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교육학석사학위논문

Effects of Phonemic Awareness Instruction  
on Listening Comprehension for EFL Learners  
in a Korean Elementary School

음소인지 교육이 한국 초등학교 EFL 학습자들의  
듣기 이해 능력에 미치는 영향

2021년 8월

서울대학교 대학원

외국어교육과 영어전공

이 경 아

Effects of Phonemic Awareness Instruction  
on Listening Comprehension for EFL Learners  
in a Korean Elementary School

by  
KyungA Lee

A Thesis Submitted to  
the Department of Foreign Language Education  
in Partial Fulfillment of the Requirements  
for the Degree of Master of Arts in English Language Education

At the  
Graduate School of Seoul National University

August 2021

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이 논문을 교육학 석사 학위논문으로 제출함  
2021년 6월

서울대학교 대학원  
외국어교육과 영어전공  
이 경 아

이경아의 석사학위논문을 인준함  
2021년 7월

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# **ABSTRACT**

Effects of Phonemic Awareness Instruction on Listening Comprehension  
for EFL Learners in a Korean Elementary School

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Phonemic awareness is a prerequisite ability to process foreign language speech (McDowell & Lorch, 2008). When learners do not have adequate phonemic awareness of the target language, they may face difficulties decoding speech streams of the foreign language. A considerable amount of focus is on enhancing listening skills in traditional L2 classrooms, yet they are mostly taught in word and sentence levels. Although students learning English as a foreign language need to develop sufficient ability for phonemic awareness, efforts to integrate phonemic awareness instruction with listening drills and activities are lacking. Furthermore, the main interest of this thesis, phoneme awareness instruction, was conducted in several previous studies related to the reading instruction of English native

language learners, but there was a dearth of studies on phoneme awareness and listening for Korean elementary school learners in the EFL environment.

This study examines the efficacy of explicit phonemic awareness instructions on developing phonemic awareness and listening comprehension skills, by comparing the pre- and posttest progress made by participants enrolled in an English course at an elementary school in Korea. Furthermore, it examines whether there are varying effects among different proficiency groups. An experimental design was used to investigate the effectiveness of phonemic awareness instructions on 57 Korean EFL elementary school learners, which were sub-grouped into three proficiency levels. The phonemic awareness odd-one-out test and multiple-choice listening comprehension test are used to collect data about students' level of phonemic awareness and listening comprehension skills. The intervention took four weeks of 19 sessions, consisted of 14 asynchronous online instructions and five reviewing sessions in the classroom. Target phonemes were predetermined thirteen consonants which the learners found difficult to distinguish.

Results indicate a positive effect of the instruction and an implication for the L2 classrooms. First, a paired sample t-test illustrated that phonemic awareness instruction has significantly enhanced EFL learners' phonemic awareness and listening comprehension skills small and medium effects (Cohen's  $d = 0.37; 1.08$ ).

Secondly, a paired sample t-test within proficiency group demonstrated the lower level group has shown the largest improvement in their listening comprehension scores (Cohen's  $d = 1.49$ ). Thirdly, Pearson's product-moment correlation revealed that there is a statistically significant positive correlation between phonemic awareness ability and listening comprehension skills of the participants in the pretests (Pearson's correlation coefficient =  $.427^{**}$ ) and stronger relationships in the posttests (Pearson's correlation coefficient =  $.479^{**}$ ). The conclusion can be drawn that students' development of phonemic awareness positively correlates with their listening comprehension skills. Pedagogical implications for L2 classrooms are provided following a depth analysis of the research results.

Key Words: Phonemic awareness, Pronunciation teaching, Listening comprehension, EFL elementary school learners

Student Number: 2018-26354



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# **CHAPTER 1.**

## **INTRODUCTION**

This study aims to investigate the effectiveness of phonemic awareness instructions on listening comprehension of English as a Foreign Language (EFL) learners in a Korean elementary school. This chapter illustrates theoretical framework with the necessity of the current study. Section 1.1 discusses the background of the study, followed by the purpose of the study in Section 1.2. The third section states the research questions for the study and the last section presents the organization of the thesis.

### **1.1 Background of the Study**

The term “phonemic awareness” refers to an individual’s awareness of the sound structure at phoneme levels of a spoken word (Gillon, 2018). Phonemic awareness activities involve children isolating and producing individual speech sounds of phonemes (e.g., *Say the first sound in sheep. Tell me the three sounds in fan*). Segmenting the initial sounds of words (e.g., *What is the first sound in chair?*) is a common phonemic awareness task.



In the field of literacy, “phonemic awareness” has been used to refer to the ability of young children to sound out words on a page. In this case, the term is linked with and conceptualized as a “reading” skill. This seems suitable for the L1 context, as learners are already able to comprehend sounds and have letter-sound knowledge (i.e., sound-symbol correspondences). Connecting orthography to sound then becomes the focus of L1 research. That said, in the L2/EFL context, the situation is different and phonemic awareness should be considered at its face value as the ability to recognize sounds. More specifically, it should be integrated with listening instruction.

Research into phonemic awareness has been at a relative standstill since the introduction of Communicative Language Teaching (CLT). In the last few decades, there has been a growing body of research that has had its focus on language interaction and communication (Breen & Candlin, 1980; Canale & Swain, 1980; Kumaravadivelu, 2006; Savignon, 1983). Although a considerable amount of focus was on listening and speaking, however, at least in the L2 context, there are few studies that examine phonemic awareness in relation to enhancing listening skills (Choe et al., 2020). In the EFL context, typically many students are not proficient in phonemic awareness skills in the target language until they are fully exposed to the speech sounds and trained at a sufficient level. Without such drills, learning and practicing language through the interaction (i.e., listening and speaking) might be, for many

children, frustrating and challenging. Furthermore, students without phonemic awareness in the target language might go through listening difficulties in the foreign language. Hence, phonemic awareness training should be preceded in the beginning level as a cornerstone to develop further language skills. Mehta et al. (2005) and Strickland and Riley-Ayers (2006) argued that teaching phonemic awareness to young learners can enhance their language skills better than those who did not receive such education. Hanulíková et al. (2012) advocated that training students to hear difficult L2 sounds is best done in the early stages of L2 teaching. Therefore, elementary EFL learners were selected as the participants of this study in order to help build a strong foundation that will be helpful in future language acquisition.

## **1.2 Purpose of the Study**

The main goal of this study is to investigate effects of phonemic awareness instructions on listening comprehension for elementary school learners in EFL contexts. It is to examine whether phonemic awareness can alleviate the burden in listening comprehension on the beginning stage of EFL learners. Phonemic awareness skills in relation to listening comprehension were largely ignored in previous studies. Therefore, there remains a need to conduct a quantitative approach to examine phonemic awareness instructions to verify factors affecting listening comprehension process in EFL learners.

This study involved 57 elementary school students at a public elementary school in South Korea. Children participated in 25 minutes sessions for a month, which were 19 sessions in total. The quantitative approach was used to calculate the effect size. Thereafter, an analysis on the varying impacts brought by raising phonemic awareness on listening comprehension ability with three different proficiency levels of students will be discussed. How students perceive the treatment program was explored through student interviews. After the interventions, children's phonemic awareness skills might be trained enough for formal listening instructions. The discussion of the current study will clearly aid in understanding the effects of phonemic awareness on listening comprehension ability of EFL learners as well as having practical pedagogical implications for EFL teachers to adopt phonemic awareness in their classroom.

### **1.3 Research Questions**

The forementioned considerations lead to the necessity of a quantitative study to examine the effect of phonemic awareness on elementary school EFL learners' listening comprehension. Furthermore, this study will investigate whether there are some varying effects among different listening proficiency groups. It addresses the following research questions:

1. Does phonemic awareness instruction influence Korean EFL learners' phonemic awareness and listening comprehension skills? If so, to what extent does it have an effect?
2. Does phonemic awareness instruction affect learners with varying listening comprehension proficiency in their listening comprehension skills? If so, to what extent does it have an effect?

### **1.4 Organization of the Thesis**

The thesis consists of five chapters. Following this introduction, Chapter 2 reviews literature on related areas of the experiment. It conveys the definition of phonemic awareness in detail, relationship with listening comprehension, development of phonemic awareness, phoneme differences in L1 and L2, and phonemic awareness intervention and listening instructions in

the L2 classrooms. Lastly, the research questions are dealt with for the analysis.

Chapter 3 expatiates the methodological approach selected in the study. The major research instruments were a paired sample t-test and correlation. Following their descriptions, a survey of questionnaires and structured interviews are explored. Finally, the procedures utilized for the collection and analysis of the data are stated.

Key findings from the analysis of the research data are presented in Chapter 4. This includes the results based on quantitative and qualitative analysis. In Chapter 5, a detailed analysis and possible interpretations of the findings with regards to the research questions and previous research findings are illustrated. Chapter 6 summarizes the key findings focusing on pedagogical implications from the study, indicates limitations of the study, and suggests future research.

## **CHAPTER 2.**

### **LITERATURE REVIEW**

This chapter expatiates on theoretical and conceptual background for the study by examining previous research on the topic of phonemic awareness. It also overviews topics of listening instructions and blended learning, which this study adopts for the main experimental design.

#### **2.1 Phonemic Awareness**

##### **2.1.1 Definition of Phonemic Awareness**

Comprehension of information in speech is undoubtedly the main purpose of listening. There is little value in listening if the speech is processed merely as a “meaningless” stream of sounds. In order to decode language from speech signals, specific skills might come into play. When the listeners listen to the speech, a phoneme, the smallest unit of sound that influences the meaning of a word, is blended with other phonemes into syllables within the sound stream. Hence, Liberman et al. (1967) claimed that language learners must learn to perceive phonemes in speech. In Standard English, there are 44 phonemes of 24 consonants and 20 vowels. Table 2.1 depicts English phonetic symbols of vowels and consonants.

**Table 2.1***English Phonemic Inventory*

	IPA	examples		IPA	examples
<b>Vowels</b>	ʌ	C <u>u</u> p, L <u>u</u> ck	<b>Consonants</b>	b	<u>B</u> ad, L <u>a</u> b
	ɑ:	<u>A</u> rm, F <u>a</u> ther		d	<u>D</u> id, L <u>a</u> dy
	æ	C <u>a</u> t, B <u>a</u> ck		f	F <u>i</u> nd, I <u>f</u>
	e	M <u>e</u> t, B <u>e</u> d		g	G <u>i</u> ve, F <u>l</u> ag
	ə	<u>A</u> way, C <u>i</u> ne <u>m</u> a		h	<u>H</u> ow, <u>H</u> ello
	ɜ:ɾ	T <u>u</u> rn, L <u>e</u> arn		j	<u>Y</u> es, <u>Y</u> ellow
	ɪ	H <u>i</u> t, S <u>i</u> tt <u>i</u> ng		k	C <u>a</u> t, B <u>a</u> ck
	i:	S <u>e</u> e, H <u>e</u> at		l	L <u>e</u> g, L <u>i</u> tt <u>l</u> e
	ɒ	H <u>o</u> t, R <u>o</u> ck		m	M <u>a</u> n, L <u>e</u> mon
	ɔ:	C <u>a</u> ll, F <u>o</u> ur		n	<u>N</u> o, T <u>e</u> n
	ʊ	P <u>u</u> t, C <u>o</u> uld		ŋ	S <u>i</u> ng, F <u>i</u> ng <u>e</u> r
	u:	B <u>l</u> ue, F <u>o</u> od		p	P <u>e</u> t, M <u>a</u> p
	aɪ	F <u>i</u> ve, <u>E</u> ye		r	R <u>e</u> d, T <u>r</u> y
	aʊ	<u>N</u> ow, <u>O</u> ut		s	S <u>u</u> n, M <u>i</u> ss
	eɪ	S <u>a</u> y, <u>E</u> ight		ʃ	<u>S</u> he, C <u>r</u> ash
	oʊ	G <u>o</u> , H <u>o</u> me		t	T <u>e</u> a, G <u>e</u> tting
	ɔɪ	B <u>o</u> y, J <u>o</u> in		tʃ	C <u>h</u> eck, C <u>h</u> urch
	eəɾ	W <u>h</u> ere, <u>A</u> ir		θ	<u>T</u> hink, B <u>o</u> th
	ɪəɾ	N <u>e</u> ar, H <u>e</u> re		ð	<u>T</u> his, M <u>o</u> ther
	ʊəɾ	P <u>u</u> re, T <u>o</u> urist		v	V <u>o</u> ice, F <u>i</u> ve
		w	<u>W</u> et, <u>W</u> indow		
		z	<u>Z</u> oo, L <u>a</u> zy		
		ʒ	P <u>l</u> ease <u>r</u> ,		
		dʒ	V <u>i</u> s <u>i</u> o <u>n</u>		
			<u>J</u> ust, L <u>a</u> rge		
Total	20		24		

*Note.* Adapted from Szynalski & Wojcik, 2001.

The term “phonemic awareness” refers to “an understanding that speech is composed of a series of individual sounds” (Yopp, 1992, p. 696). It is a straightforward explanation of the phrase “phonemic awareness”. Later, Gillon (2018) clarified the term as “an individual’s awareness of the sound structure at phoneme levels of a spoken word”. That said, phonemic awareness is an ability to attend to and distinguish individual phonemes in speech. For example, it is an ability to recognize that the word “*cat*” can be segmented into a series of sounds of /k/, /æ/, and /t/. Reversely, having phonemic awareness in English enables segmenting the initial sounds in words. For instance, a person knows sounds of /d/, /ɔ/, and /g/ make up the word “*dog*”. Additionally, a person with phonemic awareness in English can separate the first sounds in a word (e.g., *What is the first sound in bird?*). To sum, phonemic awareness is the ability to recognize and segment individual phonemes in spoken words.

### **2.1.2 Phonemic Awareness in Relation to Phonological Awareness**

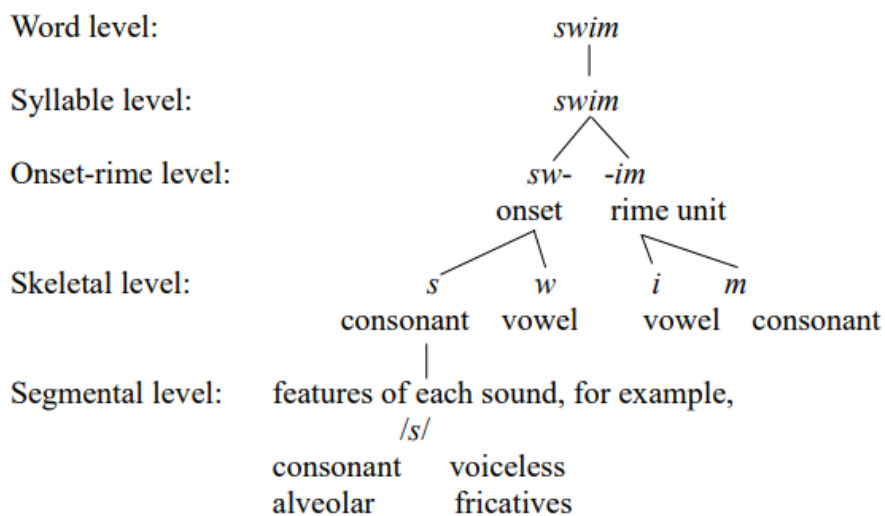
Phonemic awareness is a subset of phonological awareness. Unfortunately, phonemic awareness and phonological awareness are often referred to without distinction. However used interchangeably, these terms are not synonymous (Scarborough & Brady, 2002) and best defined as distinct from each other. The research using the term “phonological awareness” began to appear in the late 1970s and early 1980s (Bradley & Bryant, 1983; Leong



& Sheh, 1982; Marcel, 1980; Rozin & Gleitman, 1977; Tunmer & Fletcher, 1981; Zifcak, 1981). *Phonological awareness* is a broad term that involves all activities or tasks that require analysis of sound structure (Schuele & Murphy, 2014). That is, it refers to an ability to be aware of the sound structure of a spoken word.

**Figure 2.1**

*Phonological Structure of the Word swim*



*Note.* Adapted from Bernhardt and Stoel-Gammon, 1994, p. 127.

Recent phonological theory—“nonlinear phonological theory”—views a word’s phonological structure in the nonlinear or hierarchical manner (Bernhardt & Stoel-Gammon, 1994). It is useful for understanding the term

phonological awareness with its relation to phonemic awareness. Figure 2.1 visually represents different representational levels to form the word *swim*. The word *swim* can be considered as one syllable in the “syllable level”. Then, it can be separated into the “onset-rime level” which distinguishes syllables into onset and rime. An onset is the initial phonological unit containing consonant or consonant clusters that precede the vowel, while a rime is the latter strings of letters containing vowels. In this case, *swim* is composed of the onset *sw-* and the rime *-im*. Finally, the level can be further split into the “segmental level” which phonemic awareness corresponds to. It is the combination of features of sounds (e.g., description of phonemes with whether it is a consonant or a vowel, voiced or voiceless sound, lip shape, and airflow when sounding out).

Then, phonological awareness can be described as a multi, upper-level skill that comprises “syllable awareness”, “onset-rime awareness”, and “phoneme awareness”. Firstly, syllable awareness is the ability to be aware that words can be divided into each syllable (e.g., *water* is divided as *wa-ter*.) Secondly, onset-rime awareness further segments the syllable into its onset and rime at the intrasyllabic level (e.g., *start* consists of the onset *st-* and the rime *-art*). Often it is measured with rhyme detection tasks (e.g., “Do these words rhyme: *bake-cake*?”). Finally, phonemic awareness is the phonological

awareness at the phoneme level that breaks words into more detail. It is the ability to understand words composed of smaller parts of individual speech sounds or phonemes. A “phoneme” is defined as the smallest unit of sound that influences the meaning of a word (Gillon, 2018). That is, if one phoneme in a word changes, a whole new word can be created. For example, the word *coffee* which has four phonemes: /k/ /a/ /f/ /i/. If the first phoneme is displaced with /t/, the word *toffee* will be generated. Each phoneme is in charge of the meaning of the word. Phonemic awareness allows individuals to be aware of each phoneme and that words be segmented into individual phonemes. This study will conduct an intervention to elementary EFL learners only in terms of phonological awareness at phoneme levels, that is, phonemic awareness.

### **2.1.3 Differences between Phonemic Awareness and Phonics**

From the practical view, language educators need to differentiate the term *phonemic awareness* and *phonics* as they have different educational focuses. Phonemic awareness instruction focuses on the sound structure of words. The intervention relates to the phonemes in words without reference to how sounds are represented in print. The task involves identifying, segmenting, combining, and manipulating the phonemes in words (see more detailed phonemic awareness task descriptions in Section 2.5). For instance, it figures

out the sound structure or words: *bat* and *bag* start with the same phoneme /b/; *cat* has three sounds and can be divided into these three sounds: /k/ /æ/ /t/; /d/ /ɔ/ /g/ make up *dog*; *play* with its first phoneme deleted is *lay*. During phonemic awareness lessons, students learn individual letters of the alphabet and their sounds; read aloud consonants in initial positions and vowels in both initial and medial positions; and compare minimal pair for similar sounds.

On the other hand, phonics focus on sound-letter correspondence for reading. Phonics instructions teach associations between phonemes and orthography, thereby they differ from pure phonemic awareness interventions in that they directly introduce letters or text. Again, it advocates why phonemic awareness has a stronger integration with listening than reading. Phonics instruction emphasizes the printed representation of sounds in words. It includes activities to learn the print symbols (i.e., letters) that represents speech sounds (e.g., “Letter *a* is for *apple*, *b* is for *bee*, and *c* is for *cat*”), sound-symbol correspondences (e.g., “Letter *d* sounds /d/, the sound /ʃ/ spells out *sh*”), and the ability to “sounding out” the word (e.g., “How do you pronounce *dog*? It is /dɔg/”). Blevins (1997, p. 61) suggests four steps to teach students sound-spelling correspondences. A summary of each step is followed:

- Step 1: Teach the sound-spelling correspondences—for example, explain to children that the letter *s* stands for /s/, the sound heard at the

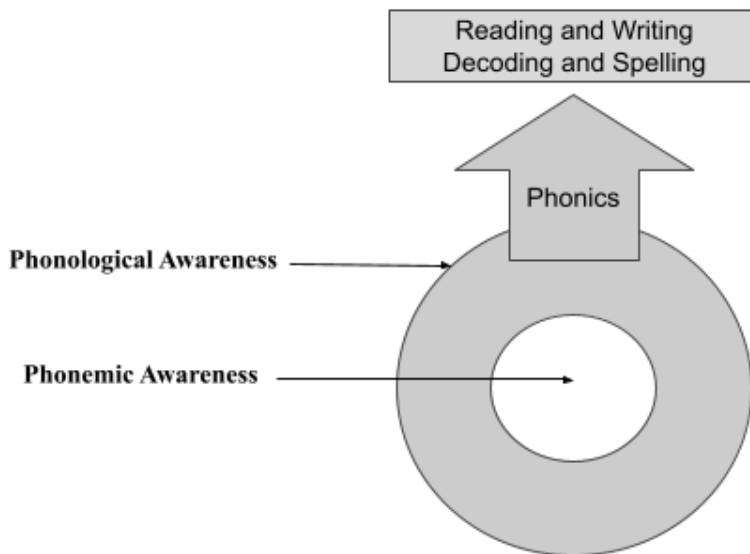
beginning of the word *song*.

- Step 2: Review the sound-spelling correspondences—for example, select one letter card, and ask children to say aloud the sound that the letter stands for.
- Step 3: Build words—for example, using the letter cards, spell the word *mat*. Review the sound that each letter stands for, to make up the word.
- Step 4: Replace sounds in words—for example, if the teacher says the word *mat*, they ask children, “What letter must be replaced in the word *sat* to make *mat*? Point out that letter.”

In sum, while phonemic awareness is an understanding of segmenting sounds in spoken words, phonics directly deals with the learning of sound-spelling relationships with printed words. That is, phonics instruction embraces phonemic awareness. In phonics instructions, phonemic awareness is implicitly taught unless the instruction is done merely as machine learning, memorizing the letter names and the corresponding sounds.

**Figure 2.2**

*Phonemic Awareness in Relation to Phonological Awareness and Phonics*



*Note.* Adapted from Schuele & Murphy, 2014, p. 4.

Figure 2.2 summarizes the discussion so far and demonstrates phonemic awareness in relation to phonological awareness and phonics visually. Given the scope of the formerly mentioned research gap, this study will focus on phonemic awareness instruction within Korean EFL elementary school classrooms.

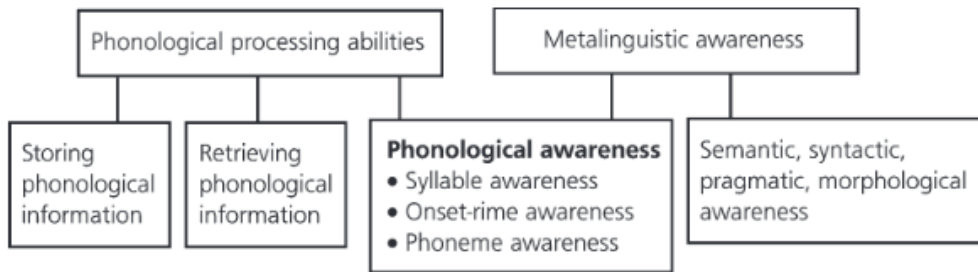
#### **2.1.4 Phonological Processing Ability in Listening Process**

The term “phonological processing ability” encompasses *phonological awareness* and gives insights into how phonological information is processed in learners. Wagner and Torgesen (1987) clearly defined phonological processing abilities into three constructs. Firstly, they encode phonological information in short-term storage with a capacity limit (i.e., working memory). To be specific, digit span tasks (i.e., recalling series of digits) and sentence repetition tasks can be utilized to measure phonological memory skills. Secondly, phonological processing abilities retrieve phonological information. That is, they capture phonological information from long-term memory where informative knowledge lasts for a long time. For instance, rapid naming tasks (e.g., naming alphabetic letters as fast as possible) can be used to measure phonological information retrieving skills. Thirdly, phonological processing abilities go through phonological awareness which deals with syllable, onset-rime and phonemic awareness.

Thus, for clarification, phonological awareness can be seen as a subset of phonological processing abilities, as visually shown in Figure 2.3.

**Figure 2.3**

*Phonological Awareness in Relation to Phonological Processing (Gillon, 2018, p. 11)*



That is, phoneme awareness is a component of phonological awareness along with awareness in syllables and onset-rimes. Following the process of storing phonological information and retrieving phonological information, phonological awareness is carried out in listeners to process phonological information. Furthermore, phonological awareness is a part of metalinguistic awareness, which is an ability to reflect upon and manipulate the structural features of spoken language (Tunmer & Herriman, 1984).



## **2.2 The Relationship between Phonemic Awareness and L2 Listening Comprehension**

The research investigating the effect of phonemic awareness instruction on L1 reading has its robust volume (Adams, 1990; Cunningham, 1990; Ehri, 1979; Ehri & Nunes, 2002; Griffith & Olson, 1992; National Reading Panel et al., 2000; Perfetti et al., 1987; Yopp, 1995). Yet until now, very little empirical research regarding phonemic awareness in L2 appears to have been done with learners' listening ability. A meta-analysis of phonemic intervention studies on L2 listening comprehension skills confirmed that “not much research has been accumulated yet” (Choe et al., 2020, p. 1306).

Studies on the relationship between phonemic awareness instruction and L2 listening ability have been fairly ignored in previous studies and started to appear in the literature from the mid-2010s (e.g., Ahangari et al., 2015; Hwang, 2016; Thajakan & Sucaromana, 2014). A smaller pool of literature explored the effect of phonemic awareness instructions on listening skills through pronunciation practices (Ahangari et al., 2015), shadowing drills (Hwang, 2016), a multimedia Computer-Assisted Language Learning program (Thajakan and Sucaromana, 2014), and discrimination training (Zhang et al., 2009).

Various phonemic awareness studies have been conducted among the

university students. For example, Ahangari et al. (2015) taught phonemic awareness lessons to university students at intermediate level and showed significant large effect sizes<sup>1</sup> in improving listening comprehension skills (Hedge's  $g = 1.01$ ). In addition, Hwang (2016) also administered phonemic awareness lessons to university students. The difference of Hwang (2016) from Ahangari et al. (2015) was that participants were at a lower level in English. The researcher chose three different types of measurements for the dependent variables: short questions, short conversation, and long conversation. The results all showed significant effectiveness with large effect to medium effect sizes (Hedge's  $g = 0.93; 1.09; 0.78$ ). The study by Zhang et al. (2009) conducted phonemic awareness instructions to Japanese university students to discriminate the English phonemes /r/ and /l/. The participants heard the phonemes in different vowel contexts recorded by many different speakers. After 12 hours of treatments, the results revealed that the learners enhanced over 20% in discerning the target consonants.

Meanwhile, there are studies conducted among elementary school students. An example is Thajakan and Sucaromana (2014). They investigated the effectiveness of phonemic awareness of primary school student through

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<sup>1</sup> Effect size interpretation for between groups: 0.4 for small, 0.7 for medium, and 1.0 for large (Plonsky & Oswald, 2014).

multimedia computer-assisted language learning. Using multimedia program, the participants practiced phonemic awareness drills. The study revealed that the experimental group made significantly greater gains with fairly large effect sizes (Hedge's  $g = 4.30$ ). In sum, these scholars identified that phonemic awareness instruction enhanced EFL learners' listening ability. The explicit demonstrations of phonemic awareness have been effective facilitators of L2 listening of the EFL learners.

Studies on phonemic awareness instructions utilized mainly two different types of listening measurements—intensive listening and selective listening measurements. Firstly, intensive listening consists of listening drills asking listeners to attend to a specific sound feature (Brown, 2001). For instance, Thajakan and Sucaromana (2014) and Zhang et al. (2009) measured the effectiveness of phonemic awareness intervention by intensive listening. For instance, in Thajakan and Sucaromana (2014), the participants had taken phoneme discrimination tests of three sets comparing two phonemes each. In Zhang et al. (2009), subjects were tested with target English phoneme discrimination tests. Secondly, selective listening is held as a form of comprehensive listening test which measures whether listeners can understand the information delivered in an aural text (Brown, 2001). That is, listeners solve listening comprehension questions while listening to a recorded speech.

Two studies selected this type of listening comprehension tests as the dependent variables (Ahangari et al., 2015; Hwang, 2016). This study aims to conduct both types of tests as measurements in order to analyze the effectiveness of phonemic awareness instructions: a listening comprehension test and a phonemic awareness test.

### **2.3 Development of Phonemic Awareness**

In order to understand learners' educational needs, it is essential to gain knowledge of children's phonemic awareness development within phonology and linguistic theory. Gillon (2018) asserted that children develop implicit phonological knowledge to use in speaking and listening to their native language long before they are aware of explicit phonological knowledge. Implicit phonological knowledge enables children to discriminate whether a word is part of their native language, allows for feedback of their speech errors, and empowers children to make judgments upon acceptable variations of a spoken word (Yavas, 1998).

In native language learning, children's phonemic awareness begins to develop in the preschool years for some (Lonigan et al., 1998). Then, phonemic awareness continues to expand in the kindergarten, the early grade school years (Wagner et al., 1997), and prolongs across the life span (Gillon,

2018). The sufficient amount of exposure or instruction of the sounds of words should be preceded for children to acquire phonemic awareness in L1.

In contrast, phonemic awareness development in speakers of languages other than English is somehow different. When EFL learners approach foreign phonemes that do not exist in their native language system, they might have difficulties in distinguishing these sounds (Deterding & Poejosoedarmo, 1998; Jeon, 2005; Tuaycharoen, 2003). The difficulty might stem from the lack of awareness of some English sounds and hence, it should be fully addressed in EFL classrooms.

Compared to other languages, English has irregular phoneme-grapheme relationships. About 14% of common English words are considered as phonetically “irregular” (Moats, 2000, p. 96). For instance, *through* and *rough* are similar words but do not rhyme. Contrarily, some words do rhyme but orthographically different (e.g., *tea* and *key*). Each language has its own orthographic and phonetic system. Mayringer and Wimmer (2000) suggested that some alphabetic languages (e.g., German, Greek, Italian, Portuguese, Spanish, and Turkish) are easier to learn phonological rules as they have more consistent letter-sound relationships than English. For example, the letter *a* in English has different pronunciations by neighboring letters (e.g., in *agent*, *along*, and *apple*).

**Figure 2.4**

*Development of Phonological Awareness (Schuele & Murphy, 2014, p. 9)*

Complex	Deletion/Manipulation of Sounds		
↑	Critical Achievement: Segment & Blend sounds	Phonemic Awareness	Phonological Awareness
	Segment Final Sounds		
	Segment Initial Sounds		
	Onset-rime segmentation		
	Alliteration		
	Rhyme		
↓			
Simple	Segment Words into Syllables		

However, the research places the sequence of phonological awareness development as “linguistically universal” (Gillon, 2018). Figure 2.4 illustrates the sequence of development of phonemic awareness with phonological awareness. According to the literature, the acquisition of phonological awareness starts to appear from larger units (i.e., syllables) to smaller units (e.g., phonemes) of sound speech (Anthony & Francis, 2005). First, phonological awareness appears in children learning how to segment words into syllables, which is considered a “simple” task in phonological awareness

(Schuele & Murphy, 2014). For instance, they can segment *water* into *wa* and *ter*. Next, it leads to proficiency on the more complex phonological awareness tasks, rhyme, and alliteration. Third, children may begin to acquire phonemic awareness starting from onset-rime segmentation. Fourth, they may acquire the ability to segment initial sounds and then final sounds. Then, they may acquire “critical achievement” of segmenting and blending sounds. Finally, deletion of sounds along with manipulation of sounds is considered as a high demanding task. Several empirical studies have found that participants follow similar paths in the phonological development and endorsed such sequences in Spanish speaking children (Carrillo, 1994; Denton et al., 2000; Gonzalez & Garcia, 1995), Italian children (Cossu et al., 1988), French children (Ecalte & Magnan, 2002), German children (Goswami et al., 2005), and also for Chinese children (Yeh et al., 2015) who learn a non-alphabetic language. Similar developmental sequences were found in Korean children also (Kim & Jo, 2001; Park, 2000; Yoon, 1997). Hence, scholars provided some support that children follow similar phonological developmental sequences from the “simple” syllable awareness to the “complex” phonemic awareness across languages.

However the sequence is universally discussed and supported, Anthony et al. (2002) reminds educators that some children will follow their own developmental step mastering the “next” step before the “previous” one.

That said, it is important to note developmental sequence as well as check ongoing monitoring of a child's development progress.

This study adopts phonemic awareness in the phonological awareness tasks as it measures its relation to listening comprehension ability. Still, some complex drills (i.e., phoneme manipulation) might be cognitively demanding for EFL elementary school learners. Rather than selecting high-demanding phonemic awareness tasks, an odd-one-out task is chosen for this study. It checks whether children can segment the initial or final phonemes. According to Brady et al. (1994), phonemic awareness tasks (e.g., identifying phonemes in words) are more beneficial than syllable awareness or awareness at the whole word or sentence level for the young learners. Furthermore, Brennan and Ireson (1997) and Lundberg et al. (1988) underscored that awareness at syllable, word, or sentence level in children may develop with general classroom instruction. That is, phonological awareness other than phonemic awareness requires less direct instruction than phonemic awareness. Additionally, findings from Cary and Verhaeghe (1994) described that phonemic awareness instruction can have a positive impact on syllable awareness skills than the reverse. Likewise, Ukrainetz et al. (2011) argued that rather than following instructions in a developmentally sequential manner, it is more efficient to start from phonemic awareness instructions on young children. Gillon (2018) echoed the arguments that for school-age children,



phonological awareness intervention should focus on the enhancement of skills at the phoneme level (i.e., phonemic awareness). Hence, this study employs explicit phonemic awareness instruction on EFL elementary school students.

## **2.4 Phoneme Differences between L1 and L2**

### **2.4.1 Phoneme Differences between Korean and English**

Differences in the language characteristics may affect language learning. Every language has its own unique phonological system. For example, Korean language has about 40 phonemes consisting of 19 consonants, 9 vowels, and 12 diphthongs (ASHA, n.d). English has 23 different symbols in consonants and 14 symbols in vowels—which then combine to produce graphemes (Ladefoged & Johnson, 2013). Figure 2.5 shows the English phonemic inventory of consonants.

**Figure 2.5**

*English Consonant Phonemic Inventory*

	Bilabial	Labiodental	Dental	Alveolar	Palato-alveolar	Palatal	Velar	Glottal
Stop	p b			t d			k ɡ	ʔ
Nasal	m			n			ŋ	
Fricative		f v	θ ð	s z	ʃ ʒ			h
Affricate					tʃ dʒ			
Approximant	(w)			ɹ		j	w	
Lateral				l				

*Notes.* Adapted from Ladefoged & Johnson, 2013, p. 46; Where symbols appear in pairs, left represents a voiceless consonant and right represents a voiced consonant.

More than one variant of the same phoneme varying by the phonological environment in a language is called “allophone”. It differs from “minimal pairs” in that allophones don’t change the meaning. To give an illustration, two *p* sounds differ in *pop*—the first *p* is an aspirate sound with a strong puff (i.e., [p<sup>h</sup>] while the last *p* does not aspirate when it is pronounced (i.e., [p]). Additionally, *p* sounds out with weak aspiration in *spool*. The perception of allophones may differ across language users. First, native English speakers may not distinguish the difference between the three allophones of one phoneme /p/ (Jeon, 2005). That is to say, varying patterns

of sounds in different languages may have an impact on listeners' listening skills. Secondly, listeners can distinguish sounds in a spoken language only when the sounds are separate phonemes. An example of this is shown in /s/ and /θ/. They are not distinguished in Korean that native Korean speakers may find fairly difficult to distinguish (Jeon, 2005). Reversely, English native speakers may find difficulty discerning each allophone of *s* which are represented separately in Korean phonemes<sup>1</sup> (Jeon, 2005). Thirdly, learners might find difficulties in acquiring phonemes that are in the target language but not in the learners' native language. Among English phonemes, /b, d, g, z, f, v, tʃ, dʒ, ʃ, ʒ, θ, ð/ do not exist in Korean phonemes. However, Jeon (2005) warns that it is difficult to diagnose learners' difficulties by merely comparing the phoneme differences between languages. Although the phoneme does not exist as a separate phoneme in Korean, it may exist as an allophone in a joint between vowels. Such examples can be found in *gamgi*—only the latter *g* sounds out as a voiced consonant [g]. Another example can be revealed in *only*—the combination of /-nl-/ becomes [-ll-] for some Koreans. This is due to a phonological rule in Korean, whereby /-nl-/ becomes [-ll-]. All things considered, differences in phoneme systems affect the learning of each language.

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<sup>1</sup> Korean consonant ㄱ(siot, s) and ㄱㄱ(ssang siot, ss)

## 2.4.2 English Consonants Chosen for this Study

English vowels are considered more difficult to learn than consonants for EFL learners for the following reasons. First, based on the literature reviewed, English vowels are more difficult to learn than consonants (Nam et al., 2009). Compared to consonants, vowels have a simpler articulation. They are distinguished by the subtle movement and shape of the tongue which is the only articulating organ (Jeon, 2005). Furthermore, the auditory tolerance of vowels is greater than that of consonants that English listeners deal with vowel variability more readily than consonant (Van Ooijen, 1996). Secondly, vowels differ between dialects (Jacewicz & Fox, 2013). To be specific, English dialects vary mostly in the pronunciation of open vowels (Jeon, 2005). For example, in Received Pronunciation, the accent traditionally considered as a standard accent for British English, there are four open back vowels, /æ, ɑ:, ɒ, ɔ:/. However, in General American, there are only three open back vowels, /æ, ɑ, ɔ/. Furthermore, the vowel pronunciation of each word differs between dialects. For instance, *plant* and *lot* have the vowels /ɑ:, ɒ/ in Received Pronunciation, but /æ, ɑ/ in General American. As vowels vary between dialects, consonants were considered as more appropriate ones to practice than vowels for EFL learners. Thirdly, the spelling system of the English language does not distinguish some consonant sounds. Such examples can be found in dental fricatives: /θ/ and /ð/. They are both represented by the same digraph *th*

such as *thigh* and *thy* (Ladefoged & Johnson, 2014). Considering the English level of elementary school students, the phonemes that are not distinguished in written letters might be a burden. To that end, they were excluded as target phonemes in this study.

For these reasons along with the results from the pilot study, this study chose following consonants as target phonemes to teach EFL elementary school students: labiodental fricatives (/f, v/), alveolar fricatives (/s, z/), palato-alveolar fricatives (/ʃ, ʒ/), palato-alveolar affricatives (/tʃ, dʒ/), bilabial glide (/w/), palatal glide (/j/), alveolar liquid (/l/), and alveolar liquid (/r/).

## **2.5 Phonemic Awareness Intervention in L2 Classrooms**

The careful design and implementation of phonemic awareness intervention are needed, particularly for EFL children who do not obtain enough input and might not acquire phonemic awareness in L2 automatically. McCandliss et al. (2002) claimed that initial learning creates a strong tendency to treat nonnative contrastive phonemes as a single phoneme from the listener's L1 and that "this tendency may be self-reinforcing, leading to its maintenance even when it is counterproductive" (p. 185). Hence, understanding of types, optimal duration, and intensity of phonemic awareness instruction are crucial to phonemic awareness lessons for young learners. With

this regard, previous literature suggests specific guidelines on how to apply phonemic awareness instruction to EFL classrooms.

Firstly, there are various types of explicit phonemic awareness instruction. Most phonemic awareness activities require students to pay attention to the sound only, raising the ability to hear specific phonemes in words. Blevins (1997) comments that phonemic awareness activities are “playful” in nature, providing an engaging way for children to discriminate against each phoneme of words. Referring to the previous literature, Gillon (2018, p. 7) presents a variety of phonemic awareness tasks: (1) phoneme categorization (Torgesen & Bryant, 2004); (2) phoneme matching (Wagner et al., 1999); (3) phoneme isolation (Stahl & Murray, 1994); (4) phoneme blending (Cassady & Smith, 2004); (5) phoneme elision (Semel et al., 2006); (6) phoneme segmentation with words or non-words (Dodd et al., 1996); and (7) spoonerisms (Dodd et al., 1996). Adding to Gillon’s list, additional tasks that frequently appear in many phonemic awareness tasks are (8) rhyming (Yopp, 1988); and (9) phoneme substitution (Robertson & Salter, 1995). Specific explanations of each task are followed:

- Phoneme Categorization, also referred to as Phoneme Detection—for example, “Which word has a different first sound: *bed, bus, chair, ball?*” (Torgesen & Bryant, 2004).

- Phoneme Matching—for example, “Which word starts with the /n/ sound like neck: nut, bed, or cake?” (Wagner et al., 2013).
- Phoneme Isolation—for example, “Tell me the sound you hear at the beginning of the word *play*” (Stahl & Murray, 1994).
- Phoneme Blending—for example, “I’m going to say each sound in a word very slowly: /b/ [pause 1 second] /o/ [pause 1 second] /t/. The word has three sounds that blend to make the word boat. Now you try to blend a word after I say the sounds in the word: /r/ [pause 1 second] /a/ [pause 1 second] /n/” (Wagner et al., 2013).
- Phoneme Elision, also referred to as phoneme deletion—for example, “Say *bake*. Say *bake* again, but don’t say /b/” (Semel et al., 2006).
- Phoneme Segmentation with words or non-words, which segments the words into smaller segments—for example, “How many sounds can you hear in the word *cat*?” (Dodd et al., 1996)
- Spoonerism, a verbal error in which a speaker changes the initial sounds or letter of two or more—for example, *felt made* becomes *melt fade* (Dodd et al., 1996).
- Rhyming—for example, “Do *hat* and *bat* rhyme?” (Yopp, 1988)
- Phoneme Substitution, which substitutes the rhyme, final phoneme, or

vowel sounds—for example, “I will say a word. I will change the rhyme to make a new word. Listen *had*. When I change /ad/ to /op/, the word is *hope*. Say *seat*. Change /it/ to /ip/ and the word is? (Robertson & Salter, 1995)

Teachers can utilize the tasks in the phonemic awareness instructions. An example is found in studies by Byrne and Fielding-Barnsley (1991, 1993). In their study, a longitudinal phonological awareness intervention—“Sound Fountain”—was conducted as phonemic awareness drills which focuses on phoneme variances by instructing children that different words can begin, or end, with the same sound (Byrne & Fielding-Barnsley, 1993). Children were asked to perform phoneme categorization tasks to sort the pictures with words based on the same initial or end sounds. The training program also included identifying different phonemes with worksheets and card games to raise students’ phonemic awareness skills (Sodoro et al., 2002).

Secondly, important aspects to consider when designing the intervention— appropriate intensity levels and duration will be stated. As for the intervention intensity, Carson et al. (2013) argued that language programs involving more than two hours of instructions per week are considered as “high intensity”, while less than two hours is deemed as “low intensity”. A few empirical studies point out that even low intensity of phonemic awareness



drills can have significant gains on raising learners' phonemic awareness ability. Firstly, a study by Yopp and Troyer (1992) showed that learners had significant gains in phonemic awareness after low intensity of instructions. The interventions were only 15 to 20 minutes of daily use for two weeks. Next, Kase and Jensen (2013) supported that only a few minutes (e.g., 10 minutes) of class twice per week for a 15-week semester can improve Japanese university EFL learners' perception of phonemes. The participants were trained by hearing a CD of phonemic contrasts with high variability and repeated the words with pairs. In sum, the research has shown that instructions with low intensity are enough to raise learners' phonemic awareness ability.

Regarding the total intervention duration, programs implemented for more than one academic year (i.e., > 36 weeks) were estimated as "long" in duration, while programs that lasted for less than one academic year (i.e., < 36 weeks) were counted as "short" in duration (Carson et al., 2013).

Both intensity and duration must be considered when determining the treatment for the study. Ukrainetz et al. (2011) compared the effects of speech sound awareness in low intensity with longer duration and high intensity with shorter duration. The comparison study showed that the high intensity might be a more efficient way of teaching young children phonemic awareness. This study adopts high intensity with shorter duration for the treatments.

## **2.6 Listening Instructions in Traditional L2 Classrooms**

Previous research has put weight on the vital importance of listening for successful communication in foreign language learning. Brooks (1964) emphasized the importance of listening that sufficient listening skill is necessary for the interaction. Rivers (1981) and Vandergrift (1999) also considered listening as a prerequisite skill for enhancing other skills.

There are extensive empirical supports that foreign language learners can improve listening skills through classroom instruction and activities (Ginther, 2002; Herron et al., 1998; Long, 1990, Tsui & Fullilove, 1998). Listening is a complex cognitive activity that involves several processes from receiving sound waves to interpreting the message. In light of this, listening instructions can be sorted by cognitive processes it requires—bottom-up and top-down processing. First, the bottom-up approach in listening instruction focuses on decoding the smallest units such as sounds, words, intonation, grammatical structures, and other components of spoken language (Brown, 2001; Wilson, 2012). Reactive and intensive listening activities are examples of classroom instructions with a bottom-up approach (Brown, 2001). Reactive listening involves brief choral or individual drills that focus on pronunciation or the surface structure of the listening texts (Brown, 2001). The activities of reactive listening include explicit phonological awareness instructions, singing and chanting activities. Meanwhile, intensive listening focuses on

certain components such as phonemes, words, intonation, and discourse markers (Brown, 2001) to comprehend input. Examples of intensive listening performance include dictation, dictogloss, listening repeatedly, shadowing and listening with reading the text. Second, the top-down approach is evoked from “a bank of prior knowledge and global expectations” (Morley, 1991, p. 87). The top-down listening approach can be implemented through a performance of selective listening and extensive listening types in the class (Kim & Maeng, 2016). Selective listening refers to selectively scan the material for certain information. Teachers can design tasks for selective listening by asking students to attend to certain facts or events in the speech. Extensive listening activities could include listening for English news, English lectures, pleasure-watching English dramas or movies as well as listening to pop songs.

A meta-analysis on listening instruction across school levels in Korean context (Kim & Maeng, 2016) highlighted that listening instructions in the elementary school level conveyed the listening lesson mostly as bottom-up listening types, the intensive listening ( $k = 23$  out of 57 studies), and reactive listening ( $k = 18$  out of 57 studies), with medium effects ( $d = 0.572$ ;  $d = 0.545$ ) based on Cohen’s scale. Ultimately, intensive listening and reactive listening drills were commonly used in Korean elementary school classrooms in EFL contexts and the instructions were helpful and effective to improve students’

listening comprehension. Besides, Kim and Maeng (2016) revealed that the most effective listening instructions in elementary school levels were shadowing ( $d = 1.562$ ), followed by activating schema activities ( $d = 0.872$ ), and dictation or dictogloss ( $d = 0.581$ ). The researchers connoted that phonological awareness activities showed medium effect size ( $d = .540$ ) between all school levels but yet analyzed separately in each school level.

Given that, this study seeks to implement intensive listening drills of phonemic awareness activities to the elementary school learners in EFL contexts.

## **2.7 Summary of the Chapter**

To understand the role of phonemic awareness instructions on EFL learners' listening comprehension ability, this section provided a discussion of related literature. Despite the vital role in phonemic awareness on listening, little research has been conducted on the scope. Notwithstanding, it is pertinent to discover the relationship between phonemic awareness instructions and listening comprehension skills of EFL learners so that language educators and researchers can refer to and apply the lesson in their L2 classrooms.

## **CHAPTER 3.**

# **METHODOLOGY**

This chapter states a discussion of the methodological approach and research design that best answer research questions illustrated in Chapter 1. Section 3.1 introduces descriptions of participants and the setting of experiments. In order to examine the effect of independent variables, a quantitative approach is selected in this study. In Section 3.2, an outline of the research instruments used in the study is illustrated; namely, listening comprehension test and phonemic awareness test. Each research instrument is depicted with the justification of the use. Then, the description of treatment is followed. Section 3.3 displays the procedures of the experiment. Lastly, Section 3.4 sets out the process of data collection and methods for the data analysis.

### 3.1 Participants

The participants were a group of young learners ( $N = 57$ )<sup>1</sup> of the sixth grade in an elementary school in Suwon city of South Korea. The researcher distributed school parental consent forms to their parents asking whether their child would participate in the study. To assure representation of all proficiency levels of EFL learners, the inclusion criteria were fairly lenient. Participants have to (a) be 6th-grade students of the elementary school; (b) have not attended an English speaking international school (for more than one semester) before; (c) get parental consents to participate in the study; (d) have Korean as their first language; (e) be present at school during the experiment periods. A survey asking the demographic information (see Appendix 1) was used to check whether the participant is appropriate for the study. If any students do not meet the criteria for the target population, they could still attend the English instruction for the ethical issues but the results were deleted and not selected for the data analysis. The participants consisted of 30 males and 28 female students and were attending the same elementary school in grade six. The learners attended the lesson for the 25-minutes long lessons per day from Monday to Friday for four weeks.

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<sup>1</sup> Male = 29 (50.9%), female = 28 (49.1%)

## **3.2 Instruments**

This study employs relevant research instruments to address the research questions stated in Chapter 1. Section 3.2.1 conveys the information of the pretest and the posttest utilized in this study. Section 3.2.2 shows the teaching materials of phonemic awareness instruction applied in the current study.

### **3.2.1 Pretest and Posttest**

First, an odd-one-out task was adopted to measure the participants' phonemic awareness abilities in this study. In the assessment of phonemic awareness, an odd-one-out task has been a commonly used method (Bradley & Bryant, 1978). The phoneme discrimination tests (Appendix 2 and 3) were developed by the researcher herself, by discreetly selecting test items, referring to Vaughan-Rees (2002). The first test (Appendix 2) was used during the pilot study to diagnose the students' phonemic awareness. The second test (Appendix 2) was utilized for the phonemic awareness pretest and posttest that was given to the experimental group. There are four questions for the six consonant contrasts in addition to four questions for the two consonants. The researcher asked two native English speakers to record the test items in a quiet room. Notes to follow when recording are given as follows: (a) don't

emphasize the phoneme differences; (b) pace should not be too slow or too fast; (c) pronounce the words consisting of the phonemes when encountering a word that does not really exist. Each question is composed of three options; two words are the same and one word is different. These words are minimal pairs with only one different consonant in the initial or the final letter depending on the phoneme tested. Thus, students have to find the different word among the three options using the odd-one-out task. To ensure the test takers were not affected by a particular voice, two different native English speakers' voices were used for the test. In other words, in the phonemic awareness test given to the experimental group, the first half of the test, number 1 to 32, was recorded by Annie (pseudonym, female), and the second half, number 33 to 64, was recorded by Bella (pseudonym, female). The test sheets contained a sample practice question as well as 64 questions with three options each. The order of the options on the first half of the test were different from the second half of the test. For instance, question number one was *fan, van, fan* while question number 33 was *van, fan, fan*. Each question is counted as one point making the total score of the test 64. The participants took the same test for the pretest and the posttest at a time interval of one month. The answers for the pretest were not provided to the students. The total amount of time to take the phonemic awareness test was about 20 minutes.



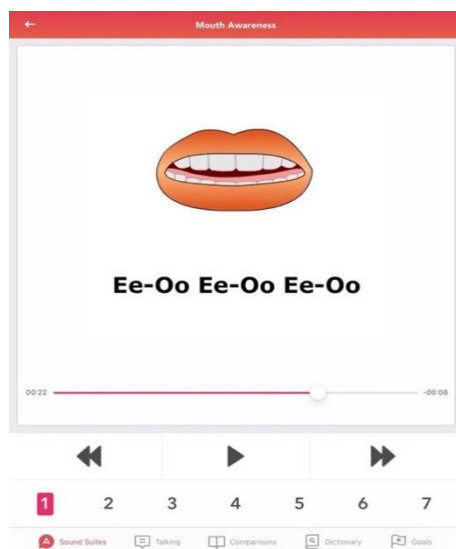
Next, to evaluate students' listening comprehension skills, two tests of Test of Practical English Language (TOPEL) were administered to the students (Appendix 4 and 5). TOPEL is an English test for EFL students, developed by Korea Occupational Development Evaluation Service and endorsed by Korean Ministry of Education. The test items reflect the vocabulary from English curriculum recommended by the Korea Ministry of Education. Each test session is considered to maintain reliability in difficulty level. TOPEL Junior level one is for 5th and 6th grade students in the elementary school. As the participants are attending 6th grade in the elementary school, Junior level one was considered appropriate for them. Since this study aims to measure listening comprehension skills of the students, only the listening section was selected as research instruments among listening, reading, and writing sections of the test. The questions are composed of 33 questions with varying points according to the difficulty. The total score of the test is 103. Additionally, the test is composed of various visual aids such as pictures, graphs, letters, and tables. In order to avoid memory recall affecting the test scores, students took different tests in the pretest and the posttest. In order to ensure that the test levels are similar, a pilot test was held which will be described further in Section 3.3.1. The total time of the listening test took about 30 minutes to complete.

### **3.2.2 Experiment Materials**

Fromkin et al. (2014) asserted that phonetics is defined as the study of speech sounds that it is imperative to know the individual sounds and how each sound distinguishes from the others. To fulfill these educational needs, three electronic resources have been selected as treatment program tools to teach the consonants this study. Utilizing the electronic tools, the researcher herself produced her own teaching video explaining the lessons in Korean, participant's native language. Since the websites were written in English, the researcher played the video and made a pause to explain the video step-by-step in Korean. While watching the lesson videos, students were continuously asked to speak out aloud. After each lesson, students were assigned to review the lessons with the sites by themselves. The explanations on how and what to click on the English websites were explained in details in Korean.

**Figure 3.1**

*Mouth Awareness Page in Juna*



First, *Juna* (Juna Accent Coach, 2020) was used in teaching students phoneme lessons. Developed by English pronunciation teachers and professionals, it conveys detailed American accent lessons using in-depth animations and videos. Users are directed to watch brief lessons that connect phonetic symbols with sample words. After that, a simple articulation instruction for each sound is given. Moreover, detailed explanations of articulation—the position of the tongue, lip shape, and vocal vibration for each sound are provided. One of the strengths of this educational application is a demonstration with facial view. For instance, in the ‘Mouth Awareness’ section (Figure 3.1), a teacher shows how a mouth moves to articulate a sound,

showing her face and mouth movements. Additionally, the animated lessons teach how to make all English sounds effectively.

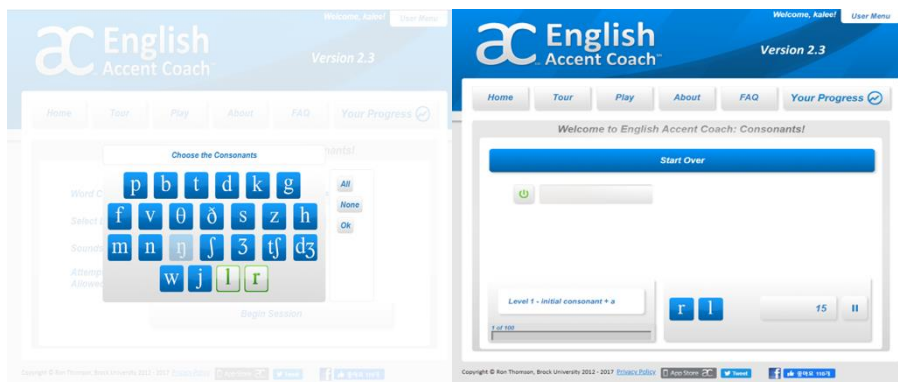
**Figure 3.2**

*Welcome Page of English Accent Coach*



**Figure 3.3**

*Consonant Game of English Accent Coach*

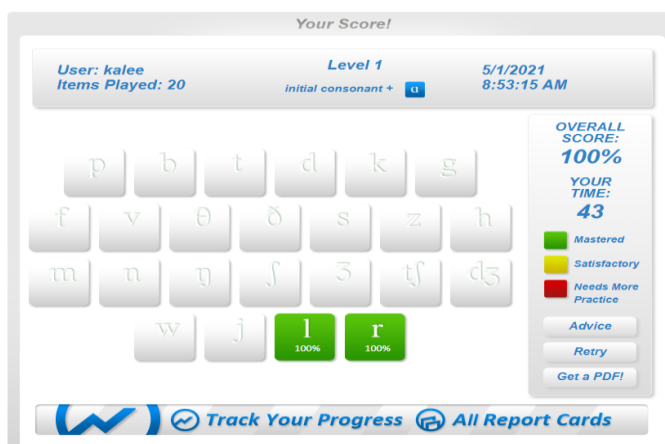


Secondly, *English Accent Coach* (Thomson, 2012) was utilized to help students learning English consonant phonemes. The electronic engine offers repeated practices in recognition and distinction of English sounds and tracks student progress via a website and mobile app (Sheppard, 2016). It provides a playful game using International Phonetic Alphabet (IPA) symbols to practice the vowels and consonants in English (see Figure 3.2 for the site's homepage and Figure 3.3 for the consonant game). For example, in the *Play Consonants* section, learners can select the target phonemes they would like to practice when they hover over each phoneme. Next, learners can also choose the difficulty level of variations. To give an illustration, when target consonants are set in /p/, /b/, and /t/ in Level 1, they are heard in simple syllables ending in /a/ such as “pa”, “ba”, and “ta”. Simple vowels (i.e., /æ/, /a/, /i/, /u/, /ɪ/, /ʊ/, /e/, /o/, /ɛ/, /ʌ/) are used in Level 2. More advanced levels adopt all vowels or put target consonants in the positions other than initial syllable (i.e., second syllable or final positions). After selecting target phonemes and the difficulty level, learners then listen to target sounds with a variety of variations. They are asked to click the phoneme icon that they think they heard. If the learners pick the wrong choice, it shows red colors and gives another chance to select again. The user must acknowledge the error by clicking the correct response in order to continue the lesson which implicitly draws learners' attention to the sounds they struggle with and keeps them

engaged in the activities (Sheppard, 2016).

**Figure 3.4**

*Progress Report from the Consonant Game*

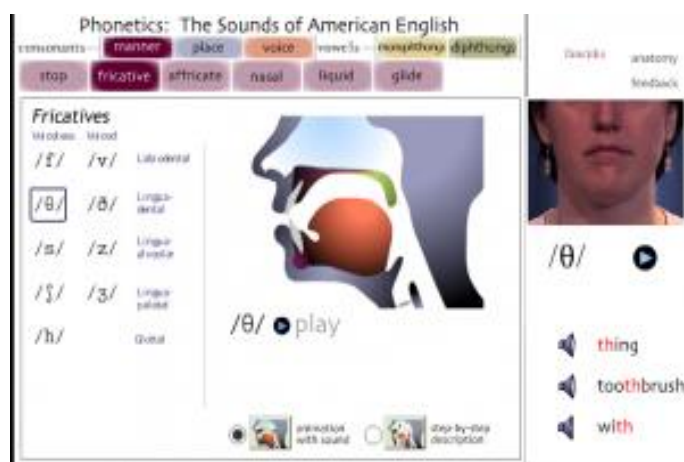


*English Accent Coach* monitors learner's progress by tracking the results of the consonant games (see Figure 3.4 for a progress report). Hence, learners can effectively review the phonemic awareness lessons by playing the game as well as track their progress in a user-friendly interface. Teachers can utilize this function in the classroom to evaluate learners' progress. Overall, *English Accent Coach* is considered an excellent resource for encouraging learners to gain strengths in phonemic awareness. The interface is very simple and user-friendly. It adopts a playful game so that even young learners can get

motivated in learning. Next, the game utilizes a range of difficulties in explicit phonemic awareness practices which learners can gradually improve their phonemic awareness skills. Finally, the game uses a variety of voices in the recorded syllables and words so that learners can be exposed to many different speakers' voices (Sheppard, 2016).

**Figure 3.5**

*Diagram and Facial Video in Sounds of Speech*



Thirdly, *Sounds of Speech* (The University of Iowa, 2014) was used to assist phoneme awareness instruction. It is a free website consisting of animation, videos, and audio samples of important features of each consonant and vowel of American English (Bangun & Liontas, 2019). The animation of the articulatory anatomy along with the facial demonstrating video of the

pronunciation is shown when clicking the phoneme. Bangun and Liantas (2019, p. 235) lists key features as follows: “it provides a real-time and interactive animated diagram of the articulatory anatomy for each consonant and vowel; an annotated step-by-step description of American English phonetics; facial view video and audio samples for each speech sounds; navigation of consonant by manner, place, and voicing of vowels by the tongue; and, finally, access to the pronunciation for each vowel and consonant by native English speakers.” To sum, it conveys detailed pronunciation lessons with the animated diagram and the facial video to the learners. Figure 3.5 shows the lesson page in *Sounds of Speech*.

### **3.2.3 Treatment**

The course continued for four weeks, and the instructions are provided mostly via online platforms and also through face-to-face in the classroom. The class was held for 19 sessions, each session lasting for about 25 minutes. Based on the result of the pilot test, the target phonemes of the intervention were determined as stated in Table 3.1. The phonemes that students found the most difficult were taught first in order to the fairly non-confusing ones. Some phonemes were paired up by according to the shared phonetic features.



**Table 3.1**

*Target Consonants*

Pair #	IPA symbol
1	/l, r/
2	/θ, s/
3	/s, z/
4	/f, v/
5	/tʃ, dʒ/
6	/ʃ, ʒ/
7	/w/
8	/j/

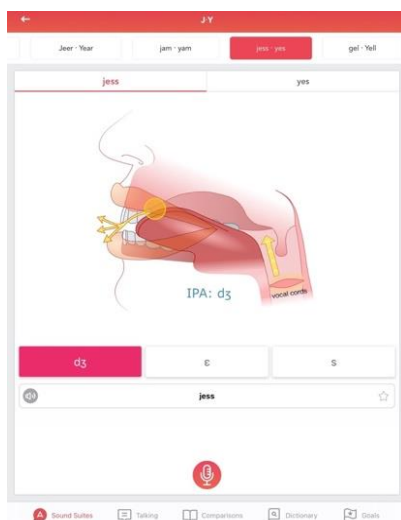
*Note.* The phonemes are paired according to phonetic features

The treatment was conducted utilizing the Juna application. First, the manner of articulation of phonemes was explained. For instance, “*glides* are speech sounds where the airstream is frictionless.” Secondly, places of articulation, tongue position, tensity, and vocal cord vibration were illustrated. Thirdly, sounds of the phoneme were taught in words. To be specific, the sound and spelling were linked by spelling out the words. Then, the meanings of the words were explained. Finally, words segmented into phonemes were taught in the focused and intense drills. For example, the word *cat* is segmented into /k/, /æ/, and /t/. The phonemes were heard segmentally (e.g, “/k/... /æ/... /t/”), until the learners noticed each phoneme makes up the word *cat*. Figure 3.6

below illustrates this stage of lessons.

### Figure 3.6

#### *Lesson Example*



Fifth, target consonants were heard in sentences. In the sentences, deliberate manipulations of highlighting target phonemes were done. Finally, drills and practices of phonemic awareness were conveyed with minimal pairs. For instance, *jess* and *yes* were demonstrated to notice the /y/ sound in *yes*.

After teaching participants phonemic awareness lessons, the researcher utilized two web resources to enhance learners' phonemic awareness. Firstly, *English Accent Coach* web resource was utilized both for class materials and for student assignments. During the class, the instructor

demonstrated the *Consonant Game*. During the game, learners were continuously asked to choose the answer among the phonemes. After the pause, the instructor checked the answers together. As a homework after each session, learners were asked to review the lesson by practicing the *Consonant Game* by themselves. They were asked to submit the instructor their progress report after each game. Secondly, *Sounds of Speech* was used for a class material. Researcher conducted drills and practice to develop phonemic awareness. The animated diagram of the articulatory anatomy as well as facial videos in this web engine were very useful to teach target phonemes.

Considering the age of the young participants, continuous monitoring of the learning process was essential. Employing an online class platform provided by Korea Educational Broadcasting System (EBS), the researcher could monitor the progress status of the learners. When learners did not finish watching the videos, the researcher reminded them to finish watching the video.

As for the classroom lessons, the researcher briefly explained and reviewed the phonemes. Then learners were asked to perform odd-one-out tasks to review what they have learned online. A blackboard, two web resources (*English Accent Coach* and *Sounds of Speech*), and practice sheets were deployed. The practice sheets were given to the students so that they can

mark their answers when asked to distinguish phonemes. They could monitor their responses by themselves by scoring the correct answers. The explanations for the right answer and extra drills were followed thereafter.

### **3.3 Procedures**

Referring to the related area in L2 phonology literature, the treatment was designed for the target learners at the elementary school. First, the study was initiated by identifying target participants for the study and understanding the characteristics of the learners. Next, selecting treatment materials was followed. Third, proper research instruments to measure dependent variables were chosen and carried out. After the posttest, the data was analyzed quantitatively. Post-survey results were addressed qualitatively.

#### **3.3.1 Pilot Study**

Two pilot studies were held for this study. First, to identify English phonemes that EFL young learners find difficult, a phonemic awareness test was conducted on 24 third graders in the elementary school. The third graders were considered appropriate for the pilot study as they are the first year to encounter English at the school. At the time of the pilot test, they had learned

English under the Korean public elementary school curriculum for a semester, and were taught phonics of all English vowels and consonants. The participants were asked to solve the odd-one-out tasks. Each question was composed of three words—two same words with one different. Twenty-four phonemes were sorted into 14 pairs (Table 3.2). Then, 28 questions were devised for testing phonemic awareness (Appendix 2). All English consonants were included except for /ŋ/ as they only appear at the end of English words that were considered difficult. The test took 20 minutes to complete.

**Table 3.2**

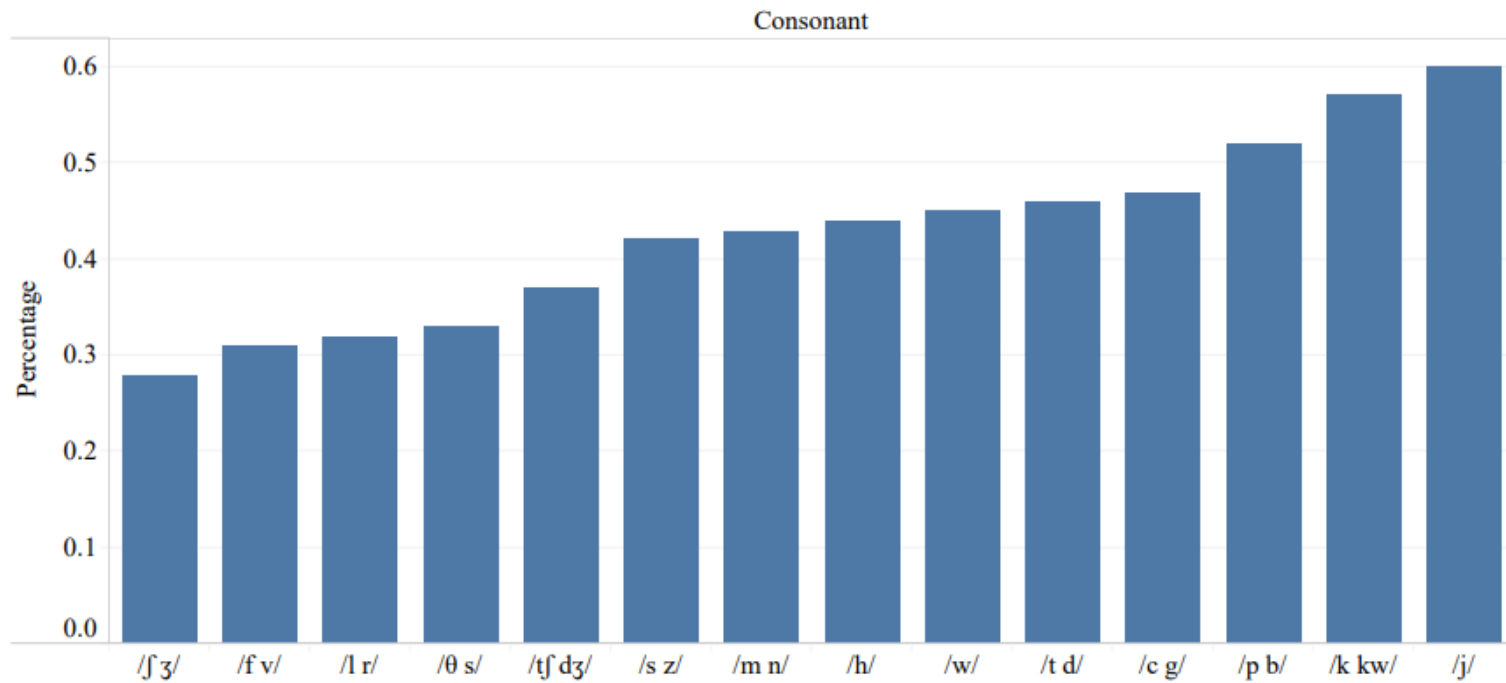
*Consonants Tested in the First Pilot Study*

<b>Pair #</b>	<b>IPA symbol</b>	<b>Pair #</b>	<b>IPA symbol</b>
1	/p, b/	8	/t, d/
2	/c, g/	9	/f, v/
3	/s, z/	10	/ʃ, ʒ/
4	/θ, s/	11	/l, r/
5	/m, n/	12	/h/
6	/tʃ, dʒ/	13	/w/
7	/j/	14	/k, kw/

Figure 3.7 reports the result of the phonemic awareness test. Based on the results, target phonemes and lesson sequences were determined.

**Figure 3.7**

*Result of the Pilot Test*



*Notes.*  $N = 24$ ; Percentage = correct answer rate of the phonemes

Secondly, in order to verify the reliability of the research instruments used in the study, another pilot study was conducted. Among the two measurements the experimental group took, listening comprehension pre- and posttests were done in different test sheets to prevent the student's memory of the exam from affecting the posttest results. Since different test sheets were to be utilized for the pretest and the posttest, it was necessary to ensure the difficulty for the tests are statistically similar. A total of ten participants were gathered and took the same two listening comprehension tests used in the pretest and the posttest in this study (Appendix 4 and 5) in two consecutive days. Their results were used to verify the reliability of the homogeneity of difficulties of the two tests. The participants did not get any phonemic awareness intervention that the experimental group had. However, for the ethical issues, regular listening lessons were given after they took the both tests. The contents of the lessons were regular English lessons, explaining the correct answers for each question. The lessons were given on the other day participants took the exams considering the concentration span of the elementary school students. Specified schedules that they took are as followed:

**Table 3.3**

*Lesson Procedures for the Second Pilot Study*

<b>Treatment #</b>	<b>Lesson Procedures</b>
Day 1	Participants took the first listening comprehension test (pretest of the experimental group).
Day 2	Participants took the second listening comprehension test (posttest of the experimental group).
Day 3	English lessons for the first test were given.
Day 4	English lessons for the second test were given.

To maintain the purity of the data, any participants of the pilot study did not join the experimental group. Additionally, the class materials including test sheets were kept by the researcher until the end of the posttest date of the experimental group. For ethical issues, parents' consents were obtained before conducting the experiment.

Table 3.4 below illustrates the statistical results of descriptive analysis of the test scores of the pilot study.



**Table 3.4***Descriptive Statistics of the Pilot Study (N = 10)*

Construct	Test	Min.	Max.	Mean	S.D.	S.E.
Listening Comprehension	Pretest	21	96	52.1	23.26	7.36
	Posttest	21	100	52.5	26.04	8.24

A paired sample t-test was run to explore the validity of the two tests.

The result is demonstrated in Table 3.5.

**Table 3.5***Results of a Paired Sample t-test of the Pilot Study (N = 10)*

	Paired Differences								
	Mean	S.D.	S.E.	95% CI difference		t	df	Sig.	d
				Lower	Upper				
LC test	0.4	10.74	3.40	-8.08	7.28	0.12	9	.91	10.74

As Table 3.5 states, the probability of significance for the pair is .91, which is greater than the level of .05. Hence, it can be claimed that there was no significant difference between the two tests. In other words, there was no

statistically significant difference in reliability between the listening comprehension pretest and posttest, confirming the comparability between the two measurements.

### **3.3.2 Lesson Procedure of the Experimental Group**

The class had lessons every day for four weeks, 25 minutes for each class. On the first day of the course, the participants submitted the questionnaires to screen out target learners in this study (Appendix 1). For ethical issues, even if they were not apt for the target learners for the study, they could attend the lessons while their data were not selected to analyze quantitatively. Then, the participants took pretests (Appendix 3 and 4), which were the phonemic awareness test and the listening session of TOPEL. The tests were conducted on two different days, considering elementary school students' concentration. The scores were marked by the researcher and were put into *Google Spreadsheet*.

The phonemic awareness intervention dealt with 13 consonants in English chosen for this study from the first pilot test (see Section 3.3.1). An experimental design to investigate the phonemic awareness and listening comprehension development of participants was employed. A blended learning was selected for the research setting. Firstly, students received

intensive phonemic awareness lessons with the teaching videos researcher made. The lesson prolonged four to five times a week for a month. Each treatment lasted for 25 minutes. For online lessons, participants received 14 sessions of phonemic awareness lessons. Secondly, to monitor and check students' progress on the learning, offline reviewing lessons and activities were employed between the online lessons. In the classroom, lessons reviewing the contents were done for five times on the school day. Total number of treatments were 19 times and the lesson procedures are summarized in Table 3.6.

**Table 3.6**

*Lesson Procedures of the Main Study*

<b>Treatment #</b>	<b>Lesson Procedures</b>
	Pretest 1 (PA test), Questionnaires
	Pretest 2 (LC test)
1	Introduction of the course
2	Treatment: /l/
3	Treatment: /r/
4	*Review (classroom)
5	Treatment: /θ/
6	Treatment: /s/
7	Treatment: /z/
8	*Review (classroom)
9	Treatment: /f/
10	Treatment: /v/
11	*Review (classroom)
12	Treatment: /tʃ/
13	Treatment: /dʒ/
14	Treatment: /ʃ/
15	Treatment: /ʒ/
16	*Review (classroom)
17	Treatment: /w/
18	Treatment: /j/
19	*Review (classroom)
	Posttest 1 (PA test)
	Posttest 2 (LC test)

To illustrate, the researcher used electronic learning tools (e.g., *Juna*, *English Accent Coach*, and *Sounds of Speech*) when conveying the phonemic

awareness lessons. Students were first asked to focus on pronunciation without seeing the words. Then, they were introduced to letters. Contrasting phonemes was emphasized with minimal pair drills, reading individual words and sentences. Students were continuously prompted to repeat along with the words after they listened to the words. In addition, pronunciation by numerous speakers was exposed to the participants. Logan et al. (1991) stated that the learners given the high variability of different speakers' pronunciation improved in minimal pair identifications when compared to subjects who heard only one speaker. In order to enhance students' perception of phonemes, different speakers in *Juna* were utilized in the treatment lessons.

After a total of 19 times of interventions, on the last two days (i.e., Day 22 and 23), the participants took phonemic awareness and listening comprehension posttests (Appendix 3 and 5). The phonemic awareness tests of pretest and posttest were the same without any modifications. However, in order to prevent students' familiarity from affecting the results, different listening comprehension test sheets were used. The listening tests were verified homogeneously in the difficulty from the pilot study (see Section 3.3.1). Finally, students were asked to submit post-survey questions after the course (Appendix 7). The purpose of the survey was to explore students' attitudes toward the phonemic awareness lessons in detail. The students who

had the most improvement of the scores in each group were invited to individual interviews.

### **3.3.3 Post-survey and Interviews**

McGuirk and O'Neill (2016) recommended that questionnaires be effective ways to measure participants' attitudes or preferences. Therefore, the post-survey was placed after the posttest to figure out learners' perceptions. The contents of the post-survey were retrieved and modified from study by Siegel (2014). The total number of the questions was fifteen. The contents of the questions were: (a) asking previous experiences on English lessons, (b) self-assessments, (c) reflections on confidence, motivation, (d) the opinions on the lessons, and (e) attitudes toward future utilization. The students' responses were collected online using *Google Forms*. A total of 34 out of the 57 participants submitted the response (59.6%). Finally, few number of students were invited for an in-depth interview. They were students who had average scores in the high and the intermediate group and those who showed the biggest improvements from the low proficiency group. That is, six students joined the interview. The interview was conducted through the video conferencing tool *Zoom* (Zoom Video Communications Inc., 2019).

### **3.4 Data Analysis**

The data was analyzed using SPSS for the statistical analysis. To discuss the first research question suggested in Chapter 2, a paired sample t-test was employed to examine the effectiveness of the phonemic awareness lessons. a paired sample t-test was used as it allows comparing the means between two continuous variables. The pre- and posttests scores of the phonemic awareness and listening tests are compared.

To answer the second research question, the participants were divided into three proficiency groups—high, intermediate, and low—based on listening comprehension pretest scores which are converted into standardized ( $z$ ) scores. Referring to a research by Unsworth (2005), the subjects were grouped as follows: the low proficiency group that had a score below -0.50; the high proficiency subjects scored, above 0.50; the intermediate group's scores, in-between these two figures. An outline of the proficiency groups is given in Table 3.7. The raw data for the proficiency distribution of the whole participants are stated in Appendix 6.

**Table 3.7***Outline of Proficiency Groups*

	Listening Comprehension Pretest Scores		
	<i>N</i>	<i>Mean</i>	<i>S.D.</i>
High	11	73.37	15.62
Mid	29	40.34	5.88
Low	17	20.59	6.99
Total	57	40.82	20.18

Then, a paired sample t-test and correlation methods were used to understand the different results shown by proficiency groups. A paired sample t-test was adopted to verify the differences in the means of the listening comprehension scores over time for each proficiency group. The method was used as it allows to test the mean differences of the continuous data (i.e., listening comprehension scores) over time within group.

The effect sizes were calculated in the results of the t-test. Plonsky and Oswald (2014) urged L2 researchers to select the field-specific benchmarks when interpreting effect sizes. They gave a guideline to analyze *d* values resulting from pre-post contrasts as follows: “*d* value of 0.60 as generally small, 1.00 as medium, and 1.40 as large (p. 12).” This study will follow the suggested estimates when interpreting the results.



Lastly, the qualitative data was piled to supplement quantitative data. The analysis was employed in the following steps. First, group surveys were done in participants' L1 (i.e., Korean) and next, the responses were translated into English by the researcher herself. The relevant questions were grouped and examined.

In addition, six students were asked to conduct individual interviews with the researcher. The selected students were: 1) two students who had average scores in the high proficiency group, 2) two students with average scores from the intermediate level group, and 3) two students who showed the most highest improvements in the listening comprehension tests among the low proficiency group. The interview questions and answers were in Korean and were translated into English by the researcher herself. All the translations were reviewed and checked by two Korean-English bilinguals, who have been living in Korea for 19 and 31 years. They are female English teachers in the middle and high school in Korea.

## **CHAPTER 4.**

### **RESULTS**

This chapter presents an analysis of the quantitative and qualitative research data collected during the experiment. The research questions stated in Chapter 1 are repeated and answered. First, Section 4.1 answers the first research question on whether phonemic awareness instruction enhances L2 learners' phonemic awareness and listening comprehension skills. Next, Section 4.2 addresses the second research question which raises questions on different effects on three proficiency groups. Quantitative results from the data gathered from multiple-choice questions are analyzed. Third, Section 4.3 deals with the control group's results to verify the validity of the measurements used in this study. Then, in Section 4.4, a presentation of the findings from the self-report questionnaire surveys and face-to-face individual interviews are followed in order to investigate an in-depth understanding of the results. An analysis of the surveys and interviews was conducted on the basis of qualitative content examination.

## **4.1 Effects of Phonemic Awareness Instruction**

The first research question (Does phonemic awareness instruction influence Korean EFL learners' phonemic awareness and listening comprehension skills?) inspects the effectiveness of phonemic awareness instructions. The pre- and posttest scores of phonemic awareness and listening comprehension tests are submitted to an statistical analysis. To be specific, the question was analyzed using a paired sample t-test to compare the means between the pre- and posttest scores.

### **4.1.1 Effects of Phonemic Awareness Instruction on Phonemic Awareness Development**

To seek for the first half of the first research question, phonemic awareness pretest and posttest (Appendix 3) were conducted and the data were collected. Table 4.1 summarizes the descriptive statistics retrieved from the results of phonemic awareness pre- and posttests with minimum, maximum, mean, standard deviation, and standard error mean of the tests. The phonemic awareness tests had a scale of 0 to 64 points.

**Table 4.1**

*Descriptive Statistics of PA Test Scores (N = 57)*

Construct	Test	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>S.D.</i>	<i>S.E.</i>
Phonemic Awareness	Pretest	13	62	43.49	10.58	1.40
	Posttest	23	59	46.10	8.30	1.10

*Note.* Total 70 points

As reported in Table 4.1, means are higher for the phonemic awareness posttest. Examining the means of the variables, the phonemic awareness pretest showed an average of 43.49 ( $SD = 10.58$ ), while the phonemic awareness posttest was reported with an average of 46.10 ( $SD = 8.30$ ).

For the detailed information, a paired sample t-test was conducted to verify whether the means of the pretest and posttest of phoneme awareness tests showed a statistically significant difference. Table 4.2 illustrates the overall results of the t-test and the effect size for the samples.

**Table 4.2***Results of a Paired Sample t-test of PA Test Scores*

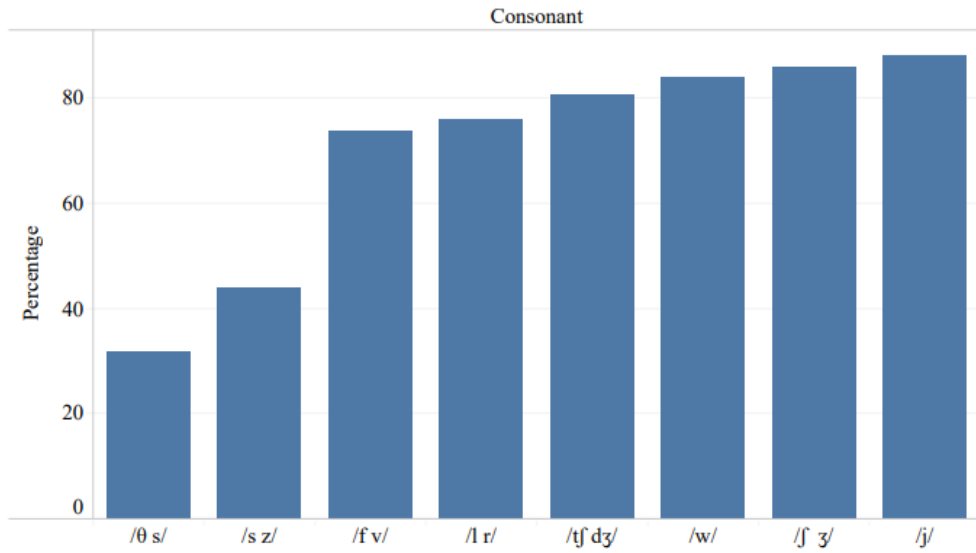
	Paired Differences					<i>t</i>	df	Sig.	effect size
	<i>Mean</i>	<i>S.D.</i>	<i>S.E.</i>	95% CI					
				Lower	Upper				
PA Test	2.61	7.05	.93	0.74	4.48	2.80	56	.004	0.37

The analysis of the paired sample t-test as in Table 4.2 revealed that there is a statistically significant difference between the phonemic awareness pre- and posttest scores ( $t = 2.80$ ,  $p = .004$ ) with a small effect (Cohen's  $d = 0.37$ , lower bound = 0.74, upper bound = 4.48). The effect size is considered as small, according to labels<sup>1</sup> given in Plonsky and Oswald (2014) for analyzing intragroup contrasts. This suggests phonemic awareness lessons have small yet positive impacts on raising learners' phonemic awareness in EFL contexts.

<sup>1</sup> Effect size interpretation for within groups: 0.6 for small, 1.0 for medium, and 1.4 for large (Plonsky & Oswald, 2014).

**Figure 4.1**

*Result of the Phonemic Awareness Pretest (N = 57)*

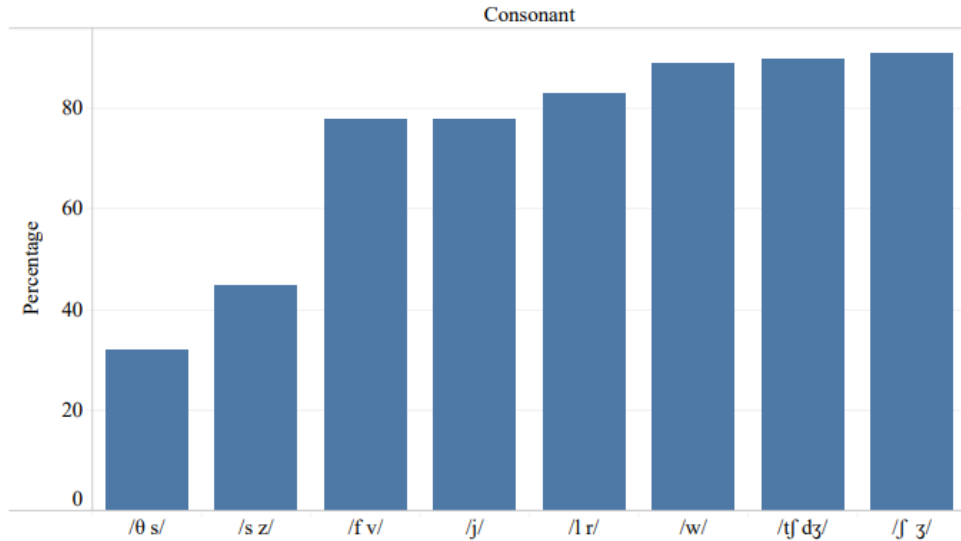


*Note.* Percentage = correct answer rate of the phoneme

Figure 4.1 displays the results of the phonemic awareness pretest of the experimental group. The participants were most likely to have incorrect answers of dental and alveolar fricative pair, /θ/ and /s/. The alveolar fricatives, /s/ and /z/, were the second most difficult phonemes to distinguish.

**Figure 4.2**

*Result of the Phonemic Awareness Posttest (N = 57)*



*Notes.* Percentage = correct answer rate of the phoneme

The results of the phonemic awareness posttest is illustrated in Figure 4.2. The pattern of results shows that students still find dental and alveolar fricative pair, /θ/ and /s/, the most difficult to discriminate. After the intervention, students improved on alveolar approximant and lateral, /l/ and /r/, palato-alveolar fricatives, /ʃ/ and /ʒ/, and palate-alveolar affricatives, /tʃ/ and /dʒ/.

The results of the phonemic awareness pretest show that they follow the similar patterns with the results from the pilot study (see Figure 3.7). The participants of the experimental group were sixth graders who had more

extended learning experiences than the third graders in the pilot study. The students of both groups found labiodental fricatives, /f/ and /v/, hard to distinguish. Following these phonemes, they found alveolar /l/ and /r/ difficult. However, the sixth graders of the experimental group better distinguished the palate-alveolar fricatives, /ʃ/ and /ʒ/, than the third graders' pilot study. Reversely, the participants of the main study found dental fricatives, /θ/ and /s/, rather difficult compared to the students of the pilot study.

When comparing the results of the phonemic awareness pretest and the posttest, the improvements among the consonants varied. First, students were able to distinguish alveolar /l/ and /r/ better in the posttest. Secondly, there was an improvement of the palate-alveolar affricates, /tʃ/ and /dʒ/ after the treatment. Yet, the participants found fricatives /θ/, /z/, /s/, /f/ and /v/ still hard to discriminate among the target phonemes in the pretest and the posttest.

#### **4.1.2 Effects of Phonemic Awareness Instruction on Listening Comprehension**

To explore the last half of the first research question (Does phonemic awareness instruction influence Korean EFL learners' phonemic awareness and listening comprehension skills?), results for the listening comprehension



pre- and posttest were analyzed with a round of t-test. Table 4.3 presents overall information of the results for the listening comprehension tests.

**Table 4.3**

*Descriptive Statistics of LC Test Scores (N = 57)*

Construct	Test	Min.	Max.	Mean	S.D.	S.E.
Listening Comprehension	Pretest	8	97	40.82	20.18	2.67
	Posttest	24	103	54.24	20.05	2.66

*Note.* Total 103 points

As can be seen in Table 4.3, a mean score of the listening comprehension posttest is higher than that of the pretest. The listening comprehension pretest had an average of 40.82 ( $SD = 20.18$ ), while the posttest showed a mean score of 54.24 ( $SD = 20.05$ ). The total scores of the tests are 103 points. Notably, minimum and maximum scores in both pre- and posttests are increased, suggesting phonemic awareness instructions contribute to improving the listening comprehension skills of the learners. For more detailed analysis and discussion, a paired sample t-test was carried out and summarized in Table 4.4.

**Table 4.4***Results of a Paired Sample t-test of LC Test Scores*

	Paired Differences					<i>t</i>	<i>df</i>	Sig.	effect size
	<i>Mean</i>	<i>S.D.</i>	<i>S.E.</i>	95% CI					
				Lower	Upper				
LC	13.42	12.39	1.64	10.13	16.71	8.18	57	.000	1.08

Table 4.4 stated that the mean scores obtained from the listening comprehension pre- and posttest differ significantly ( $t = 8.18, p = .000$ ) with a large effect size (Cohen's  $d = 1.08$ , lower bound = 10.13, upper bound = 16.71). This size is considered as medium to large, when referred to benchmarks in Plonsky and Oswald (2014) for analyzing intragroup contrasts.

## 4.2 Comparison by Proficiency Groups

In order to analyze the effectiveness of treatment in proficiency levels, students were grouped into three by the listening comprehension pretest scores. In this respect, three rounds of a paired sample t-test in each group were conducted to address the second research question, investigating the differing effect of phonemic awareness instructions by proficiency levels. The results

of the descriptive results by proficiency groups are shown in Table 4.5, followed by t-test analyses summarized in Table 4.6.

#### 4.2.1 Results of a Paired Sample t-test within Group

A paired sample t-test was conducted to verify the effect of the treatment within group. First, Table 4.5 reveals descriptive statistics on students' performance by groups.

**Table 4.5**

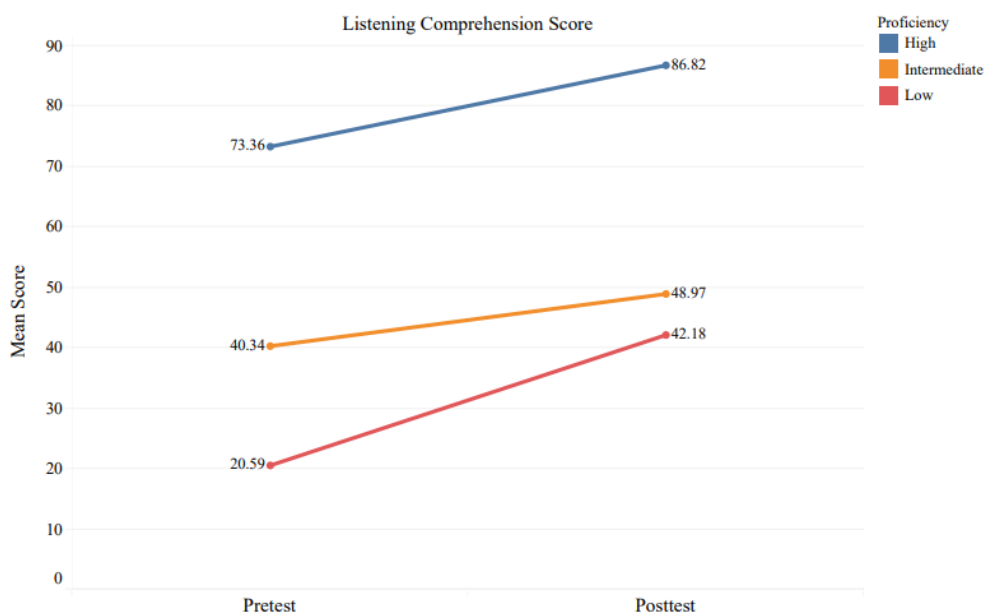
*Students Performance by Proficiency Groups*

Group	Source	<i>N</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>S.D.</i>	<i>S.E.</i>
High	Pretest	11	53	97	73.36	15.62	4.71
	Posttest	11	53	103	86.82	15.44	4.66
	Gain score		4	36	13.46		
Intermediate	Pretest	29	31	49	40.34	5.89	1.09
	Posttest	29	27	71	48.97	10.33	1.20
	Gain score		-8	30	8.63		
Low	Pretest	17	8	30	20.59	6.99	1.70
	Posttest	17	24	67	42.18	11.68	2.83
	Gain score	17	4	59	21.59		

There are patterns shown in the performance of each group. All proficiency groups made improvements in the posttest compared to their results in the pretest. Firstly, in the high and intermediate groups, the grades of all students are higher in the posttest, except for the intermediate group. It shows that a single student from the intermediate group had 8 points less scores in the post listening test. Secondly, the improvement of the low proficiency group was substantially higher than those of the intermediate and high proficiency group. Every student in the lower level group gained scores from the pretest to the posttest from a minimum of four points to the largest increase of 59 points. Thirdly, the difference between the posttest and the pretest in the intermediate level group was considerably less than that in the high level group. Figure 4.1 below illustrates the mean differences by proficiency groups with line graphs.

**Figure 4.3**

*Mean Scores by Proficiency Groups*



As can be seen from Figure 4.3, the line graphs of listening comprehension showed a steeper rise in the high proficiency group than in the intermediate group. The graph of the low proficiency group had the greatest slope among the three groups.

Next, Table 4.6 shows the results of a paired sample t-test on listening comprehension tests over time by three proficiency groups (high, intermediate, and low).

**Table 4.6***Results of a Paired Sample t-test of LC Test Scores within Groups*

	Paired Differences					<i>t</i>	<i>df</i>	Sig.	effect size
	<i>Mean</i>	<i>S.D.</i>	<i>S.E.</i>	95% CI					
				Lower	Upper				
High	13.45	9.83	2.96	6.85	20.06	4.84	10	.001	1.37
Inter mediate	8.62	9.39	1.74	5.05	12.19	4.94	28	.000	0.92
Low	21.59	14.48	3.51	14.14	29.03	6.15	16	.000	1.49

All group significantly improved listening comprehension skills in the posttest compared to the pretest. The result indicates low proficiency group has increased listening comprehension test scores with a large effect ( $d = 1.49$ ) which are larger than the other groups with medium to large and small to medium effects ( $d = 1.37; 0.92$ ).

#### **4.2.2 Results of Correlation**

Pearson's correlation analysis was performed to confirm the correlation between phonemic awareness and listening comprehension skills, which are the main variables of this study. Table 4.7 conveys the results of

correlation analysis of all participants' phonemic awareness and listening comprehension in pre- and posttests.

**Table 4.7**

*Results of Correlation of All Groups (N = 57)*

Group	Source		LC Pretest	LC Posttest
All	PA Pretest	Pearson Correlation	.427***	
		Sig.	.000	
	PA Posttest	Pearson Correlation		.479***
		Sig.		.000

*Note.* \*\*\* $p < .001$

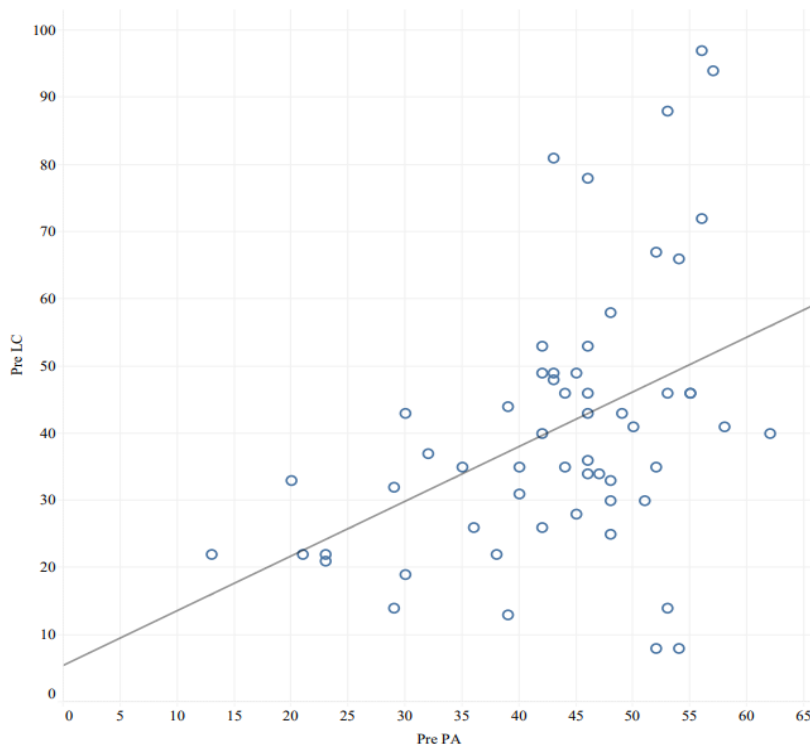
In the pretests, the phonemic awareness pretest score exhibits a significant positive correlation with the listening comprehension pretest ( $r = .427$ ,  $p = .000$ ). When examining the data of the posttest, the phonemic awareness posttest indicated a significant positive correlation with the listening comprehension posttest ( $r = .479$ ,  $p = .000$ ). It shows that the correlation become stronger in the posttests. This indicates that the treatment further increased correlations between phonemic awareness ability and listening comprehension skills. To sum, there was a significant positive

correlation among independent variables of phonemic awareness ability and dependent variables of listening comprehension skills.

A scatter plot was used to identify correlation associated with the measures of phonemic awareness and listening comprehension skills.

**Figure 4.4**

*Scatter Plot for the Correlation of Pretests (N = 57)*



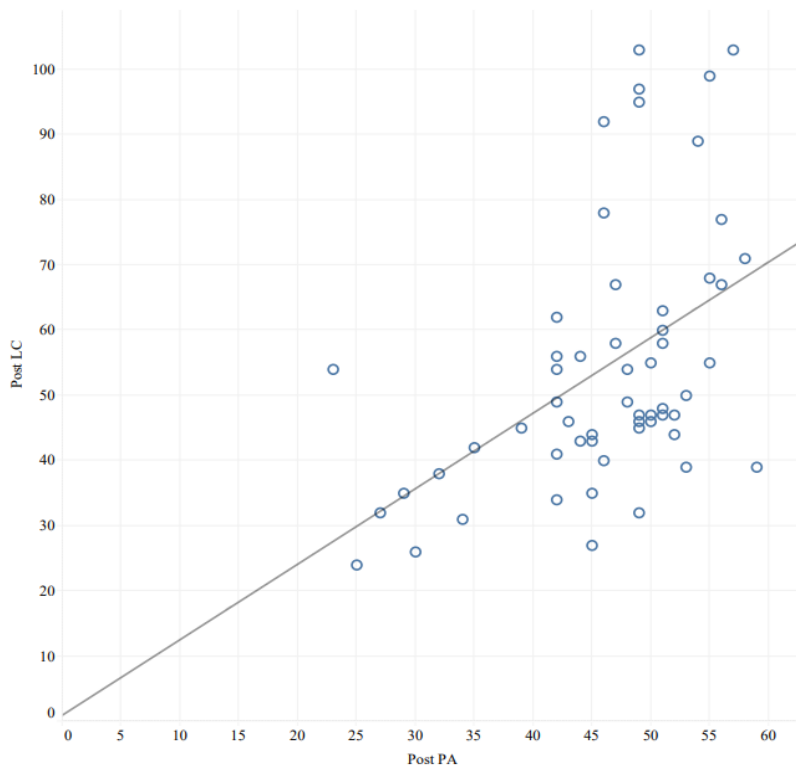
*Notes.*  $y = 0.81x + 5.4$ ;  $R^2 = 0.182$ ;  $p < .001$



The scatter plot in Figure 4.4 shows the relationship between phonemic awareness pretest and listening comprehension pretest results. It displays the regression line with a clear positive relationship of phonemic awareness pretest scores with listening comprehension skills.

**Figure 4.5**

*Scatter Plot for the Correlation of Posttests (N = 57)*



*Notes.*  $y = 1.16x + 0.86$ ;  $R^2 = .23$ ;  $p < .001$

A similar positive relationship involving phonemic awareness and listening comprehension posttests was revealed in the scatter plot in Figure 4.5, with the slope of the regression line higher than that of the pretest results.

In order to probe the correlation between the variables within each proficiency group, three rounds of correlation analysis were performed. Subsequently, Table 4.8 presents the statistical results of correlations within the high, intermediate, and low proficiency group each.

**Table 4.8***Results of Correlation within Groups*

Group	Source		LC Pretest	LC Posttest
High ( <i>N</i> = 11)	PA Pretest	Pearson Correlation	.566	
		Sig.	.069	
	PA Posttest	Pearson Correlation		.377
		Sig.		.253
Intermediate ( <i>N</i> = 29)	PA Pretest	Pearson Correlation	.314	
		Sig.	.097	
	PA Posttest	Pearson Correlation		.308
		Sig.		.104
Low ( <i>N</i> = 17)	PA Pretest	Pearson Correlation	-.122	
		Sig.	.640	
	PA Posttest	Pearson Correlation		.691**
		Sig.		.002

*Note.* \*\* $p < .01$

In the case of the high proficiency group, the results of phoneme awareness pretest was not significantly correlated with the listening comprehension pretest ( $r = .566, p = .069$ ), which is slightly deviated from the significance level of .05. Also, it was found that there were no statistically

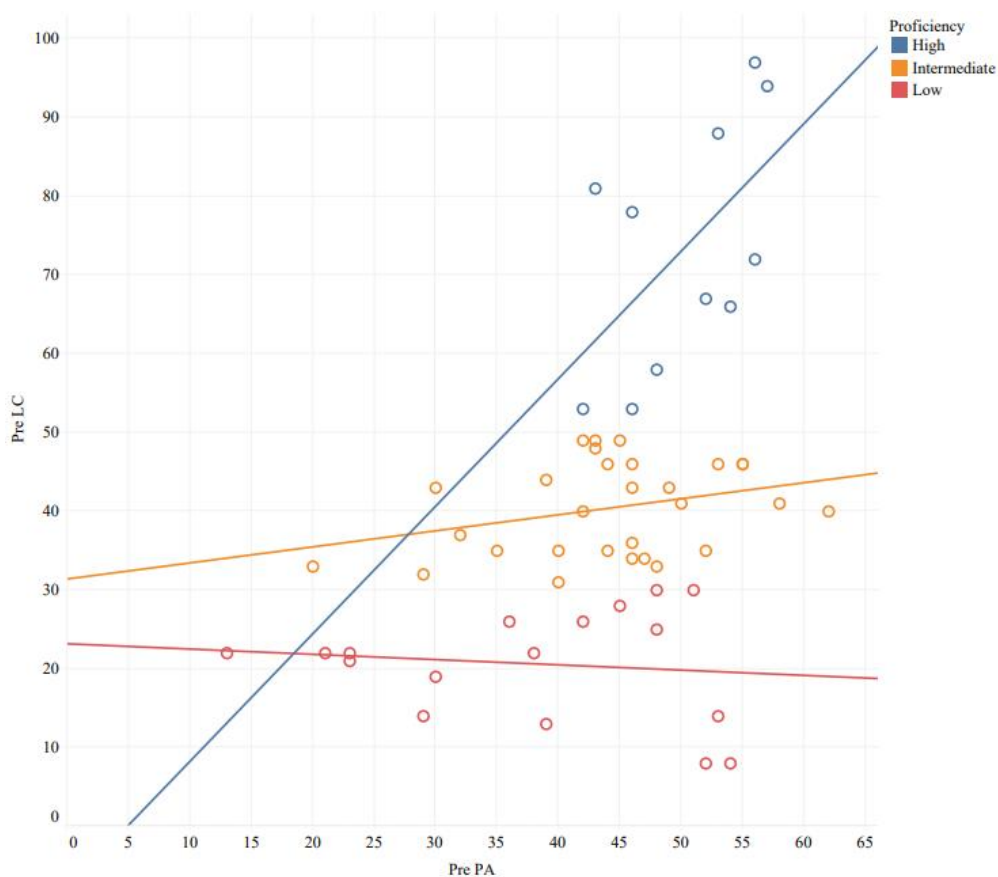
significant correlations between the phonemic awareness posttest and the listening comprehension posttest ( $r = .377, p = .253$ ).

Next, the intermediate group showed a non-significant correlation at the .05 significance level in the phonemic awareness pretest and listening comprehension pretest ( $r = .314, p = .097$ ). In addition, the result conveys a non-significant correlation between the variables of the phoneme awareness posttest and the listening comprehension posttest ( $r = .308, p = .104$ ), which were conducted after four weeks of phonemic awareness instructions.

The lower-level group showed differing results from the previous two groups. There was no significant correlation at the level of .05 between the phonemic awareness pretest and the listening comprehension pretest results ( $r = -.122, p = .640$ ). That said, when examining the results of the posttest after four weeks of pronunciation education, there was a significant correlation at the level of .01 between the phonemic awareness posttest and the listening posttest variables ( $r = .691, p = .002$ ). In sum, the result has shown that the education participants received strengthened the correlation between phonemic awareness and listening ability in the lower-level group.

**Figure 4.6**

*Scatter Plot for the Correlation of Pretests by Proficiency Groups*



*Notes.* High:  $y = 1.62x - 8.05$ ;  $R^2 = .32$ ;  $p = .07$

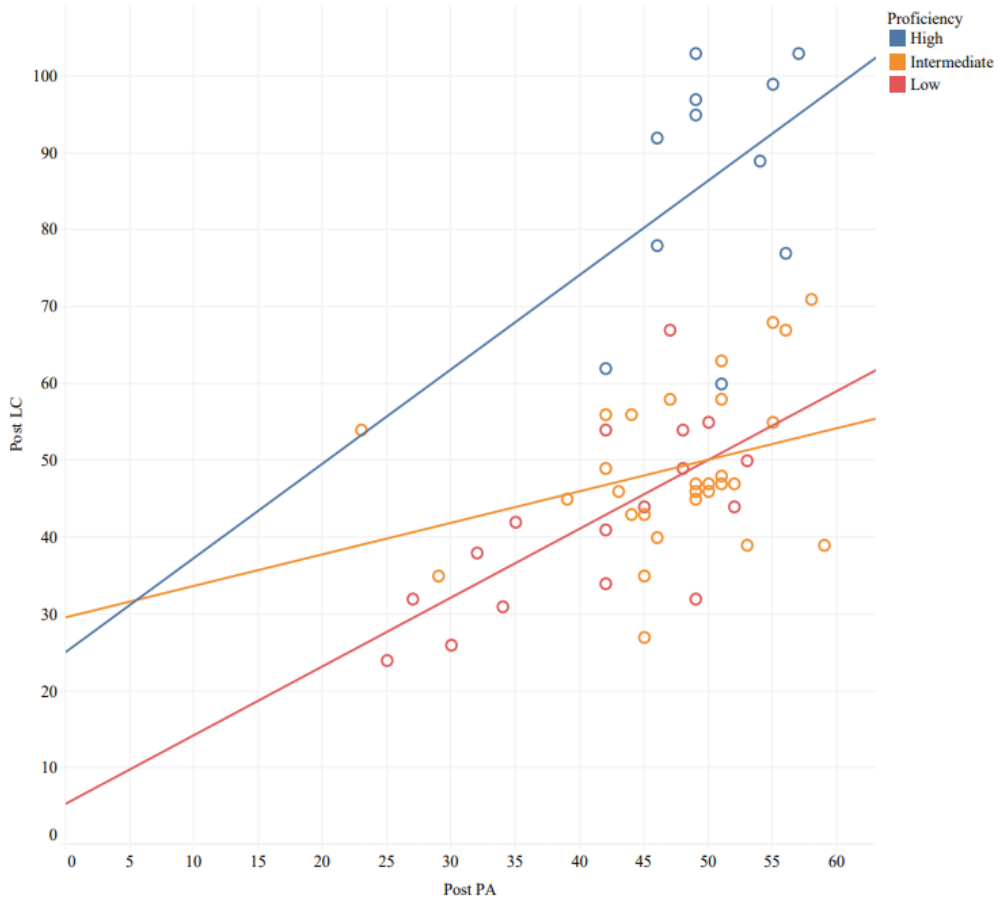
Intermediate:  $y = 0.20x + 31.34$ ;  $R^2 = .099$ ;  $p = .097$

Low:  $y = -0.07x + 23.12$ ;  $R^2 = .015$ ;  $p = .64$

Figure 4.6 shows a scatter plot illustrating three patterns of the proficiency groups for the correlation of phonemic awareness and listening comprehension pretests. Among the groups, the high proficiency group reveals the highest slope in the trend line.

**Figure 4.7**

*Scatter Plot for the Correlation of Posttests by Proficiency Groups*



*Notes.* High:  $y = 1.23x + 24.97$ ;  $R^2 = .142$ ;  $p = .253$   
Intermediate:  $y = 0.41x + 29.53$ ;  $R^2 = .10$ ;  $p = .104$   
Low:  $y = 0.9x + 5.24$ ;  $R^2 = .478$ ;  $p = .002$

Figure 4.7 illustrates the relationship between phonemic awareness and listening comprehension posttest results. A positive correlation is evident between two variables in all groups. The low proficiency group has a steep

slope of the trend line, and highly significant correlation co-efficients ( $p = .002$ ). This indicates the existence of a correlation between two variables.

### **4.3 Post Survey and Interviews**

To explore an in-depth analysis of the student's performance on the listening comprehension tests, post surveys using questionnaires were conducted (Appendix 7). Thirty-four participants responded to the survey (58.6%). Among the respondents, six students were from high, 20 students belonged to intermediate, and eight respondents were from low intermediate proficiency groups. After that, a total of six, two students from each proficiency level who showed the greatest improvements, were invited to individual interviews. In high and intermediate proficiency groups, the students having the average scores that they can represent each group were asked. While in the low proficiency group, the students who raised the greatest scores in the listening comprehension posttest compared to the pretest were chosen.

The results are shown in the as following orders. First, the participants were asked to answer six yes or no questions related to phonemic awareness abilities. As described in Table 4.9, the question asked for students' previous learning experience (Question 1), rating of the effectiveness of the lessons (Question 2), self-assessments (Question 3 to 5), and a possibility to utilize

phonemic awareness ability (Question 6). Next, self-assessments with a five-point likert scale were asked to the learners, as shown in Table 4.10. They were asked to subjectively evaluate themselves on the participation during the treatments. Then, students were requested to select difficult phonemes to learn during the course and the results are stated in Table 4.11. Finally, the results of the selected participants' individual interviews are summarized and described in Table 4.12.



**Table 4.9***Result of Post-survey (Yes/No Questions)*

Questions	High (%)	Intermediate (%)	Low (%)	Total (%)
1 Have you ever learned phonemic awareness lessons before? (Yes)	<u>5</u> <b>(83.3)</b>	4 (20)	3 (37.5)	12 (35.3)
2 Was the lesson method effective? (Yes)	<u>5</u> <b>(83.3)</b>	11 (55)	4 (57.1)	20 (58.8)
3 Can you distinguish the phoneme pairs now? (Yes)	<u>6</u> <b>(100)</b>	13 (65)	3 (42.9)	22 (64.7)
4 Do you think the lesson helped you improve your English listening skills? (Yes)	<u>6</u> <b>(100)</b>	15 (75)	6 (85.7)	27 (79.4)
5 Do you think the lesson improved your confidence in English? (Yes)	<u>6</u> <b>(100)</b>	11 (55)	3 (37.5)	20 (58.8)
6 Do you think you can utilize phonemic awareness ability? (Yes)	4 (66.7)	13 (65)	<u>5</u> <b>(71.4)</b>	22 (64.7)

*Note.* Includes only the respondents answered in the survey ( $N = 34$ )

**Table 4.10***Result of Post-survey (Self-assessment with 5-likert scales)*

How sincerely have you been working on the lessons?	never	←—————→				extremely	<i>M</i>
	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)		
High ( <i>N</i> = 6)	0 (0)	0 (0)	2 (33.3)	1 (16.7)	<u>3</u> <u>(50)</u>	4.17	
Intermediate ( <i>N</i> = 20)	0 (0)	3 (15)	<u>10</u> <u>(50)</u>	5 (25)	2 (10)	3.3	
Low ( <i>N</i> = 8)	0 (0)	2 (25)	<u>5</u> <u>(62.5)</u>	0 (0)	1 (12.5)	3	
Total ( <i>N</i> = 34)	0	5	17	6	6		

**Table 4.11***Result of Post-survey (Self-assessment)*

Questions	/θ/	/ʒ/	/ʌ/	/r/	/f/	/tʃ/	/dʒ/	/z/	/s/	/ʃ/	/w/	/v/	/j/
Which English sound was the most unfamiliar and difficult?													
High (N = 6)	3	3	2	3	1	1	1	2	1	1	1	1	1
Intermediate (N = 20)	9	5	3	3	4	3	2	2	2	3	1	0	0
Low (N = 8)	4	1	3	1	1	2	2	1	1	0	0	0	0
Total (N = 34)	16	9	8	7	6	6	5	5	4	4	2	1	1

*Note.* Multiple selection possible

**Table 4.12**

*Summary for Individual Interviews*

---

Group		Q1: What have you learnt from this English class? Q2: What did you like about this English class? If you could, how would you improve it? Is there anything you would like to study further? Q3: How was the lesson on English phonemes? Feel free to write down what you felt. Q4: How did you previously practice listening to English? (schools, academies, workbooks, etc.)
High	Harry (S1)	-I was able to understand confusing pronunciations. -I still can't make a perfect distinction on /r/, so I want to practice more. -It was fun and enjoyable. -Dictations, Fill-in-the-Blanks
High	Haily (S2)	-I learned about the mouth shapes and tongue shapes needed for each pronunciation. -Sometimes I'm not sure if the pronunciation I'm practicing is correct. -It was a little difficult at first, but it was fun as I came to understand the lesson. -Fill-in-the-Blanks
Intermediate	Ian (S3)	-I learned that there are many ways to pronounce English. -I want to study more about phonemes. -It was new to me so I focused on this lesson more than other classes. I was able to pronounce English sounds more accurately by learning about English phonemes.

		-Listening to the audio and memorizing English pronunciations.
		-I learned that the tongue was important when pronouncing English.
		-I want to improve my reading skills as well since I am not good at reading English paragraphs.
Intermediate	Irene (S4)	-I felt good about myself when I realized what I have been pronouncing incorrectly by listening to English pronunciations many times. It was especially helpful to watch a video of native speakers repeating difficult phonemes such as /s/, /z/, and /θ/. However, it would've been better if we were able to listen again when reviewing the accent game(test).
		-I listen to sentences and words then take tests on a laptop at academies.
		-I realized that there are various sounds in English.
		-It was my first time learning like this, so it was exciting!
Low	Larry (S5)	-I didn't know that English pronunciation was that important, but I realized that pronunciation was crucial through this lesson.
		-Listening several times.
		-I learned about the vibration of the vocal cord.
		-I felt I had to study English more in the future.
Low	Lily (S6)	-I felt good that I seemed to have improved my listening skills more than before.
		-Dictations.

---

All participants appeared to be satisfied with the lessons they had. Noticeably, “Larry” (S5), the student who had the highest improvement in the listening comprehension test mentioned his opinion on the importance of the pronunciation in English.

#### **4.4 Summary of the Chapter**

This chapter has stated the outcomes of the study with results, which were analyzed with two-tailed t-test and Pearson's product-moment correlation. By comparing the participants' scores in the phonemic awareness tests and the listening comprehension tests, the current study showed a statistically significant difference after the treatments. Also, results of a paired sample t-test within group and correlation revealed differing effects among the three proficiency groups. Finally, questionnaires that asked students' perceptions toward phonemic awareness lessons were examined and stated.

## **CHAPTER 5.**

### **DISCUSSION**

In this chapter, a discussion on the possible interpretations of the results is stated. First, Section 5.1 argues the effects of phonemic awareness instructions on phonemic awareness development and listening comprehension skills of elementary school students in EFL contexts. Next, Section 5.2 deals with differing effects of the phonemic awareness instructions in three proficiency groups. Then, Section 5.3 discusses the relationship between phonemic awareness and listening comprehension skills in all participants as well as within each proficiency group. Finally, Section 5.4 reviews students' responses to post questionnaires.

#### **5.1 Discussion on Effects of Phonemic Awareness Instruction**

The first research question investigates the effectiveness of phonemic awareness instructions on EFL elementary school learners' phonemic awareness and listening comprehension skills. The results indicate that the treatment was useful and led to the improvement of the students' listening comprehension abilities. Lee et al. (2015) and Saito and Plonsky (2019) demonstrated that explicit pronunciation instructions could facilitate L2

pronunciation learning with small-to-medium effects ( $d = 0.80$ ;  $0.73$ ). In accordance with this, the result of this study also verified positive results with statistically significant levels. The pair differences of phonemic awareness tests were significant at the significance level of  $.01$ . The results of the listening comprehension tests were more significant at the significance level of  $.001$ . In terms of effect size, differences in phonemic awareness ability showed a small effect ( $d = 0.37$ ), and enhancements in listening comprehension skills showed a medium effect ( $d = 1.08$ ). Thus, explicit phonemic awareness instruction can be considered meaningful to Korean EFL elementary school learners. Moreover, the results have proven that it can improve not only students' phonemic awareness but also their listening skills.

A possible explanation for the results is that with drills of English consonants discriminations, students might have put some effort to focus more on English sounds. The sensitivity to phonemes of a language can lead to successfully analyzing English utterances in a meaningful way (Kuhl et al., 2005). Based on the literature review (Li, Cheng, & Kirby, 2015), the ability to discern and attend to English sounds could have had some impact to automate the lower-level listening process from the phoneme level to aid in listening comprehension at the discourse level. L2 listeners might not be able to properly hear the words unless they have ample phonemic awareness to segment the phonemes in the streams of the speech (Ahn, 2007). Hence, it is



possible to predict that phonemic awareness made the connection between English sound and decoding smooth, helping students' overall listening skills.

Some specific patterns are found in the development of students' phonemic awareness ability. Firstly, the sixth graders who participated in the main experiment had similar difficulties in discriminating between phoneme pairs, compared with the third graders in the pilot study (see Figure 3.7 and 4.1). It indicates, despite their English learning experiences, the students are still at a stage of developing their phonemic awareness in English. Secondly, the results show the different improvements in consonants (see Figure 4.1 and 4.2). The results indicate that palate-alveolar affricates (/tʃ/ and /dʒ/), fricatives (/ʃ/ and /ʒ/), and alveolar approximant and lateral (/l/ and /r/) have improved the most. They are the new phones (/tʃ/, /dʒ/, /ʃ/ and /ʒ/) or allophones (/l/ and /r/) in Korean. It appears that the explicit phonemic awareness instruction for unfamiliar phonemes brought development to these specific phonemes. Additionally, it can be seen that drills are necessary for Korean learners to acquire English sounds that are allophones in Korean. Thirdly, there are some similarities and differences between the consonants that the students think they have difficulties with, and the ones that they are most likely to have answered incorrectly on the phonemic awareness test (see Figure 4.1, 4.2 and Table 4.14). Students perceptually found dental voiceless fricatives (/θ/) difficult as well as having the most incorrect answers. However, the fricatives /f/, /v/, /s/ and /z/

reveal to be more difficult in practice than perceived. That is, students are not well aware of their weaknesses. In contrast, it appears that the palato-alveolar fricatives, /ʃ/ and /ʒ/, which do not exist in Korean or allophones such as /l/ and /r/ are considered to be more difficult than they are in actual performance. In sum, the participants in this study found new phones or allophones in their native language difficult to discriminate. Through the instruction, they developed phonemic awareness in alveolar sounds /l/ and /r/, palato-alveolar fricatives, and affricates. The result highlights that phonemic awareness lessons for EFL learners should focus on the phonemes that are new or allophones in their L1. Yet, some other phonemes such as dental fricatives /θ/ and fricatives /s/, /z/, /f/, /v/ are still difficult for the participants. It necessitates a long-term phonemic awareness education in EFL classrooms.

## **5.2 Effects of Phonemic Awareness Instruction between Proficiency Groups**

The second research question investigates the differing effects of phonemic awareness instructions on listening comprehension skills by proficiency groups. Based on the results of the listening pretest, students were divided into groups of three. The results of a paired sample t-test statistically confirmed that significant changes were observed in all groups over time. When examined closely with the effect sizes, high proficiency group have

improved their listening comprehension skills with medium to large effect size ( $d = 1.37$ ). The intermediate group has also enhanced listening comprehension skills with small to medium effect size ( $d = 0.92$ ). The results reveal that the low proficiency level participants enhanced the listening comprehension skills the most with the large effect ( $d = 1.49$ ). It can be inferred that phonemic awareness guidance was best suitable and effective for the lower level participants who are urgent to acquire bottom-up processing. This result indicates that the ability to attend to individual phonemes might alleviate the burden for beginner L2 learners to process the information in the speech.

### **5.3 Relationship between Phonemic Awareness and Listening Comprehension Skills**

Regarding the relationship between phonemic awareness and listening comprehension skills, the variables turned out to be interrelated with each other. When examined into the scores of the pretests, the correlation coefficient between the dependent variable of English listening comprehension skill and the independent variable of phonemic awareness ability is .427. From the figure, the determination coefficient can be calculated to .182. It demonstrates that phonemic awareness ability accounts for 18.2% of the total variability of listening comprehension skill, which is a paramount figure, considering the

complex process of listening. The result connotes an educational implication that English lessons to enhance students' phonemic awareness are needed for EFL learners. Besides, when delved into the results of the posttests, the correlation coefficient between phonemic awareness ability and the listening comprehension skill is .479 and the coefficient of determination increased to .229 compared to the results from the pretests. Ultimately, it appears that explicit phonemic awareness instructions further strengthened the correlation between phonemic awareness ability and listening comprehension skills. In the EFL contexts where learners have less exposure to the sounds of the target language, the learners may experience difficulties properly discriminating and listening to English sounds. Thus, activities having learners attend to individual sounds and their positions in the mouth along with the tongue, lip shape, and vocal cord vibrations might contribute to improving EFL learners' listening skills.

When it comes to the relationships of the variables within each proficiency group, each group has shown differing effects. First, in the high proficiency group, the correlation was not clearly observed between phonemic awareness ability and listening comprehension skills in the pretests and the posttests ( $r = 5.66, p = .069$ ;  $r = .377, p = .253$ ). Secondly, examined into the intermediate group, while the correlation was not statistically significant in the pretest ( $r = .314, p = .097$ ) and in the posttest ( $r = .308, p = .104$ ). Finally, after

analyzing the correlation results of the lower level group, the correlation became significantly correlated in the posttest ( $r = .691, p = .002$ ) compared to the correlation in the pretest ( $r = -.122, p = .64$ ). It can be stated that phonemic awareness instructions have consolidated the relationships for the low proficiency group. Such figures reveal that the lower level learners have received the most beneficial and practical effects from English lessons that focus on phonemic awareness. It might be concluded that the ability to notice individual sounds effectively aided in understanding general message in L2 speech.

#### **5.4 Discussion on Student Survey and Interviews**

Based on their responses, it appeared that the intermediate and lower proficiency group found the lessons very new than the high proficiency group (Table 4.14: Question 1). The lower group marked their self-assessment for the phonemic awareness ability relatively low suggesting that it was somewhat difficult to study (Table 4.14: Question 3). However, the majority of the lower level participants responded that the lessons were helpful for their listening skills and their willingness to utilize the lesson in the future was high (Table 4.14: Question 4 and 6).

According to Table 4.15, the data shows that the majority of

respondents reflected their self-assessment of the participation above the median points (3 points). Notably, half of the high proficiency level group students considered themselves high on the participation during the course—listening to the phonemic awareness lecture, actively reviewing and practicing by themselves.

Table 4.16 illustrates that the consonant sound /θ/, a voiceless dental fricative sound, is considered the most difficult or unfamiliar for students when judging by themselves. The main reason for the difficulty of this phoneme might be that it does not exist in Korean. Lack of exact sounds in students' L1, discrimination, and articulation of the sound may be a big challenge for young learners. In addition, the phonemic symbol, /θ/, does not match perfectly with the alphabetical system in English (i.e., “th”). As both voiced and voiceless dental fricative<sup>1</sup> can sound in *th*, young EFL students may find it hard to process.

As for the student interviews demonstrated in Table 4.18, it appears that all students enjoyed this learning process in general. All of the students who participated in the interview said that the process of examining pronunciation in detail using tongue, lips, and vocal cords was unfamiliar but enjoyable. The students responded that they judged that the phonemic

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<sup>1</sup> voiced dental fricative: /ð/; voiceless dental fricative: /θ/

awareness instructions were helpful and that they strengthened the students' motivation to learn English. When examined by proficiency groups, the students in the upper group (S1, S2) were aware of consonants they were confused about. Next, students in the intermediate level group (S3, S4) hoped to learn a variety of phonemes. Finally, lower level students (S5, S6) recognized the importance of pronunciation through English learning hours and evaluated the education positively.

## **5.5 Summary of the Chapter**

This chapter has presented findings from the current study and discussed them with regards to the research questions. The results have also been compared in relation to the related previous studies. The explanations for the major findings were explained. To sum, first, the independent variable of phonemic awareness instructions had a statistically significant positive effect on the two dependent variables: phonemic awareness ability and listening comprehension skills. Secondly, the relationship between phonemic awareness instructions and listening comprehension ability was examined in-depth through a paired sample t-test and correlation analysis. By examining the different effects of each level, it turned out that the greatest effects of education occurred in lower-level students. Finally, the students questionnaire responses and the interview results of a few students representing each group were

qualitatively explored, and an in-depth understanding of the results was sought. Students were generally positively assessing phonemic awareness instructions and have responded with a variety of opinions on the positive influences they had. It was noteworthy that the students who showed the greatest improvement in their scores learned “the importance of phonemes”, while listening to English.



# **CHAPTER 6.**

## **CONCLUSION**

This chapter presents a summary of the main findings of the research and pedagogical implications for L2 classrooms in Section 6.1. Then, the limitations of the study are dealt with subsequently in Section 6.1. The chapter concludes with some suggestions for future research.

### **6.1 Major Findings and Pedagogical Implications**

The primary aim of this study was to seek the effectiveness of phonemic awareness instructions on listening comprehension skills of Korean EFL elementary school students; in particular, to examine whether phonemic awareness instructions should be considered as a variable in listening comprehension skills. The secondary objective of the study was to investigate how the effects of phonemic awareness instructions on listening skills vary across three proficiency levels: high, intermediate, and low, within the four-week time period of the course. Previous literature discusses the importance of developing phonemic awareness skills to improve English proficiency for EFL learners (Choi, 1988; Chung & Ahn, 2000; Lee, 2006) and ESL learners (Saito, 2021; Samuels, 1988). In order to verify the effectiveness of phonemic

awareness instructions on elementary school students, this study was conducted at an elementary school in Suwon city in Korea where English is learned as a foreign language. A quantitative approach was adopted to gather data with multiple instruments.

The preliminary findings from this study suggest that phonemic awareness can be taught effectively as part of the elementary school curriculum. A month-long explicit phonemes and pronunciation instructions, such as the lesson taken by the learners in this study, are necessary and beneficial to raise listening comprehension skills in EFL elementary school learners. In particular, as the EFL elementary school curriculum puts high emphasis on interaction with oral competence, input enhancement focusing on explicit phonemic awareness is needed for elementary school students in EFL contexts. A phonemic awareness activity itself can be of great help to Korean EFL learners who have relatively little exposure to oral input data for English. To illustrate this, the result shows that Korean EFL elementary school students showed statistically significant improvements in both phonemic awareness ability and listening comprehension skills through explicit phonemic awareness training for four weeks. In addition, it highlights that explicit phonemic awareness instructions can bring about statistically more significant changes in lower-level groups. Moreover, it suggests that phonemic awareness ability, which is a basic ability of listening comprehension, has a statistically significant

correlation with listening comprehension skills. To add weight to this argument, statistically proven listening comprehension tests in the reliability between the pretest and the posttest were utilized, to increase the reliability of the statistical interpretation of this study.

On a pedagogical note, this study has implications for L2 English education as follows. First, since explicit phonemic awareness instruction can effectively improve both phonemic awareness and listening comprehension skills, it reveals the necessity of phonemic awareness instruction. Additionally, the participants reported having a boost in confidence in their English ability after the intervention. Secondly, it implies that phonemic awareness drills are crucial in L2 classrooms from the early stages in learning foreign languages. As there are clear correlating relationships between phonemic awareness and listening comprehension skills of Korean EFL elementary school students, adopting phonemic awareness drills can strengthen young learners' listening comprehension skills. In the previous research, Yopp (1992) asserts that perception skills are believed to be particularly important to start early, highlighting the importance of raising phonemic awareness in young learners. Thirdly, there was a statistically significant change in the improvement of phonemic awareness ability especially at the lower level, suggesting that phonemic awareness education be systematically implemented into the elementary school curriculum in EFL contexts. This is in accordance with the

goals of public education in an elementary school—a universal education. Finally, it implies practical notes to refer to for teaching phonemic awareness. A thorough comparison of the phonemic features of the target language and learners' native language can be a helpful reference in deciding when and how long to teach phonemic awareness. The participants in this study found new phones or allophones in their native language difficult to discriminate. They developed their phonemic awareness in alveolar sounds /l/ and /r/, palate-alveolar fricatives, and affricates after the short-term education. However, the other phonemes such as dental fricative /θ/ and fricative /s/, /z/, /f/, /v/ pronunciations are still difficult for some students, suggesting a long-term and systematic phonemic awareness education be necessary in EFL classrooms.

## **6.2 Limitations and Suggestions for Future Research**

This study was not without some limitations. It should be noted that the treatment used in this study is primarily conveyed via asynchronous online courses, it may have been difficult for young learners to have as much intensive education as in face-to-face classes. There were fewer opportunities for individual guidance and feedback provided by the instructor than in the classrooms. Although students were given an opportunity to individually review and practice by themselves, face-to-face interactions with peers and the

teacher might be more effective. Secondly, despite the careful design, the results regarding proficiency subgroups should be carefully generalized beyond this study, as the subgroup was set relatively within this study participants. In future follow-up studies, it would be desirable to divide students into absolute scales. Thirdly, only selected consonants that were considered difficult for students were educated. It will be possible to conduct the study examining the effectiveness of phonemic awareness instructions on vowels, as well. Lastly, as Gillon (2018, p. 166) suggests, ongoing monitoring of post intervention would show some longitude effects of the phonemic awareness treatments.

Notwithstanding its limitations, this study does fill the gap to the previous literature in L2 phonology, by showing that phonemic awareness instructions positively affect EFL elementary school learners' phonemic awareness ability and listening comprehension skills. Phonemic awareness has been mainly discussed in L1 contexts that a dearth of research has been conducted in the EFL contexts. More research and suggestions on phonemic awareness training in EFL contexts would be helpful for language educators. Moreover, it suggests correlative relationships among the variables and shows some qualitative data from the viewpoints of elementary school students in EFL contexts.

## REFERENCES

- Adams, M. J. (1990). *Beginning to read: Thinking & learning about print*. MIT Press.
- Ahangari, S., Rahbar, S., & Maleki, S. E. (2015). Pronunciation or listening enhancement: Two birds with one stone. *International Journal of Language and Applied Linguistics*, 1(2), 13–19.
- Ahn, H. K. (2007). The relationship between phonemic awareness and listening comprehension ability: An experimental study based on the English name test. *Foreign Language Education Research*, 10, 39–48
- Anthony, J. L., & Francis, D. J. (2005). Development of Phonological Awareness. *Current Directions in Psychological Science*, 14(5), 255–259. <https://doi.org/10.1111/j.0963-7214.2005.00376.x>
- Anthony, J. L., Lonigan, C. J., Burgess, S. R., Driscoll, K., Phillips, B. M., & Cantor, B. G. (2002). Structure of preschool phonological sensitivity: Overlapping sensitivity to rhyme, words, syllables, and phonemes. *Journal of Experimental Child Psychology*, 82(1), 65–92.
- Bangun, I., & Liontas, J. I. (2019). Sounds of speech. *The Reading Matrix: An International Online Journal*, 19(1). 235–238
- Bernhardt, B., & Stoel-Gammon, C. (1994). Nonlinear phonology: Introduction and clinical application. *Journal of Speech and Hearing Research*, 37(1), 123–143.
- Blevins, W. (1997). *Phonemic awareness activities for early reading success: Easy, playful activities that help prepare children for phonics instruction*. Scholastic Inc.
- Bradley, L., & Bryant, P. E. (1983). Categorizing sounds and learning to read: A causal connection. *Nature*, 301(5899), 419–421.
- Brady, S., Fowler, A., Stone, B., & Winbury, N. (1994). Training phonological awareness: A study with inner-city kindergarten children. *Annals of Dyslexia*, 44(1), 26–59.
- Breen, M. P., & Candlin, C. N. (1980). The essentials of a communicative curriculum in language teaching. *Applied linguistics*, 1(2), 89–112.
- Brennan, F., & Ireson, J. (1997). Training phonological awareness: A study to evaluate the effects of a program of metalinguistic games in kindergarten. *Reading and Writing*, 9(4), 241–263.
- Brooks, N. (1964). *Language and language learning, theory and practice*. Harcourt, Brace and World Inc.
- Brown, H. D. (2001). *Teaching by principles: An interactive approach to language pedagogy*. Longman.
- Byrne, B., & Fielding-Barnsley, R. (1991). Evaluation of a program to teach phonemic awareness to young children. *Journal of Educational Psychology*, 83(4), 451–455. <https://doi.org/10.1037/0022->

0663.83.4.451

- Byrne, B., & Fielding-Barnsley, R. (1993). Evaluation of a program to teach phonemic awareness to young children: A 1-year follow-up. *Journal of Educational Psychology*, 85(1), 104–111. <https://doi.org/10.1037/0022-0663.85.1.104>
- Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics*, 1(1), 1–47.
- Carrillo, M. (1994). Development of phonological awareness and reading acquisition: A study in Spanish language. *Reading and Writing: An Interdisciplinary Journal*, 6(3), 279–298.
- Carson, K. L., Gillon, G. T., & Boustead, T. M. (2013). Classroom phonological awareness instruction and literacy outcomes in the first year of school. *Language, Speech, and Hearing Services in Schools*, 44(2), 147–160.
- Cary, L., & Verhaeghe, A. (1994). Promoting phonemic analysis ability among kindergartners. *Reading and Writing*, 6(3), 251–278.
- Cassady, J. C., & Smith, L. L. (2004). Acquisition of blending skills: Comparisons among body-coda, onset-rime, and phoneme blending tasks. *Reading Psychology*, 25(4), 261–272.
- Choe, S. Y., Lee, K. A., & So, Y. S. (2020). The effects of phonemic awareness instructions on L2 listening comprehension: A meta-Analysis. *The Journal of AsiaTEFL*, 17(4), 1294–1309.
- Choi, I. C. (1988). *The necessity of teaching English fast speech phenomena for better aural comprehension skill in the Korean context* [Unpublished doctoral dissertation]. University of Illinois at Urbana-Champaign.
- Chung, H. S., & Ahn, H. K. (2000). Phonemic awareness: Is this a prerequisite of a consequence of learning to listen in L2? *Applied Linguistics*, 16(2), 65–81.
- Cossu, G., Shankweiler, D., Liberman, I. Y., Tola, G., & Katz, L. (1988). Awareness of phonological segments and reading ability in Italian children. *Applied Psycholinguistics*, 9(1), 1–16.
- Cunningham, A. (1990). Explicit versus implicit instruction in phonemic awareness. *Journal of Experimental Child Psychology*, 50(3), 429–444.
- Denton, C. A., Hasbrouck, J. E., Weaver, L. R., & Riccio, C. A. (2000). What do we know about phonological awareness in Spanish? *Reading Psychology*, 21(4), 335–352.
- Deterding, D. H., & Poedjosoedarmo, G. R. (1998). *The sounds of English: Phonetics and phonology for English teachers in Southeast Asia*. Prentice Hall.
- Dodd, B., Holm, A., Oerlemans, M., & McCormick, M. (1996). *Queensland*

- University inventory of literacy*. Department of Speech Pathology and Audiology.
- Ecalte, J., & Magnan, A. (2002). The development of epiphonological and metaphonological processing at the start of learning to read: A longitudinal study. *European Journal of Psychology of Education*, *17*(1), 47–62.
- Ehri, L. C. (1979). Linguistic insight: Threshold of reading acquisition. In T. Waller & G. MacKinnon (Eds.), *Reading research: Advances in theory and practice* (Vol. 1, pp. 63–114). Academic Press.
- Ehri, L. C., & Nunes, S. R. (2002). The role of phonemic awareness in learning to read. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction* (Vol. 3, pp. 110–139). International Reading Association.
- Fromkin, V., Rodman, R., & Hyams, N. (2014). *An introduction to language* (10th ed.). Wadsworth Cengage Learning.
- Gillon, G. T. (2018). *Phonological awareness: From research to practice* (2nd ed.). The Guilford Press.
- Ginther, A. (2002). Context and content visuals and performance on listening comprehension stimuli. *Language Testing*, *19*(2), 133–167.
- Gonzalez, J. E. J., & Garcia, C. R. H. (1995). Effects of word linguistic properties on phonological awareness in Spanish children. *Journal of Educational Psychology*, *87*(2), 193–201.
- Goswami, U., Ziegler, J. C., & Richardson, U. (2005). The effects of spelling consistency on phonological awareness: A comparison of English and German. *Journal of Experimental Child Psychology*, *92*(4), 345–365.
- Griffith, P. L., & Olson, M. W. (1992). Phonemic awareness helps beginning readers break the code. *The Reading Teacher*, *45*(7), 516–523.
- Hanulíková, A., Dediu, D., Fang, Z., Bašňaková, J., & Huettig, F. (2012). Individual Differences in the Acquisition of a Complex L2 Phonology: A Training Study. *Language Learning*, *62*(2), 79–109.
- Herron, C., Cole, S., York, H., & Linden, P. (1998). A comparison study of student retention of foreign language video: Declarative versus interrogative advance organizers. *Modern Language Journal*, *82*(2), 237–247.
- Hwang, S. Y. (2016). The effects of shadowing on listening comprehension and listening strategies. *Journal of the Korea English Education Society*, *15*(3), 57–74.
- Jacewicz E. & Fox R. A. (2013) Cross-Dialectal Differences in Dynamic Formant Patterns in American English Vowels. In G. S. Morrison (Ed.), *Vowel Inherent Spectral Change* (pp. 177–198). Springer. [https://doi.org/10.1007/978-3-642-14209-3\\_8](https://doi.org/10.1007/978-3-642-14209-3_8)
- Jeon, S. B. (2005). *Introduction to English Phonetics*. Eulyoo Publishing.



- Kase, K., & Jensen, J. C. (2013). Can a non-native speaker train students in English phoneme acquisition? *Kinki University Center for Liberal Arts and Foreign Language Education Journal* 3(1), 239–250.
- Kim, H. J., & Jo, J. R. (2001). Phonological awareness, visual perception and reading of Hangul in preschool children. *The Korean Journal of Developmental Psychology*, 14(2), 15–28.
- Kim, H. J., & Maeng, U. K. (2016). A meta-analysis on the effects of listening instruction across school levels in Korean Context. *Modern English Education*, 17(2), 21–51.
- Kuhl, P. K., Conboy, B. T., Padden, D., Nelson, T., & Pruitt, J. (2005). Early speech perception and later language development: Implications for the “Critical Period”. *Language Learning and Development*, 1(3&4), 237–264.
- Kumaravadivelu, B. (2006). TESOL methods: Changing tracks, challenging trends. *TESOL Quarterly*, 40(1), 59–81.
- Ladefoged, P., & Johnson, K. (2014). *A course in phonetics*. Nelson Education.
- Lee, J. K., Jang, J. H., & Plonsky, L. (2015). The effectiveness of second language pronunciation instruction: A meta-analysis. *Applied Linguistics*, 36(3), 345–366.
- Lee, K. H. (2006). *Effects of L2 listening strategy instructions on Korean high school English learners: Form-based vs. Meaning-based teaching method* [Master’s thesis]. Seoul National University. [https://primoapac01.hosted.exlibrisgroup.com/permalink/f/116eo7m/82SNU\\_INST21414865770002591](https://primoapac01.hosted.exlibrisgroup.com/permalink/f/116eo7m/82SNU_INST21414865770002591)
- Leong, C. K., & Sheh, S. (1982). Knowing about language: Some evidence from readers. *Annals of Dyslexia*, 32(1), 149–161.
- Li, M., Cheng, L., & Kirby, J. R. (2015). Phonological awareness and listening comprehension among Chinese English-immersion students. *International Education*, 41(2), 46–65.
- Lieberman, A., Cooper, F., Shankweiler, D., & Studdert-Kennedy, M. (1967). Perception of the speech code. *Psychological Review*, 74(6), 431–461.
- Logan, J. S., Lively, S. E., & Pisoni, D. B. (1991). Training Japanese listeners to identify English /r/ and /l/: A first report. *The Journal of the Acoustical Society of America*, 89(2), 874–886.
- Long, D. R. (1990). What you don’t know can’t help you: An exploratory study of background knowledge and second language listening comprehension. *Studies in Second Language Acquisition*, 12(2), 65–80.
- Lonigan, C. J., Burgess, S. R., Anthony, J. L., & Barker, T. A. (1998). Development of phonological sensitivity in 2- to 5-year-old children. *Journal of Educational Psychology*, 90(2), 294–311.
- Lundberg, I., Frost, J., & Petersen, O. P. (1988). Effects of an extensive program for stimulating phonological awareness in preschool children.

- Reading research quarterly*, 23(3), 263–284.
- Marcel, A. J. (1980). Surface dyslexia and beginning reading: A revised hypothesis of the pronunciation of print and its impairments. In M. Coltheart, K. Patterson, & J. Marshall (Eds.), *Deep dyslexia* (pp. 227–258). Routledge & Kegan Paul.
- Mayringer, H., & Wimmer, H. (2000). Pseudonym learning by German-speaking children with dyslexia: Evidence for a phonological learning deficit. *Journal of Experimental Child Psychology*, 75(2), 116–133.
- McCandliss, B. D., Fiez, J. A., Protopapas, A., Conway, M., & McClelland, J. L. (2002). Success and failure in teaching the [r]-[l] contrast to Japanese adults: Tests of a Hebbian model of plasticity and stabilization in spoken language perception. *Cognitive, Affective, & Behavioral Neuroscience*, 2(2), 89–108.
- McDowell, H. J., & Lorch, M. P. (2008). Phonemic awareness in Chinese L1 readers of English: Not simply an effect of orthography. *TESOL Quarterly*, 42(3), 495–513.
- McGuirk, P. M. & O'Neill, P., (2016). Using questionnaires in qualitative human geography. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (pp. 246-273). Oxford University Press.
- Mehta, P. D., Foorman, B. R., Branum-Martin, L., & Taylor, W. P. (2005). Literacy as a unidimensional multilevel construct: Validation, sources of influence, and implications in a longitudinal study in grades 1 to 4. *Scientific Studies of Reading*, 9(2), 85–116.
- Moats, L. C. (2000). *Speech to print: Language essentials for teachers*. Brookes.
- Morley, J. (1991). The pronunciation component in teaching English to speakers of other languages. *TESOL quarterly*, 25(3), 481–520.
- Nam, H. S., Goldstein, L., & Saltzman, E. (2009). Self-organization of syllable structure: a coupled oscillator model. In F. Pellegrino, E. Marsico, & I. Chitoran (Eds.), *Approaches to Phonological Complexity* (pp. 299–328). Mouton de Gruyter.
- National Reading Panel, National Institute of Child Health, & Human Development. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups*. National Institute of Child Health and Human Development, National Institutes of Health.
- Park, H. A. (2000). The development of phonological awareness in children. *Korean Journal of Child Studies*, 21 (1), 35–44.
- Perfetti, C. A., Beck, I., Bell, L. C., & Hughes, C. (1987). Phonemic knowledge and learning to read are reciprocal: A longitudinal study of first grade children. *Merrill-Palmer Quarterly*, 33(3), 283–319.

- Plonsky, L., & Oswald, F. L. (2014). How big is “big”? Interpreting effect sizes in L2 research. *Language Learning*, 64(4), 878–912.
- Rivers, W. M. (1981). *Teaching foreign-language skills* (2nd ed.). University of Chicago Press.
- Robertson, C., & Salter, W. (1995). *The phonological awareness profile*. LinguiSystems.
- Rozin, P., & Gleitman, L. R. (1977). The structure and acquisition of reading: II. The reading process and the acquisition of the alphabet principle of reading. In D. L. Scarborough (Ed.), *Towards the psychology of reading*. Erlbaum.
- Saito, K. (2021). What Characterizes Comprehensible and Native-like Pronunciation Among English-as-a-Second-Language Speakers? Meta-Analyses of Phonological, Rater, and Instructional Factors. *TESOL Quarterly*. Advance online publication. <https://doi.org/10.1002/tesq.3027>
- Saito, K., & Plonsky, L. (2019). Effects of second language pronunciation teaching revisited: A proposed measurement framework and meta-analysis. *Language Learning*, 69(3), 652–708.
- Samuels, S. J. (1988). Decoding and automaticity: Helping poor readers become automatic at word recognition. *The Reading Teacher*, 41(8), 756–760.
- Savignon, S. (1983). *Communicative competence: Theory and classroom practice*. Addison-Wesley.
- Scarborough, H. S., & Brady, S. A. (2002). Toward a common terminology for talking about speech and reading: A glossary of the “phon” words and some related terms. *Journal of Literacy Research*, 34(3), 299–336.
- Schuele, C. M., & Murphy, N. D. (2014). *The intensive phonological awareness program*. Paul H. Brookes Publishing Company.
- Semel, E., Wiig, E. H., & Secord, W. A. (2006). *Clinical evaluation of language fundamentals*. Pearson Clinical Assessment.
- Siegel, J. (2014). *Problematising L2 listening pedagogy: The potential of process-based listening strategy instruction in the L2 classroom* [Unpublished doctoral dissertation]. Aston University.
- Sodoro, J., Allinder, R. M., & Rankin-Erickson, J. L. (2002). Assessment of phonological awareness: Review of methods and tools. *Educational Psychology Review*, 14(3), 223–260.
- Stahl, S. A., & Murray, B. A. (1994). Defining phonological awareness and its relationship to early reading. *Journal of Educational Psychology*, 86(2), 221–234.
- Strickland, D. S., & Riley-Ayers, S. (2006). Early literacy: Policy and practice in the preschool years. *Preschool Policy Brief*, 10(4), 1–12.
- Thajakan, N., & Sucaromana, U. (2014). Enhancing English phonemic

- awareness of Thai grade one students through multimedia computer-assisted language learning. *Theory & Practice in Language Studies*, 4(11), 2294–2300.
- Torgesen, J. K., & Bryant, B. R. (2004). *Test of phonological awareness: Examiner's manual*. Pro-ed.
- Tsui, A. B., & Fullilove, J. (1998). Bottom-up or top-down processing as a discriminator of L2 listening performance. *Applied Linguistics*, 19(4), 432–451.
- Tuaycharoen, P. (2003). A reflection of Thai English. *Language and Linguistics*, 21(2), 47–65.
- Tunmer, W. E., & Fletcher, C. M. (1981). The relationship between conceptual tempo, phonological awareness, and word recognition in beginning readers. *Journal of Literacy Research*, 13(2), 173–185.
- Tunmer W.E. & Herriman M. L. (1984) The development of metalinguistic awareness: A conceptual overview. In Tunmer, W.E., Pratt, C., Herriman, M. L. (Eds.), *Metalinguistic Awareness in Children. Springer Series in Language and Communication* (vol 15, pp. 12-35). Springer.
- Ukrainetz, T. A., Nuspl, J. J., Wilkerson, K., & Beddes, S. R. (2011). The effects of syllable instruction on phonemic awareness in preschoolers. *Early Childhood Research Quarterly*, 26(1), 50–60.
- Unsworth, S. (2005). *Child L2, adult L2, child L1: Differences and similarities* [Unpublished PhD Dissertation]. Utrecht University.
- Van Ooijen, B. (1996). Vowel mutability and lexical selection in English: Evidence from a word reconstruction task. *Memory & Cognition*, 24(5), 573–583. <https://doi.org/10.3758/BF03201084>
- Vandergrift, L. (1999). Facilitating second language listening comprehension: Acquiring successful strategies. *ELT Journal*, 53(3), 168–176. <https://doi.org/10.1093/elt/53.3.168>
- Vaughan-Rees, M. (2002). *Test your pronunciation*. Pearson English.
- Wagner, R. K., & Torgesen, J. K. (1987). The nature of phonological processing and its causal role in the acquisition of reading skills. *Psychological Bulletin*, 101(2), 192-212.
- Wagner, R. K., Torgesen, J. K., Rashotte, C. A., & Pearson, N. A. (1999). *Comprehensive test of phonological processing: CTOPP*. Pro-Ed.
- Wagner, R. K., Torgesen, J. K., Rashotte, C. A., & Pearson, N. A. (2013). *Comprehensive test of phonological processing: CTOPP-2* (2nd ed.). Pro-Ed.
- Wagner, R. K., Torgesen, J. K., Rashotte, C. A., Hecht, S. A., Barker, T. A., Burgess, S. R., Donahue, J., & Garon, T. (1997). Changing relations between phonological processing abilities and word-level reading as children develop from beginning to skilled readers: A 5-year

- longitudinal study. *Developmental Psychology*, 33(3), 468–479.
- Wilson, J. J. (2012). *How to teach listening* (3rd ed.). Pearson Longman.
- Yavas, M. S. (1998). *Phonology: Development and disorders*. Singular.
- Yeh, L. L., Wells, B., Stackhouse, J., & Szczerbinski, M. (2015). The development of phonological representations in Mandarin-speaking children: Evidence from a longitudinal study of phonological awareness. *Clinical Linguistics and Phonetics*, 29(4), 266–275.
- Yoon, H. K. (1997). A Study on the Development of Reading Characters in the Acquisition of Hangul. *The Korean Journal of Human Development*, 4(1), 66–75.
- Yopp, H. K. (1988). The validity and reliability of phonemic awareness tests. *Reading Research Quarterly*, 23(2), 159–177.
- Yopp, H. K. (1992). Developing phonemic awareness in young children. *The Reading Teacher*, 45(9), 696–703.
- Yopp, H. K. (1995). Read-aloud books for developing phonemic awareness: An annotated bibliography. *The Reading Teacher*, 48(6), 538–542.
- Yopp, H. K., & Troyer, S. (1992). Training phonemic awareness in young children. *The Reading Teacher*, 45(9), 685–690.
- Zhang, Y., Kuhl, P. K., Imada, T., Iverson, P., Pruitt, J., Stevens, E. B., Kawakatsu, M., Tohkura, Y., & Nemoto, I. (2009). Neural signatures of phonetic learning in adulthood: A magnetoencephalography study. *Neuroimage*, 46(1), 226–240.  
<https://doi.org/10.1016/j.neuroimage.2009.01.028>
- Zifcak, M. (1981). Phonological awareness and reading acquisition. *Contemporary Educational Psychology*, 6(2), 117–126.

## Software

- SPSS Inc. (2020). *PASW Statistics release 27.0* SPSS Inc.
- Juna Accent Coach. (2020). *Juna Accent Coach* [Mobile app]. App Store.  
<https://apps.apple.com/us/app/juna-accent-coach/id957254390>

## Web

- ASHA. (n.d.). *Phonemic Inventories and Cultural and Linguistic Information Across Languages*. American Speech-Language-Hearing Association.  
<https://www.asha.org/practice/multicultural/phono/>.
- Sheppard, B. (2016). *English Accent Coach*. TESL-EJ. <https://www.tesl-ej.org/wordpress/issues/volume20/ej77/ej77m2/>
- Szynalski, T. P., & Wojcik, M. R. (2001). *The sounds of English and the International Phonetic Alphabet*. Antimoon.  
<http://www.antimoon.com/how/pronunc-soundsipa.htm>.
- The University of Iowa. (2014). *Sounds of Speech*.  
<https://soundsofspeech.uiowa.edu/main.english>
- Thomson, R. (2012). *English Accent Coach*. EnglishAccentCoach.com.  
<https://www.englishaccentcoach.com/>
- Weinberger, S. (2015). *Speech accent archive*. George Mason University.  
[http://accent.gmu.edu/browse\\_native.php?function=detail&languageid=18](http://accent.gmu.edu/browse_native.php?function=detail&languageid=18)
- Zoom Video Communications Inc. (2019). *Zoom meetings & Chat*.  
<https://zoom.us/meetings>

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# Appendix 1. Demographic Survey

Translated into English by the researcher herself:

1. What is your student ID?
2. What is your first language?
3. Have you lived in an English-speaking country for more than 1 year or attended an English-speaking international school for more than 1 year?

Below is the original survey sheet written in Korean, participant's L1:

IRB No. 2009/003-037

유효기간: 2021년 09월 23일

## 연구참여자용 설문지

연구 과제명 : 영어의 음소인지 교육이 한국 초등학생들의 영어 음소인지 능력 및 듣기 실력 향상에 미치는 영향 연구

연구 책임자명 : 이경아(서울대학교 사범대학 외국어교육학과 영어 전공)

다음은 연구를 위해 필요한 정보들입니다. 기재해주세요.

1. 학년 . 학년 . 반 . 번 (이름은 기재하지 않습니다.)

2. 나의 모국어(태어나서 제일 처음 배운 언어)는?

( 한국어 / 중국어 / 영어 / 기타: )

3. 영어를 사용하는 국가에서 1년 이상 살거나, 영어를 사용하는 국제 학교에서 1년 이상 다닌 적이 있나요?

( 네 / 아니요 )

개인정보관리책임자는 서울대학교의 이경아 석사 과정 연구원(휴대 전화: 010-2922-7320 이메일: kalee320@snu.ac.kr)입니다. 본 연구에서 수집되는 모든 개인 정보의 철저히 비밀 보장되며 이를 위해 최선을 다할 것입니다.

Version 1.2(2020.11.19.)





## Appendix 2: PA Test Scripts Used in the Pilot Study

Teacher A:

1. Pay bay bay / boast post boast
2. Trip trip drip / down town down
3. Came game came / clue clue glue
4. Few view view / fast fast vast
5. Sing sing zing / zoo sue sue
6. Pressure pressure pleasure / assure azure azure
7. Thigh sigh sigh / thin sin thin
8. Chunk junk chunk / chin gin gin
9. Mail nail nail / mine nine nine
10. How ow how / hi I I
11. Rip lip rip / race lace lace
12. Wood ood wood / wolf wolf olf
13. Jet yet jet / jam yam yam
14. Queen keen queen / quick kick kick

Teacher B:

1. Pay bay pay / post boast boast
2. Trip drip trip / down down town
3. Came came game / glue clue clue
4. Few view few / fast vast fast
5. Sing zing sing / zoo zoo sue
6. Pleasure pressure pressure / azure assure assure
7. Thigh sigh thigh / sin thin thin
8. Chunk chunk junk / gin chin chin
9. Nail mail mail / mine mine nine
10. Ow how ow / I hi hi
11. Lip rip rip / lace race race
12. Ood wood ood / olf wolf olf
13. Jet jet yet / yam yam jam
14. Queen queen keen / kick quick kick

## Appendix 3: PA Test Scripts Used in the Main Study

Teacher A:

**1. /f v/**

- 1) fan – van - fan
- 2) vile – file - file
- 3) proof - prove – proof
- 4) fest – vest - vest

**2. /s θ/**

- 5) sing – - thing - thing
- 6) theme – theme - seem
- 7) mouth - mouth– mouse
- 8) worth - worse – worth

**3. /s z/**

- 9) seal – zeal - zeal
- 10) scion– zion - scion
- 11) sip – zip – zip
- 12) bees – beez - bees

**4. /ʃ ʒ/**

- 13) assure – azure - assure
- 14) pleasure– pressure - pressure
- 15) rish - rish - ridge
- 16) shop – jop - shop

**5. /tʃ dʒ/**

- 17) batch - batch – badge
- 18) jeep - cheap – jeep
- 19) jump – chump - chump
- 20) jam - cham – jam

**6. /y/**

- 21) year– ear - year
- 22) east – yeast - east
- 23) yes – yes - es
- 24) be-ond – beyond – beyond

(continued)

**7. /w/**

- 25) ooze - woos – ooze
- 26) wink - wink – ink
- 27) wood – ood – ood
- 28) wet – et – wet

**8. /l r/**

- 29) Raw - law - raw
- 30) lead - read - lead
- 31) rink – link - link
- 32) wait – ate - wait

Teacher B:

**1. /f v/**

- 1) van - fan – fan
- 2) vile - vile – file
- 3) prove – prove – proof
- 4) vest – fest - vest

**2. /s θ/**

- 5) thing - sing – thing
- 6) theme - seem - seem
- 7) mouse – mouth – mouse
- 8) worse - worse – worth

**3. /s z/**

- 9) zeal - seal – zeal
- 10) scion– zion – zion
- 11) sip – zip – zip
- 12) bees – beez - bees

**4. /ʃ ʒ/**

- 13) azure - assure – assure
- 14) pleasure - pressure– pleasure
- 15) ridge - rish - ridge
- 16) shop - shop– jop

(continued)

**5. /tʃ dʒ/**

17) badge - batch – badge

18) cheap – cheap – jeep

19) jump – jump - chump

20) jam – jam - cham

**6. /y/**

21) year– ear - ear

22) east – yeast – yeast

23) es – yes – yes

24) beyond – beyond – be-ond

**7. /w/**

25) ooze – ooze - woos

26) wink – ink - ink

27) ood – ood - wood

28) et – wet – wet

**8. /l r/**

29) Raw - Raw - law

30) Lead - lead - read

31) Rink – link - rink

32) lay – ray – ray

\*Book Source: Vaughan-Rees, M. (2002). *Test Your Pronunciation*: Pearson Education.

## Appendix 4: Listening Comprehension Pretest

Type	Question #	Score	Time
1. Listen to the words and choose an odd one.	2	4	30 minutes
2. Listen to the sentence and choose a picture that matches.	3	6	
3. Listen to conversations and answer questions (picture option).	4	8	
4. Listen to conversations, questions and answer the questions (picture option).	5	20	
5. Listen to conversations and choose a picture.	2	6	
6. Listen to conversations and answer questions (text option).	5	12	
7. Choose the appropriate response to complete the conversation.	6	20	
8. Understand the description of the visual material.	2	6	
9. Describe the picture.	1	4	
10. Understand the natural flow of conversation.	3	9	
11. Read relatively long conversations and answer questions (two questions for one conversation).	2	8	
<b>Total</b>	<b>33</b>	<b>103</b>	

\* Question types are the same for the listening pretest and posttest.

(continued)

**Questions:**

1~2. Listen to the words and choose the one that is different from the others. (2 points)

1. (1) (2) (3) (4)

2. (1) (2) (3) (4)

3~5. Listen to each sentence and choose the one that best shows the meaning. (2 points)

3. (1) (2) (3) (4)

4. (1) (2) (3) (4)

5. (1) (2) (3) (4)

6~9. Listen to each conversation and choose the correct answer for the question. (2 points)

6. How is the weather now? (1) (2) (3) (4)

7. What best shows the situation of the conversation? (1) (2) (3) (4)

8. Where is the boy now? (1) (2) (3) (4)

9. What will the girl buy? (1) (2) (3) (4)

10~14. Listen to each conversation and the following question. Then, choose the correct answer. (4 points)

10. (1) (2) (3) (4)

11. (1) (2) (3) (4)

12. (1) (2) (3) (4)

13. (1) (2) (3) (4)

14. (1) (2) (3) (4)

15~16. Listen and choose the one that best shows what you hear. (3 points)

15. (1) (2) (3) (4)

16. (1) (2) (3) (4)

17~20. Listen to each conversation and choose the correct answer for the question. (3 points)

17. Where are the man and the woman now?

(1) At a toy store

(2) At a hair salon

(3) At a restaurant

(4) At a shoe store

(continued)

18. What does the girl NOT do in the evening?

- (1) Reading books
- (2) Doing exercise
- (3) Taking a shower
- (4) Writing her diary

19. What time will the quiz show begin?

- (1) At 7:00
- (2) At 7:10
- (3) At 8:00
- (4) At 8:10

20. Why did the boy NOT go to Laura's party?

- (1) He was sick
- (2) He visited his aunt.
- (3) He had to stay at home.
- (4) He went to see a doctor.

21~25. Listen to each conversation and choose the best response to the last person's comment. (4 points)

21.

- (1) Yes, it has.
- (2) No, it isn't.
- (3) Yes, it was.
- (4) No, it doesn't.

22.

- (1) Math is fun.
- (2) You look worried.
- (3) Try harder next time.
- (4) Thanks for saying so.

23.

- (1) It is very large.
- (2) It is a good camera.
- (3) It is on the third floor.
- (4) It is the wrong number.

(continued)

24.

- (1) In English.
- (2) On the Internet.
- (3) Almost every day.
- (4) For three months.

25.

- (1) Yes. It is too little.
- (2) Okay. Let's go now.
- (3) No. You can't stay here.
- (4) Sorry. My dad is waiting.

26~27. Look at the following chart or picture. Then choose the correct answer for each question. (3 points)

26. Listen and choose the one that does not match the Poster.

Wellington Elementary School English Speaking Contest

When: 2 pm, Jun 12th

Where: Grand Hall in School Library

Who: Any Wellington Elementary School Student

If you want to join the contest, meet the English teacher, Mrs. Woods by May 20th.

(1) (2) (3) (4)

27. Listen and choose the one that matches the chart.

How Do You Go To School?

-The students in Young's class answered (pie chart)

(1) (2) (3) (4)

28. Listen and choose the one that does NOT match the two pictures.  
(4 points)

(1) (2) (3) (4)

(continued)



29~31. Listen to each of the four short conversations and choose the one that does NOT sound natural. (3 points)

29. (1) (2) (3) (4)

30. (1) (2) (3) (4)

31. (1) (2) (3) (4)

32~33. Listen to the conversation and choose the correct answer for each question. (4 points)

32. Which club is the girl going to join?

(1) The art club

(2) The music club

(3) The soccer club

(4) The computer club

33. What did the boy NOT say about playing sports?

(1) It is fun.

(2) It is easy.

(3) It is healthy.

(4) It is popular

## Appendix 5: Listening Comprehension Posttest

### Questions:

1~2. Listen to the words and choose the one that is different from the others. (2 points)

1. (1) (2) (3) (4)

2. (1) (2) (3) (4)

3~5. Listen to each sentence and choose the one that best shows the meaning. (2 points)

3. (1) (2) (3) (4)

4. (1) (2) (3) (4)

5. (1) (2) (3) (4)

6~9. Listen to each conversation and choose the correct answer for the question. (2 points)

6. What best shows the situation of the conversation? (1) (2) (3) (4)

7. How does the boy go to school? (1) (2) (3) (4)

8. What is the girl's hobby? (1) (2) (3) (4)

9. Why did the boy NOT go to the beach? (1) (2) (3) (4)

10~14. Listen to each conversation and the following question. Then choose the correct answer. (4 points)

10. (1) (2) (3) (4)

11. (1) (2) (3) (4)

12. (1) (2) (3) (4)

13. (1) (2) (3) (4)

14. (1) (2) (3) (4)

15~16. listen and choose the one that best shows what you hear. (3 points)

15. (1) (2) (3) (4)

16. (1) (2) (3) (4)

17~20. listen to each conversation and choose the correct answer for the question. (3 points)

17. Which food did the woman NOT order?

(1) Garlic bread

(2) French fried

(3) Tomato soup

(4) Cheeseburger

(continued)

18. Why is the woman NOT satisfied with the fan?

- (1) Because it's too dirty
- (2) Because it's too noisy
- (3) Because it's too small
- (4) Because it's too expensive

19. Where should the boy go?

- (1) Hospital
- (2) Bookstore
- (3) Repair shop
- (4) The girl's house

20. For what time did the man reserve the restaurant?

- (1) 4:00 p.m.
- (2) 5:00 p.m.
- (3) 6:00 p.m.
- (4) 7:00 p.m.

21~25. Listen to each conversation and choose the best response to the last person's comment. (4 points)

21.

- (1) Here we are.
- (2) I think so, too.
- (3) I feel great today.
- (4) Oh, that's too bad.

22.

- (1) It's Saturday.
- (2) Can I make one now?
- (3) Here is your library card.
- (4) You can borrow three books.

23.

- (1) It was so nice.
- (2) It will be on Friday.
- (3) I had a severe headache.
- (4) Good luck on your exam.

(continued)

24.

- (1) We must hurry.
- (2) The movie was great.
- (3) In front of the theater.
- (4) I don't think it's yours.

25.

- (1) This is for you.
- (2) I like the yellow one.
- (3) So take your umbrella.
- (4) You should buy a notebook tonight.

26~27. Look at the following chart or picture. Then choose the correct answer. (3 points)

26. Listen and choose the one that does NOT match the information.

Museum Hours	
Monday Wednesday Friday	10 a.m. - 5 p.m.
Tuesday Thursday Saturday	9 a.m. - 7 p.m.
Sunday	closed

(1) (2) (3) (4)

(continued)

27. Listen and choose the one that matches the coupon.

\$1.00 OFF  
THE BIG CHICKEN FILLET  
Receive \$1 off  
The Big Chicken Fillet  
Good for August only

(1) (2) (3) (4)

28. Listen and choose the one that does NOT match the two pictures.

(4 points) (1) (2) (3) (4)

29~31. Listen to each of the four short conversations and choose the one that does NOT sound natural. (3 points)

29. (1) (2) (3) (4)

30. (1) (2) (3) (4)

31. (1) (2) (3) (4)

32~33. Listen to the conversation and choose the correct answer for each question. (4 points)

32. What day is Jane's birthday?

(1) Wednesday

(2) Thursday

(3) Friday

(4) Saturday

33. Where is Jane going to have the party?

(1) At school

(2) At her house

(3) At a restaurant

(4) At the boy's house

## Appendix 6: Placement of Proficiency Levels

Subject	Listening Comprehension Pretest Score		
	Pretest	z-score	Prof. level
Student 1	8	-1.63	Low
Student 2	8	-1.63	Low
Student 3	13	-1.38	Low
Student 4	14	-1.33	Low
Student 5	14	-1.33	Low
Student 6	19	-1.09	Low
Student 7	21	-0.98	Low
Student 8	22	-0.93	Low
Student 9	22	-0.93	Low
Student 10	22	-0.93	Low
Student 11	22	-0.93	Low
Student 12	25	-0.78	Low
Student 13	26	-0.73	Low
Student 14	26	-0.73	Low
Student 15	28	-0.64	Low
Student 16	30	-0.54	Low
Student 17	30	-0.54	Low
Student 18	31	-0.49	Mid
Student 19	32	-0.44	Mid
Student 20	33	-0.39	Mid
Student 21	33	-0.39	Mid
Student 22	34	-0.34	Mid
Student 23	34	-0.34	Mid
Student 24	35	-0.29	Mid
Student 25	35	-0.29	Mid
Student 26	35	-0.29	Mid
Student 27	35	-0.29	Mid

Student 28	36	-0.24	Mid
Student 29	37	-0.19	Mid
Student 30	40	-0.04	Mid
Student 31	40	-0.04	Mid
Student 32	41	0.01	Mid
Student 33	41	0.01	Mid
Student 34	43	0.11	Mid
Student 35	43	0.11	Mid
Student 36	43	0.11	Mid
Student 37	44	0.16	Mid
Student 38	46	0.26	Mid
Student 39	46	0.26	Mid
Student 40	46	0.26	Mid
Student 41	46	0.26	Mid
Student 42	46	0.26	Mid
Student 43	48	0.36	Mid
Student 44	49	0.41	Mid
Student 45	49	0.41	Mid
Student 46	49	0.41	Mid
Student 47	53	0.60	High
Student 48	53	0.60	High
Student 49	58	0.85	High
Student 50	66	1.25	High
Student 51	67	1.30	High
Student 52	72	1.54	High
Student 53	78	1.84	High
Student 54	81	1.99	High
Student 55	88	2.34	High
Student 56	94	2.63	High
Student 57	97	2.78	High

## Appendix 7: Post Survey

Survey: Adopted and modified from Siegel (2014)

[Survey questionnaires]

1. Have you ever learned about phonemic awareness before?
2. Was the English learning method (online video, offline review in each classroom) effective?
3. Can you distinguish the phoneme pairs now?
4. Do you think the lesson helped you improve your English listening skills?
5. Do you think the lesson improved your confidence in English?
6. Do you think you can further utilize your phonemic awareness ability?
7. How sincerely have you been working on the lessons?  
(5 points self-evaluation)
8. Which English sound was the most unfamiliar and difficult?  
(multiple selections possible)

[Interview questions]

- Q1: What have you learnt from this English class?
- Q2: What did you like about this English class? If you could, how would you improve it? Is there anything you would like to study further?
- Q3: How was the lesson on English phonemes? Feel free to write down what you felt.
- Q4: How did you previously practice listening to English? (schools, academies, workbooks, etc.)

(continued)



Below is the original survey sheet written in Korean, participant's L1:



### 영어 음소인지(발음) 수업 후 설문지

이 설문지는 9~10월동안 이루어진 영어 음소인지(발음) 수업에 관한 설문입니다. 고맙습니다.  
(소요 시간 10분, 끝에 '제출' 꼭 누르기)  
\* 필수항목

여러분의 학번은? \*

내 답변 \_\_\_\_\_

(설문지 질문1) 기존에 이러한 음소 인지 공부해 해본 적 있었나요? \*

네. 음소 인지 공부를 해 본 적 있습니다.

아니요. 이번에 새롭게 공부했습니다.

(설문지 질문2) 이번 영어 수업 방법(온라인 영상으로 공부하고 교실에서 복습)은 효과적이었나요? \*

네. 효과적이었습니다.

아니요. 효과적이지 않았습니다.

(설문지 질문3) 학습 이후, 헷갈리는 영어 소리 2개를 구분할 수 있나요? \*

이제 확실히 구분할 수 있다.

어느 정도 구분 할 수 있다.

보통이다.

아직 어렵다.

하나도 모른다.

(설문지 질문4) 이번 영어 수업이 여러분의 영어 듣기 실력 향상에 도움이 되었나요? \*

많이 되었습니다.

조금 되었습니다.

보통입니다.

도움이 별로 되지 않았습니다.

도움이 전혀 되지 않았습니다.

(설문지 질문5) 이번 영어 수업이 여러분의 영어 자신감 향상에 도움이 되었나요? \*

자신감이 많이 생겼습니다.

자신감이 조금 생겼습니다.

보통입니다.

자신감이 조금 사라졌습니다.

자신감이 떨어졌습니다.

(설문지 질문6) 영어 소리에 대해 공부한 것을 기억하여 앞으로 활용하거나 사용할 수 있나요? \*

네

아니요

모르겠습니다.

(설문지 질문7) 이 영어 학습에 얼마나 성실하게 임했나요? (5점 만점 자기평가) \*

1   2   3   4   5

학습에 소홀했다. (영상 하나도      학습을 열심히 했다. (온라인 클래스에 올라오는 영어 영상을 공부 안 함)

(설문지 질문8) 어떤 영어 소리가 가장 낯설고 어려웠나요? (여러개 선택 가능) \*

L (랄랄라~ 할 때 'e'소리)

R (라~ 할 때 'e'소리)

Ө (번대기 소리)

S (센~할 때 's'소리)

Z (샌드론 진동하는 것 같은 소리)

F (파인~ 할 때 'f'소리)

V (브이~ 할 때 'b'소리)

Ch (치치톡톡~할 때 't'소리)

J (잡Job 할 때 'z'소리)

Sh (릿~ 하는 것 같은 소리)

Ge /y/ (마사지~ 할 때 'z'소리)

W (와우! 할 때 'w'소리)

Y (예스! 할 때 'e'소리)

(인터뷰 질문1) 이번 영어 수업을 통해 새롭게 배운 점은 무엇인가요? \*

내 답변 \_\_\_\_\_

(인터뷰 질문2) 어떤 점이 좋았고, 어떤 점이 아쉬웠나요? 혹은 더 공부하고 싶은 것이 있다면 적어주세요. \*

내 답변 \_\_\_\_\_

(인터뷰 질문3) 이번 영어 수업에 대한 느낀점을 자유롭게 적어주세요. \*

내 답변 \_\_\_\_\_

(인터뷰 질문4) 기존 여러분은 어떻게 영어 듣기 공부를 학습 했나요? (학교, 학원, 학습지 등) \*

내 답변 \_\_\_\_\_

여러분 대단히 감사합니다.

제출

## 국 문 초 록

외국어의 음소 구분 능력은 외국어 발화 듣기를 처리하기 위한 전제 조건이며 학습자의 듣기 능력에 영향을 미치는 주요 요인으로 여겨져 왔다. 학습자가 목표 언어의 충분한 음소 인지 능력을 가지고 있지 않은 경우, 외국어 음성을 이해하기 어려울 수 있다. 기존의 L2 교실의 영어수업은 학생들의 듣기 능력 향상에 많은 초점이 맞춰져 있지만, 대부분의 경우 단어와 문장 수준에서 진행하고 있다. 이에 외국어로서 영어를 배우는 학생들은 그들의 외국어 음소 인지 능력을 충분히 발달시킬 필요가 있으나 음소 인지 수업을 듣기 활동과 통합하는 노력은 부족했다. 또한 선행 연구를 살펴보면 이 논문의 주요 관심사인 음소 인지 지도는 영어 모국어 학습자들의 독해 지도와 관련으로 한 연구로만 주로 연구 되었으며 EFL 환경의 한국 초등학교 학습자들을 대상으로 한 듣기 지도에 대한 연구는 많지 않았다.

따라서 본 연구는 명시적인 음소 인지 교육의 효과를 조사하기 위하여 57명의 한국의 초등학교 참여자들을 모집했다. 4주간의 교육 기간을 거쳐 참여자들의 음소 인지와 청해 시험의 사전, 사후 결과를 비교했다. 또한 다른 숙련도 그룹간에 다양한 효과가 있는지 여부를 확인하기 위하여 청해 사전 시험의 결과를 토대로 참여자들을 3개의 하위 집단으로 구분하여 실험 결과를 분석했다. 교육 기간은 19번의 수업으로 이루어졌으며 이 중 14회는 온라인 영상을 탑재하는 방법으로, 5회는 온라인에서 배운 내용을 교실에서 복습해 보는 수업으로 진행되었다. 교육 대상 음소는 파일럿 테스트를 통해 알아본, 한국인 초등학교 학습자들이 가장 어렵다고 느낀 13개의 자음으로 구성되었다.

본 연구의 결과는 다음과 같은 음소 인지 지도의 긍정적인 효과와

L2 교실에 미치는 영향을 보여준다. 첫째, 음소 인지 지도를 받은 EFL 학습자의 음소 인지 능력, 청해 실력은 모두 통계적으로 유의미한 향상을 보여주었다 (코헨의 효과 크기  $d = 0.37$ ;  $1.08$ ). 둘째, 시간에 따른 수준 별 집단 별 교육의 효과를 비교 한 결과, 제일 낮은 수준의 그룹의 청해 점수가 가장 큰 효과 크기로 향상되었다는 것을 알 수 있었다 (코헨의 효과 크기  $d = 1.49$ ). 마지막으로, 참가자들의 음소 인지 능력은 청해 실력과 정적인 상관관계를 보이는 것으로 나타났으며 이는 사전 시험 (피어슨 상관 계수 =  $.427^{**}$ )에서보다 사후 시험 (피어슨 상관 계수 =  $.479^{**}$ )에서 더욱 높은 상관관계를 보여주었다. 본 연구의 결과는 외국어로서 영어를 학습하는 학습자들의 발음 교육과 듣기 지도를 위한 교육과정 수립에 참고 자료로 활용될 수 있으며 이에 따른 영어 교육학적 함의를 지닌다.

주요어: 음소 인지, 발음 지도, 듣기 이해 능력, 초등학교 EFL 학습자

학 번: 2018-26354