued from the beginning that native-like pronunciation is not necessarily the goal of pronunciation instruction, but rather clear and understandable pronunciation which does not hinder communication.

Additionally, phonics-based pronunciation instruction also resulted in a demonstrable increase in students' confidence and motivation. Students reported being engaged and confident about being able to apply the newly-learned rules in authentic contexts. This was not only demonstrated in the comparison between pre and post-study recordings, but also during in-class read-aloud sessions where students applied rules for pronunciation, syllabification and word stress studied in class.

It is believed that based on this research, a modified versions of phonics instruction will be beneficial at all levels of EFL, both for learning how to pronounce English, but also for creating independent learners who want to learn. While there are certainly obstacles that must be overcome and shortcomings that must be recognized in the proposal made in this thesis, it cannot be denied that this approach is based on research and compatible with the nature of English itself, as well as with the fundamental principles of how we learn a second language.

Strengths and Weaknesses

The strengths of this approach have been referred to repeatedly in this chapter and in the previous chapters. Therefore, it may not be productive to repeat them here. Rather, we may call attention to certain weaknesses. First, phonics itself is designed for native speakers and so must be modified in order to serve real needs of EFL students. This is easily overcome, but requires knowledge of phonics, the nature of English orthography and knowledge of the

principles of phonetics and pronunciation in order to teach it effectively to students.

The present author has attempted to teach a phonics-based model of pronunciation for years to many different classes and age groups. It has been the experience of the author that students respond positively. In fact, many students have confessed that they had never seen English in the same light before. One student recently remarked that in all the years he has been learning English, he couldn't not believe that nobody had ever explained these rules and principles before, because they were simple and made so much sense. Clearly one of the greatest obstacles to implementing this type of pronunciation instruction is teacher ignorance, which is a fault of teacher education programs.

It is freely admitted here that the study conducted for this thesis was not of a scientific nature. In other words, it lacked many of the features that one would expect in a properly conducted study. It was in many respects informal. For example, it lacked a control group and so there was really no group by which to compare the results presented here. That presents a clear deficiency which could challenge the results of the study. However, the purpose of the study was mostly to determine students' subjective reactions to learning phonics rules applied to pronunciation. This we did and are confident that the results at least concur with the theoretical framework herein presented, as well as other studies that have been referenced in the literature review that were scientific in the way they were conducted.

Lastly, the time allotted for the study was insufficient to measure any real lasting change in production. A better study would more than seven weeks and would include multiple sample recordings and a post-study evaluation some weeks or months after the conclusion of the study to test to see the rate of retention. In future work on this issue, this is certainly an area for improvement, while this deficiency does not for that reason invalidate the conclusions

drawn herein.

Areas for Future Research

One last deficiency in the study (if it can be called such) is that the focus was mostly on discrete vocabulary and not on suprasegmentals, except for syllable stress rules. A very profitable area for further research would be the application of these rules to suprasegmentals. Additionally, we focused primarily on vowels. Nevertheless, there are many consonants that would provide fascinating research and study material. We would also extend our efforts to include such aspects as silent letters and difficult spelling patterns.

In terms of studies, we would like to see further research in the development of these concepts into materials for all levels, as well as research into how these rules impact metacognitive development and independence in learning at lower levels than that sampled in this study.

Conclusion

In conclusion, phonics is a powerful tool for equipping EFL students with the rules necessary for understanding how English writing and speaking are related. A modified phonics program for pronunciation will not only aid students' perceptive faculties and thus their predictive faculties, but it will for that reason result in improved performance over time as the students internalize the concepts. It will also, as is always hoped, result in autonomous learners who are able to cope, not just with what they already know, but with unfamiliar words and language outside of the safety of the classroom.

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APPENDIX A

The Big Four with Practice Exercises

English Pronunciation

Vowels and their sounds

	Long		Short	
A	/eɪ/	paid	/æ/	pad
E	/i/	meet	/ɛ/	met
I	/aɪ/	bite	/ɪ/	bit
O	/ɔ/	road	/ɑ/	rod
U	/u/	tube	/ə/ o /ʌ/	tub



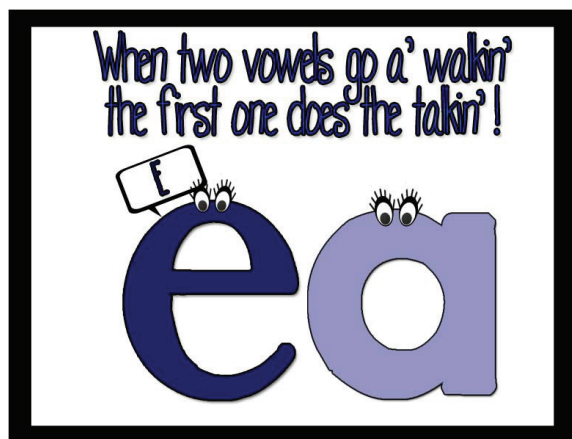
All of these words have only one syllable. What makes them different?

The Rules

The major difference between the long and short vowels above is that the long vowels tend to be written with two vowels per syllable while the short vowels have only one vowel per syllable. This will help up with our first rules for reading/pronunciation.

Rule #1: In a closed syllable with one one vowel, the vowel's sound is normall short.			
CVC syllables (Consonant-Vowel-Consonant) and other like it			
bad	can	far	hit
bag	car	fix	hot
bar	cut	fun	job
bed	dog	get	kid

Rule #2: When a syllable has more than one vowel, the sound is usually long.			
CVVC syllables (Consonant-Vowel-Vowel-Consonant) and others like it			
beat	cain	coast	hoard
bait	pain	chief	hoax
board	mood	niece	Joe
bead	door	kneel	rail



"WHEN TWO VOWEL GO WALKING, THE FIRST ONE DOES THE TALKING."

What this means is that when two vowels are together in a syllable, the name of first one is pronounced (long vowel sound), and the second one is silent.

Rule #3: In CVC + final -e syllables, the previous vowel is lengthened and the -e is silent.			
base	care	face	game
bite	case	file	hope
bare	cave	fine	joke
bone	date	fire	home



This is Silent e and she likes to tell the vowels what to do.



aeiou
She likes the vowels to say their name.

"THE FINAL -E IS ALWAYS SILENT AND MAKES THE VOWEL SAY ITS NAME."

When a syllable CVC ends in an -e (CVC-E), the final -e is silent and makes the previous vowel long.

Rule #4: Closed Syllables: When there is only one vowel in a closed syllable (-VC), the vowel will normally be short.		
CVCC (hand)	CVCCC (match)	VCC (add)
CVC (cup)	CVCCe (judge)	VC (in)
CCVCC (fresh)	CCVCCe (grudge)	VCCC (inch)
CCVC (trip)	CCCVCC (script)	

"WHEN A VOWEL IS LONELY, IT MAKES A SHORT SOUND."



THE LONELY VOWEL

When a vowel is alone (that means, it isn't accompanied by another vowel), it's sound will normally be short.

This is similar to Rule #1. **And these rules applies 99% of the time.**

Look at the word patterns in the chart above. Make some personal observations about what they all have in common.

LEARNING THE SOUNDS THAT ENGLISH MAKES

Using the familiar chart below, familiarize yourself with the letters and their sounds. Remember that the columns "Long" and "Short" give us a phonetic transcription of the sound in the International Phonetic Alphabet, or IPA. This will help you as you learn to read the sounds correctly.


Practice them now.

Vowels and their sounds

	Long		Short	
A	/eɪ/	paid	/æ/	pad
E	/i/	meet	/ɛ/	met
I	/aɪ/	bite	/ɪ/	bit
O	/ɔ/	road	/ɑ/	rod
U	/u/	tube	/ə/ o /ʌ/	tub

LONG A SOUND

/ei/



Associated with the following combinations:

a + consonant + final e
 make, lake, fake crate, inflate, skate

-ai (middle or beginning of a word)
 aid, bail, daisy, gain, fail, train

-ay (at the end of a word or syllable)
 essay, stay, tray, relay, portray, day

-ei (these are **exceptions**)
 veil, vein, eight, weight, beigh, reign


PRONOUNCE IT!

face	fade	fake	blade	fake	erase	scale	skate
page	pace	wade	chase	grape	trade	whale	late
rake	wake	crate	plane	cape	gave	mane	tale
brace	flame	snake	case	hate	maze	tape	brake
frame	space	cave	lace	name	vane	brave	grade
stage	date	lake	pace	bait	raid	brain	chain
quail	raisin	gain	rain	claim	raise	sprain	hail
sail	daisy	snail	strain	jail	tail	drain	stain
bay	clay	day	play	jay	lay	pay	ray
say	away	today	relay				

(Long Vowel Sounds -a Word List, 2017)

SHORT A SOUND

/æ/



Associated with the following combinations:

a (when alone in a closed syllable)
stamp, rag, bank, plan, bad, trap

a + CC + final e
badge

æ + n/m = æ - uh
man, plan, jam, ham, hand

æ + ŋ (ng/nk)
bang, bank, hang, rang, thank

dab	jab	lab	nab	bad	dad	fad	had
dam	ham	jam	Pam	ram	slam	Sam	tram
damp	ramp	lamp	stamp	ban	Dan	fan	man
band	hand	land	sand	lap	map	app	nep
slap	flap	trap	snep	ask	mask	task	grasp
gasp	fast	last	mast	blast	vast	bat	fat
hat	mat	rat	latch	brand	strand	past	mast

PRONOUNCE IT!

The short a (/æ/) before the sound -ng or -nk (/ŋ/) changes to the long A sound. This is an exception to the rule. But the student must learn it.

Record the paragraphs highlighted in blue with your phone and send it to the instructor through WhatsApp. Focus on the long and short A sounds. Forget everything else.

Find all the short a sounds /æ/

Casey at the Bat

by Ernest Lawrence Thayer

The outlook wasn't brilliant for the Mudville nine **that day**:
The score stood four to two, with but one inning more to **play**,
And then when Cooney died **at first**, **and** Barrows did the **same**,
A pall-like silence fell upon the **patrons** of the **game**.

A straggling few got up to go in deep despair. The rest
Clung to the hope which springs eternal in the human breast;
They thought, "If only **Casey** could but get a **whack at that**—
We'd put up even money now, with **Casey at the bat**."

But Flynn preceded **Casey**, **as** did also Jimmy **Blake**,
And the former was a hoodoo, while the **latter** was a **cake**;
So upon **that** stricken multitude grim melancholy **sat**,
For there seemed but little **chance** of **Casey** getting to the **bat**.

But Flynn let drive a single, to the wonderment of all,
And **Blake**, the much despised, tore the cover off the ball;
And when the dust **had** lifted, **and** men saw what **had** occurred,
There was Jimmy **safe at** second **and** Flynn a-hugging third.

Then from five thousand throats **and** more there rose a lusty yell;
It rumbled through the valley, it rattled in the dell;
It pounded on the mountain **and** recoiled upon the **flat**,
For **Casey**, mighty **Casey**, was advancing to the **bat**.

There was ease in **Casey's** manner **as** he stepped into his **place**;
There was pride in **Casey's** bearing **and** a smile lit **Casey's** face.
And when, responding to the cheers, he lightly doffed his **hat**,
No stranger in the crowd could doubt 'twas **Casey at the bat**.

Ten thousand eyes were on him **as** he rubbed his hands with dirt;

READ IT!

Five thousand tongues applauded when he wiped them on his
shirt;

Then while the writhing pitcher ground the ball into his hip,
Defiance flashed in Casey's eye, a sneer curled Casey's lip.

And now the leather-covered sphere came hurtling through the
air,

And Casey stood a-watching it in haughty grandeur there.
Close by the sturdy batsman the ball unheeded sped—
“That ain't my style,” said Casey. “Strike one!” the umpire said.

From the benches, black with people, there went up a muffled
roar,

Like the beating of the storm-waves on a stern and distant shore;
“Kill him! Kill the umpire!” shouted someone on the stand;
And it's likely they'd have killed him had not Casey raised his
hand.

With a smile of Christian charity great Casey's visage shone;
He stilled the rising tumult; he bade the game go on;
He signaled to the pitcher, and once more the dun sphere flew;
But Casey still ignored it and the umpire said, “Strike two!”

“Fraud!” cried the maddened thousands, and echo answered
“Fraud!”

But one scornful look from Casey and the audience was awed.
They saw his face grow stern and cold, they saw his muscles
strain,
And they knew that Casey wouldn't let that ball go by again.

The sneer is gone from Casey's lip, his teeth are clenched in hate,
He pounds with cruel violence his bat upon the plate;
And now the pitcher holds the ball, and now he lets it go,
And now the air is shattered by the force of Casey's blow.

Oh, somewhere in this favoured land the sun is shining bright,
The band is playing somewhere, and somewhere hearts are light;
And somewhere men are laughing, and somewhere children
shout,
But there is no joy in Mudville—mighty Casey has struck out.

LONG E SOUND

/i/



Associated with the following combinations:

ee
peek, sneeze, sheet, speech, sleep

ea
seat, meal, please, teach, peace

ie
believe, field, piece, chief

consonant + y (at end of syllable)
lastly, safely, silly, really, quickly

pea	sea	see	plea	bead	lead	read	plead
bleed	leak	bleak	creak	freak	sneak	weak	deal
heal	meal	peal	real	seal	zeal	steal	beam
ream	seam	cream	dream	beast	feast	least	yeast
bee	fee	Lee	see	free	glee	tree	flee
week	bleed	creed	weed	teen	green	queen	seen
keep	deep	jeep	seep	sweet	tweet	greet	sneer
brief	chief	field	grieve	fiend			

PRONOUNCE IT!


SHORT E SOUND

/ɛ/

Associated with the following combinations:

e (alone in a closed syllable)
let, mess, fresh, send, wreck, step

ea* (exceptions)
dead, head, bread, dread, sweat



PRONOUNCE IT!

bed	Ed	fed	led	Ned	hem	stem	Ben
den	hen	Ken	bend	mend	lend	Kent	trend
spend	rent	sent	tent	vent	step	kept	slept
best	nest	pest	test	met	net	pet	set

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Casey at the Bat

by Ernest Lawrence Thayer

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And then when Cooney died at first, and Barrows did the same,
A pall-like silence fell upon the patrons of the game.

A straggling few got up to go in **deep** despair. The rest
Clung to the hope which springs eternal in the human breast;
They thought, "If **only** Casey could but get a whack at that—
We'd put up even money now, with Casey at the bat."

But Flynn preceded Casey, as did also **Jimmy** Blake,
And the former was a hoodoo, while the latter was a cake;
So upon that stricken multitude grim **melancholy** sat,
For there **seemed** but little chance of Casey getting to the bat.

But Flynn let drive a single, to the wonderment of all,
And Blake, the much despised, tore the cover off the ball;
And when the dust had lifted, and men saw what had occurred,
There was **Jimmy** safe at second and Flynn a-hugging third.

Then from five thousand throats and more there rose a **lust**y yell;
It rumbled through the valley, it rattled in the dell;
It pounded on the mountain and recoiled upon the flat,
For Casey, **mighty** Casey, was advancing to the bat.

There was ease in Casey's manner as he stepped into his place;
There was pride in Casey's bearing and a smile lit Casey's face.
And when, responding to the **cheers**, he **lightly** doffed his hat,
No stranger in the crowd could doubt 'twas Casey at the bat.

Ten thousand eyes were on him as he rubbed his hands with dirt;

READ IT!

Five thousand tongues applauded when he wiped them on his
 shirt;
 Then while the writhing pitcher ground the ball into his hip,
 Defiance flashed in Casey's eye, a **sneer** curled Casey's lip.

And now the leather-covered sphere came hurtling through the
 air,
 And Casey stood a-watching it in **haughty** grandeur there.
 Close by the **sturdy** batsman the ball **unheeded** sped—
 "That ain't my style," said Casey. "Strike one!" the umpire said.


From the benches, black with people, there went up a muffled
 roar,
 Like the **beating** of the storm-waves on a stern and distant shore;
 "Kill him! Kill the umpire!" shouted someone on the stand;
 And it's **likely** they'd have killed him had not Casey raised his
 hand.

With a smile of Christian **charity** great Casey's visage shone;
 He stilled the rising tumult; he bade the game go on;
 He signaled to the pitcher, and once more the dun sphere flew;
 But Casey still ignored it and the umpire said, "Strike two!"

"Fraud!" cried the maddened thousands, and echo answered
 "Fraud!"
 But one scornful look from Casey and the audience was awed.
 They saw his face grow stern and cold, they saw his muscles
 strain,
 And they knew that Casey wouldn't let that ball go by again.

The **sneer** is gone from Casey's lip, his **teeth** are clenched in hate,
 He pounds with cruel violence his bat upon the plate;
 And now the pitcher holds the ball, and now he lets it go,
 And now the air is shattered by the force of Casey's blow.

Oh, somewhere in this favoured land the sun is shining bright,
 The band is playing somewhere, and somewhere hearts are light;
 And somewhere men are laughing, and somewhere children
 shout,
 But there is no joy in Mudville—**mighty** Casey has struck out.


LONG  **SOUND**

/ai/

Associated with the following combinations:



i + final e
size, hide, white, like, life, tribe

i + gh
light, high, might, right, sigh



fight	might	night	right	light	sight	flight	straight
highly	slightly	flight	tonight	bright	high	highlight	delight
like	time	life	write	live	while	provide	line
wide	side	quite	price	decide	drive	require	describe
rise	white	nice	side	realize	arrive	outside	fine
wife	fire	inside	size	wide	mile	surprise	recognize
file	define	smile	mine	invite	advice	exercise	organize
ride	crime	excite	guide	wine	arise	decline	advertise
unlike	prime	slide	aside	twice	desire	divide	retire
bike	derive	tire					

PRONOUNCE IT!


SHORT  **SOUND** 

Associated with the following combinations:

i (alone in a closed syllable)
tin, big, him, fib, gift, frisk, lift, with

y (when y is followed by a single consonant)
cylinder, physics, typical, gym, acronym, cynic, gyp, synod

y (when y is followed by two consonants)
syllable, symmetry, symptom, system, Sydney, pygmy, syndrome



*When y is in a single syllable word in the beginning or middle, it says /ɪ/. When y is at the end of the word, it says /aɪ/.

PRONOUNCE IT!

typical	physical	syllable	symptom	system	syndrome
cylinder	tim	slim	him	thin	rim
dim	gym	synod	acronym	Liz	kid
sin	win	winner	bin	lit	kit
fit	hit	sit	pit	winter	rip
hip	dip	slit	skit	mist	list
disk	brisk	frisk	slid	skid	nip

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And then when Cooney died at first, and Barrows did the same,
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Clung to the hope which springs eternal in the human breast;
They thought, "If only Casey could but get a whack at that—
We'd put up even money now, with Casey at the bat."

But Flynn preceded Casey, as did also Jimmy Blake,
And the former was a hoodoo, while the latter was a cake;
So upon that stricken multitude grim melancholy sat,
For there seemed but little chance of Casey getting to the bat.

But Flynn let drive a single, to the wonderment of all,
And Blake, the much despised, tore the cover off the ball;
And when the dust had lifted, and men saw what had occurred,
There was Jimmy safe at second and Flynn a-hugging third.

Then from five thousand throats and more there rose a lusty yell;
It rumbled through the valley, it rattled in the dell;
It pounded on the mountain and recoiled upon the flat,
For Casey, mighty Casey, was advancing to the bat.

There was ease in Casey's manner as he stepped into his place;
There was pride in Casey's bearing and a smile lit Casey's face.
And when, responding to the cheers, he lightly doffed his hat,
No stranger in the crowd could doubt 'twas Casey at the bat.

Ten thousand eyes were on him as he rubbed his hands with dirt;

READ IT!

Five thousand tongues applauded when he wiped them on his
shirt;

Then while the writhing pitcher ground the ball into his hip,
Defiance flashed in Casey's eye, a sneer curled Casey's lip.

And now the leather-covered sphere came hurtling through the
air,

And Casey stood a-watching it in haughty grandeur there.
Close by the sturdy batsman the ball unheeded sped—
“That ain't my style,” said Casey. “Strike one!” the umpire said.

From the benches, black with people, there went up a muffled
roar,

Like the beating of the storm-waves on a stern and distant shore;
“Kill him! Kill the umpire!” shouted someone on the stand;
And it's likely they'd have killed him had not Casey raised his
hand.

With a smile of Christian charity great Casey's visage shone;
He stilled the rising tumult; he bade the game go on;
He signaled to the pitcher, and once more the dun sphere flew;
But Casey still ignored it and the umpire said, “Strike two!”

“Fraud!” cried the maddened thousands, and echo answered
“Fraud!”

But one scornful look from Casey and the audience was awed.
They saw his face grow stern and cold, they saw his muscles
strain,
And they knew that Casey wouldn't let that ball go by again.

The sneer is gone from Casey's lip, his teeth are clenched in hate,
He pounds with cruel violence his bat upon the plate;
And now the pitcher holds the ball, and now he lets it go,
And now the air is shattered by the force of Casey's blow.

Oh, somewhere in this favoured land the sun is shining bright,
The band is playing somewhere, and somewhere hearts are light;
And somewhere men are laughing, and somewhere children
shout,
But there is no joy in Mudville—mighty Casey has struck out.

**LONG
SOUND**







Associated with the following combinations:

o + final e
hope, code, dose, coke, nose, more

"oa" pattern
soak, coat, road, loan, loaf, goal

"ow" pattern
bowl, slow, grown, flown


o
bolt, most, both, won't, bold, roll

“

”

more	before	hope	close	whole	note	role
vote	suppose	phone	store	alone	propose	score
smoke	code	stone	oppose	quote	ignore	hole
approach	road	board	goal	boat	coach	load
loan	coast	coat	growth	slow	slowly	bolt
most	both	won't	bold	roll	role	sold

PRONOUNCE IT!


SHORT

SOUND

/a/

Associated with the following combinations:

o (alone in a closed syllable)
 box, doll, stomp, clock, blond

o + C + C + final e
 dodge, hodge-podge



“

bob	job	lob	mob	rob	robber	snob	God
not	pod	sod	plod	trod	bop	mop	top
slop	drop	stop	lost	frost	dot	jot	not
plot	rot	slot	spot	trot	flop	hop	

PRONOUNCE IT!

”

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The outlook wasn't brilliant **for** the Mudville nine that day:
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And then when Cooney died at first, and **Barrows** did the same,
A pall-like silence fell **upon** the patrons of the game.

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So **upon** that stricken multitude grim **melancholy** sat,
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And Blake, the much despised, **tore** the cover off the ball;
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It rumbled through the valley, it rattled in the dell;
It pounded on the mountain and recoiled **upon** the flat,
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There was ease in Casey's manner as he stepped into his place;
There was pride in Casey's bearing and a smile lit Casey's face.
And when, **responding** to the cheers, he lightly **doffed** his hat,
No stranger in the crowd could doubt 'twas Casey at the bat.

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shirt;

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shout,
But there is no joy in Mudville—mighty Casey has struck out.

LONG
U
SOUND

/u/



Associated with the following combinations:

u + final e
rule, use, truce, tube, include, tune

"oo" pattern
boost, proof, loop, cool, food

"ew" pattern (rare usage)
few, new, knew, view, review

"ui" pattern (rare usage)
fruit, suit, suitable, juice

“

”

boost	proof	tube	grew	due	few
truth	crew	chew	blue	do	stew
fruit	suit	suitable	juice	use	include
blue	drew	clue	flu	use	tune
loon	cool	loop	droop	blooper	super
doodle	noodle	poodle	loose	proof	poop

PRONOUNCE IT!

SHORT
U
SOUND

Associated with the following combinations:

- The letter "u" in a closed syllable**
runner, crumb, submarine, rub
- The vowel combination ou**
young, cousin, double, touch
- Sometimes the letters -on**
son, one, done, won, monk
- Words with -other**
mother, brother, another, smother

cup	rub	rug	mug	dug	spud	dug	bud
dud	snub	jump	lump	pump	thump	slump	dump
plump	bun	fun	nun	pun	run	sun	spun
stun	pup	up	bust	dust	bust	lust	just
must	rust	trust	but	butt	nut	strut	rut
son	monk	done	among	pug			

PRONOUNCE IT!

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But there is no joy in **Mudville**—mighty Casey has **struck** out.

APPENDIX B

The Big Nine and Syllable Stress Rules

THE BIG NINE: SYLLABLE RULES

Rule #1: Every syllable must have at least one vowel.

Rule #1b: There is one and only one vowel sound per syllable.

Rule #2: When the letter "e" is the final letter in the word, it usually makes the previous vowel long.

Rule #3: When two consonants form a single sound (digraph: th, ch, sh, ph, ck), they always remain together.

Rule #4: Whenever a vowel comes before the letter r, the r always stays with the previous syllable.

Rule #5: In a compound word, the syllable breaks between the words first.

Rule #6: The word endings -cal, -ed, -ful, -ish, -ing, -ment, -ness, -tive, -sive, -ture, -tion, -sion, -ty, -ly, -fy, -ity, -less, always form their own syllable.

Rule #7: When a word ends in "le", the "le" joins with the previous consonant to make the final syllable.

Rule #8: Words with two consonants in the middle will divide between those consonants.

Rule #9: Prefixes and suffixes that contain vowels will form their own syllables.

WORD STRESS RULES

1. Stress the first syllable of:

- Most two-syllable nouns (examples: CLImate, KNOWledge)
- Most two-syllable adjectives (examples: FLIPpant, SPA-cious)

2. Stress the last syllable of:

- Most two-syllable verbs (examples: reQUIRE, deCIDE)

3. Stress the second-to-last syllable of:

- Words that end in *-ic* (examples: ecSTATic, geoGRAPHic)
- Words ending in *-sion* and *-tion* (examples: exTENSion, retri-BUtion)

4. Stress the third-from-last syllable of:

- Words that end in *-cy*, *-ty*, *-phy* and *-gy* (examples: deMOCra-cy, unCERTainty, geOGRAPHy, radiOLOGy)
- Words that end in *-al* (examples: exCEPTional, CRItical)

Remember: Stressed syllables are **louder**, **longer** and **higher in pitch** than the other syllables, and they always contain full vowels (they will never contain unstressed or reduced vowels like schwa /ə/). In connected speech, we tend to elide prepositions and stress nouns.

APPENDIX C

Pronunciation Practice Example Exercises: /æ/ and /ʌ/

æ and ʌ

Pronunciation Practice

/æ/	/ʌ/
abstract	obstruct
amber	umber
badge	budge
bank	bunk
bats	butts
battened	buttoned
blabber	blubber
dam	dumb
drab	drub
fanny	funny
farrow	furrow
flank	flunk
gammy	gummy
glamour	glummer
hang	hung
harry	hurry
Mandy	Monday
mass	muss
natty	nutty
raffish	roughish
salmon	summon
sandy	Sunday

Read the following paragraph and find all the words that have the /ʌ/ sound.

“Isa Whitney, brother of the late Elias Whitney, D.D., Principal of the Theological College of St. George’s, was much addicted to opium. The habit grew upon him, as I understand, from some foolish freak when he was at college; for having read De Quincey’s description of his dreams and sensations, he had drenched his tobacco with laudanum in an attempt to produce the same effects. He found, as so many more have done, that the practice is easier to attain than to get rid of, and for many years he continued to be a slave to the drug, an object of mingled horror and pity to his friends and relatives. I can see him now, with yellow, pasty face, drooping lids, and pin-point pupils, all huddled in a chair, the wreck and ruin of a noble man.”

(Excerpt From: Arthur Conan Doyle & Robert Ryan. “The Complete Sherlock Holmes.” iBooks).

Read the following words, separate them into their corresponding syllables and determine if the vowels are long or short. Explain why.

Summer	Loveless
Sum	Presumptuous
Assume	Punctually
Abandonment	Ultimately
Gives up	Utterly
Struggle	Vigorous
Consensus	Worrisome
Consulted	Adjusted
Revolutionized	Assumption
Unconscious	Crucial
Unique	Dispute
Enthusiastic	Issue

Fond of	virtual
Impetuous	Insufferable
Bakers	Native
Catty	Impassive
Crack	Penetrate
Crake	Glamour
Feigning	Bandage
Phaeton	Fascinate
Gained	Forecast
Panting	Companion
Rapping	Migrate
Scrapped	Sideways
Scraped	Address
Wake	Administer
Wack	Vocabulary
Capital	Always
Average	

Reading Practice

1. A father had sons who were always quarreling.
2. They would not listen when he told them about the danger of disagreement.
3. This father decided to give his sons a practical lesson.
4. He took a bundle of sticks and asked each son in turn to break the bundle.
5. None of his sons were able to do this.
6. Then the father opened the bundle and gave his sons separate sticks.
7. Of course the sons could break these sticks easily.
8. The father said, "Our family is like this bundle of sticks.
9. While we are together, nothing can break us.
10. When we are divided, our enemies will break us as easily as these sticks."

Circle the word that you hear your teacher say.

Bank	Bunk
Sandy	Sunday
Abstract	Obstruct
Salmon	Summon
Hang	Hung
Mass	Muss
Fanny	Funny
Dam	Dumb

Circle the word that is different

1. dam, clam, calm
2. sunny, dude, thunder
3. puke, dud, judge
4. nasty, grass, grape
5. mustard, amusement, supplement

APPENDIX D

Phonemic Flash Cards

i:	ɪ	ʊ
u:	e	ə
ɜ:	ɔ:	æ
ʌ	a:	ɒ

<u>ɪə</u>	<u>eɪ</u>	ʊə
ɔɪ	əʊ	eə
aɪ	aʊ	ɹ
b	t	<u>d</u>

tʃ	dʒ	k
g	f	v
θ	ð	s
z	ʃ	ʒ

m	n	ŋ
h	l	r
w	j	ə
ʒ	ɹ	

APPENDIX E

Vowel Substitution Activity

Replace the sounds from the following words

eɪ, i, aɪ, ɔ, u (long sounds)

æ, ɛ, ɪ, ɑ, ə (short sounds)

ɜ (for ir, er, ur)

With	Expert	His
occasion	Side	This
what	Wine	Do
eternal	May	Hand
life	Have	Law
love	Innkeeper	Other
God	Donkey	Side
Heart	Levite	Clothes
Soul	Came	Too
Want	Saw	So
Pass	Himself	Palce
Other	Written	Where
Happen	Your	Bandage
Jesus	Robber	Own
Read	Dead	Man
It	Justify	Put
Lord	Reply	But
Teacher	Wounds	Beat

APPENDIX F

Pronunciation Practice: /i/ and /ɪ/

ie /i/

achieve	bullies	piece
authorities	chief	series
belief	copies	view
believe	field	
believers	movie	

ei /i/

being	conceited
beings	either
receive	

ea /i/

appeal	cheater	increase
appear	clean	lead
appearances	clear	leader
beach	clearer	least
beam	clearly	leave
bean	creature	near
beast	deal	nearly
beat	disease	please
beating	dream	reach
beneath	each	read
bleach	easily	real
breathe	easy	realize
breathing	eat	reason
cheap	feature	release
cheat	hear	sea

season	teacher	unclear
seat	team	year
speak	treat	
teach	treatment	

ee /i/

addressee	cheerfully	seek
agree	deep	seem
agreement	degree	sleep
agreements	employee	speech
green	feel	street
asleep	free	tree
beer	green	week
between	indeed	weekend
career	keep	
cheek	need	
cheer	screen	
cheerful	see	

consonant + y /i/

accidentally	blindly	difficulty
ability	body	early
ability	ceremony	easily
abruptly	certainly	easy
accidentally	cheerfully	economy
activity	city	energy
actually	clearly	especially
agency	closely	every
already	cloudy	everybody
badly	colony	everyone
barely	community	everything
beautifully	company	generally
beauty	crazy	happy
Bethany	cruelty	history
bitterly	daily	technology

i /I/

big	hit	this
bill	kid	trip
bit	kill	will
city	list	win
fill	miss	wish
film	pick	with
fish	risk	
fit	sin	
fix	sit	

