MASTERY OF PHONEMIC SYMBOLS AND STUDENT EXPERIENCES IN PRONUNCIATION TEACHING

Master's thesis

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Tiivistelmä – Abstract

Tieto foneemisten aakkosten hallinnan tasosta on olennaista, koska suullinen viestintä on tärkeässä osassa opetussuunnitelmissa ja koska foneemisiin aakkosiin perustuvan opetusmetodin on todettu korjaavan väärinkäsityksiä kielen lausumisessa. Aiempi tutkimus on keskittynyt tutkimaan, millaiset ääntämisongelmat ovat tyypillisiä suomalaisille ja kuinka erilaisia lausumismalleja voidaan käyttää englannin opetuksessa. Aiemmin ei ole kuitenkaan tutkittu sitä, miten paljon ja millä tavoin lausumista opetetaan ja miten hyvin kirjoissa esiintyviä foneemisia merkkejä on hyödynnetty lukiotasolla.

Tutkimuksessa etsittiin vastausta siihen, pitävätkö opiskelijat puhumista ja ääntämistä tärkeämpänä kuin kirjoittamista ja oikeinkirjoitusta. Tutkimuksessa selvitettiin myös, kuinka paljon opiskelijoiden oman kokemuksen mukaan heille on opetettu ääntämistä. Kolmantena tutkimuksessa haluttiin selvittää, kuinka hyvin lukiolaiset tunnistavat foneemisia symboleita ja niillä tehtyä tarkekirjoitusta. Tutkimus suoritettiin kyselylomakkeella. Kysely teetettiin Keski-Suomessa kuudessa koulussa oppitunneilla vuonna 2014. Opiskelijoiden vastauksia tulkittiin hyödyntämällä analyysissa pääosin prosentteja ja keskiarvoja.

Tutkimuksessa selvisi, että opiskelijat pitävät puhumista ja oikein lausumista tärkeämpänä kuin kirjoittamista ja oikeinkirjoitusta. Lisäksi tutkimustulos kertoo ääntämisen opetuksen vähentyvän alakoulusta lukioon vaikka ääntämistä opetettiinkin eniten yläasteella. Tutkimuksessa listattujen ääntämisen opetustapojen käyttö vähentyi opetussuunnitelmaa noudattaen alakoulusta lukioon. Opiskelijat pystyvät tunnistamaan foneemisia symboleita ja tarkekirjoitusta jossain määrin vaikka suomen foneemi-grafeemisuhde tekee siitä haastavaa. Selkeästi parhaiten foneemeista tunnistettiin sekä itsenäisinä foneemeina että tarkekirjoituksen sisällä ne foneemit, jotka ulkonäöllisesti muistuttivat eniten grafeemeja. Tutkimuksessa selvisi myös, että foneemien tunnistamisessa on lukiolaisten välillä suuria eroja.

Tulevaisuudessa tulisi tutkia mm. sitä, mitä tarkekirjoitustapaa oppikirjat käyttävät ja millä eri tavoilla niitä opetetaan. Foneemien käyttöä ääntämisen opetuksessa myös oppitunneilla tulisi tutkia vielä lisää, jotta saataisiin selville, kuinka paljon symboleita todellisuudessa käytetään ja kuinka paljon vaihtelua on esimerkiksi eri luokka-asteiden välillä. Lisäksi symbolien käytön hyötyjen ja haittojen tutkimusta tarvitaan lisää.

Asiasanat – Keywords Kielen oppiminen, englannin kieli, äänteet, opetus

Säilytyspaikka – Depository

Muita tietoja – Additional information

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1 INTRODUCTION

Researching pronunciation is highly interesting and relevant because the ongoing discussion of including an oral test in the Finnish matriculation examination has made teaching pronunciation a trending topic. Even though teaching pronunciation has been widely discussed in the media, there is no research information available on what the students' opinions are on the importance of pronunciation and speaking. The possible inclusion of an oral test in the matriculation examination could mean that pronunciation is becoming more highly appreciated than before and teaching pronunciation might become more everyday. However, there is no data available neither on how much pronunciation is actually taught to students nor in what ways. As suggested by Kuutti (2009), phonemic transcription symbols can be used as a teaching method for oral skills and they could, in fact, offer a way for preparing for an oral test. In order to know how transcription symbols as a teaching method would work, it is important to know how well pupils in elementary school and students in upper secondary school already master them. Many book series use phonemic transcription symbols in teaching the pronunciation of English to pupils from elementary school onwards (Tergujeff 2013a: 38-40). However, it can be argued that the level of mastery of the phonemic symbols by the time children get into upper secondary school might not be as good as looking into the book series might suggest. No research, however, has been recently done in the particular area of mastery of phonemic transcription symbols in upper secondary schools. In addition, to find out if the possible addition of an oral test to the matriculation examination has an effect on the amount of teaching pronunciation, one must have knowledge of how much pronunciation is taught now. Nevertheless, there is no information available on how much pronunciation is currently taught in Finland.

Firstly, one purpose of the present study is to find out whether students appreciate orthography more than pronunciation and writing more than speaking. Secondly, the study reveals how much pronunciation is taught in Finnish schools in Central Finland. Thirdly, the study also finds out if students already have some mastery of phonemic transcription symbols and if there are differences in the level of mastery when comparing it to, for

example, to the students' previous grade in English. The study was conducted with a paper questionnaire in class. The questionnaire included questions that gathered information about students' views on speaking and pronunciation. This information can be later used as a comparison point for how their opinions might change if the oral test becomes reality. The questionnaire also collected information of how much pronunciation has been taught to the students from elementary school onwards. With the help of this information, the present study can be used later on as a background for designing teaching materials and as a starting point for comparison on how much pronunciation is taught in the future. To find out how well students master the phonemic transcription symbols, the questionnaire also had receptive tasks on symbol and pronunciation recognition. As phonemic transcription symbols can be used to aid English pronunciation, because they provide students with a visual aid, the knowledge of how well students master phonemic transcription symbols of great importance to the research field and to teachers in Finnish schools when teaching pronunciation and oral skills.

The following research questions will be answered:

1 a. Are pronunciation and speaking, in the students' opinion, more important than orthography and writing?

1 b. How much is pronunciation taught in elementary and upper secondary schools in the experience of upper secondary school students?

2. How well do the students master the phonemic symbols in upper secondary school?

In chapter 2, the present study gives a short historical review of how teaching speaking in English has changed. Because the study concentrates on phonemic transcription symbols, naturally chapter 2 also introduces speech articulation and the International Phonetic Alphabet (IPA, Appendix 2). Chapter 2 also gives a phonemic description of English and explains how phonemic transcription symbols can be used to aid learning pronunciation and what experiences Finns already have of the symbols. Chapter 3 explains the research questions, data collection and approach in more detail. Chapter 4 shows the findings of the present study starting with showing how much the students value speaking and pronunciation in comparison to writing and orthography and continuing to how much

pronunciation had been taught to the students in their experience. Chapter 4 also shows how well the students in upper secondary school master the phonemic symbols; first as separate symbols and later as words. Chapter 5 discusses the findings and concludes the study.

2 TEACHING PRONUNCIATION

The literature review of the present study begins, in section 2.1, with a historical review of teaching speaking in English. The literature review then continues, in section 2.2., by introducing the English pronunciation system with the help of speech articulation and the International Phonetic Alphabet (IPA, see appendix 2) which offers a set of symbols that are used to for transcribing English (McMahon 2002: 6, Wells 2001). The IPA gives information about how words are pronounced. Section 2.3. explains how phonemics can be used in teaching pronunciation and, for example, what types of problems language learners might encounter.

2.1 Historical review of teaching speaking in English

The grammar-translation method that was popular from the 19th century until the 1970s and which still has an effect on language teaching (Bygate 2001: 14, for more information about the method see e.g. Howatt 1984: 131-146) was, firstly, according to Dinçay (2010: 43), believed to make students more intellectual with the help of the translation process. Secondly, mastering the target language was never thought to be the goal of the translation method, but, in fact, the translation itself was valued higher as it offered students with good mental exercise. Thirdly, classes were mostly taught in the students' first language and the functional aspects of the language were often neglected. Lastly, no attention was paid to the teaching of pronunciation. The aforementioned failures led to the development of new methods.

Already during the Reform Movement in the late 19th century many researchers and, in fact, teachers co-operated to achieve a common goal of introducing the new science of phonetics to the public (Howatt 1984: 167). Phonetics is a scientific description of speech sounds that reaches across languages (McMahon 2002: 3-5). The Reform Movement had three main principles (Howatt 1984: 171):

1. "The primacy of speech
2. The centrality of the connected texts as the kernel of the teaching-learning process
3. The absolute priority of an oral methodology in the classroom"

In the late 19th century, when the curriculum was filled with language studies, schools had, firstly, according to one of the reformist thinkers, Wilhelm Viëtor, the tendency to overburden students with homework and cause them mental stress (Howatt 1984: 171-172, 333). Secondly, linguistic nonsense had invaded classrooms leaving students confused with letters and sounds and pronunciation and spelling. Thirdly, teaching speaking was rare and often done by teachers with inadequate pronunciation skills. The solution to all of these problems was changing how students acted in the language classroom and introducing accurate descriptions of speech, that is, phonetics, to teachers and students as a more effective way of learning (Howatt 1984: 172).

Howatt (1984: 172, 174-176, 184, 321-332) explains what reformist thinkers thought of phonetic symbols: firstly, in the opinions of reformist thinkers, a student's pronunciation should be good before concentrating on texts because of the often misleading and arbitrary spelling system of languages such as English. Secondly, introducing a new notation of phonetic symbols caused some resistance as it was thought to burden students to an even larger extent. However, thirdly, a reformist thinker, Hermann Klinghardt, showed in 1887 that the transition from phonetics to traditional orthography could take place soon after learning the basics of pronunciation without any major decrease in the accuracy of pronunciation. Fourthly, in a study conducted by Klinghardt, the number of grammatical points per sentence was in no way limited to what had already been taught to students and the same sentence could be looked at from many different perspectives. Fifthly, as a result, also beginners were introduced to complex and possible real-life sentences instead of limiting the language to simple repetitive phrases. Sixthly, the role of phonetics in the Reform Movement was significant because it was the first time some sort of science was introduced to the study and teaching of languages. Seventhly, learning the exact phonetic transcription, however, seemed slightly exaggerated in the case of beginners, which is why another reformist, Henry Sweet, introduced students to something that could nowadays be regarded as phonemics, which is a language specific description of pronunciation. Sweet developed a teaching method that was based on five stages of learning (cited in Howatt 1984: 172, 187-189, 321):

1. Mechanical stage: a student concentrates on acquiring good pronunciation with the help of phonetic (or rather phonemic) transcription.

2. Grammatical stage: a student starts to learn the language sentence by sentence with no limitations to how difficult the grammar included in the texts could be.
3. Idiomatic stage: a student works on his or her vocabulary.
4. Literary stage: a student starts reading literature and can move on to using traditional orthography (which, however, could, according to Klinghardt's experiment, also be done at an earlier stage).
5. Archaic stage: a student learns about philology similarly to modern day linguistics

Around the same time when Sweet developed his teaching method, before phonetics became popular, the Direct Method, which was the most well-known natural method approach used in the 1900s, was embraced by many teachers (Richards and Rogers 2001: 11). The Direct Method aimed to make second language learning more like first language acquisition (Richards and Rogers 2001: 11) and it was, in a way, the opposite of the grammar-translation method as it was supposed to regard communication in the target language as the goal of teaching (Dinçay 2010: 44). The Direct Method taught practical skills that aimed to help students survive in different social contexts (Howatt 1984: 234). Only the target language was allowed in classrooms (Richards and Rogers 2001: 12) because in that way students were believed to acquire vocabulary in the same way they learn it in their mother tongue (Dinçay 2010: 44). This, however, according to Richards and Rogers (2001: 12-14), led to students only learning everyday phrases of the language which, according to Howatt (1984: 192-208) resulted in the Direct Method using oral communication for providing language input, memorization practice and habit-formation instead of oral communication being a skill of its own. Furthermore, having the target language as the only language in the classroom caused problems such as not having enough teachers with sufficient knowledge of the target language (Richards and Rogers 2001: 12-14). In the first two decades of the 20th century, teaching phonetics first to teachers and then to students became more popular with many publications related to phonetics, pronunciation and oral skills in general (Howatt 1984: 214). During the twenties, there was a clear emphasis on research and during the thirties a shift towards the development of new methods such as the Oral Method (Howatt 1984: 214).

Later, around the fifties, technology took giant leaps when the gramophone was first replaced by long-playing records, then by wire-recorders and finally by tape-recorders that

became widely available from the mid-1970s (Howatt 1984: 219; Carter and McCarthy 1997: 7, as quoted by Bygate 2001: 14).). The first approach to introduce the four phase learning cycle of listening-speaking-reading-writing, instead of concentrating merely on translations, was the audiolingual method (Bygate 2001: 15). The repetition of target language structures was supposed to result both in grammatical and phonological accuracy (Bygate 2001: 15). In the sixties, the language laboratory became known to the public and language teaching technology became even more advanced with the development of audio-visual equipment (Howatt 1984: 219). All these new equipment and methodologies, such as the audiolingual method, had an effect on language teaching especially in the form of drilling (Howatt 1984: 225). Even though drilling was a good way of learning new sounds as it developed motor skills and automaticity (Rogerson-Revell 2011: 23) the audiolingual method failed to see the connection between language and meaning and, moreover, it did not offer a social context for speaking (Bygate 2001: 15). The aforementioned failures of the audiolingual method then led to the development of a communicative approach in the 1970s (Bygate 2001: 15).

The communicative approach introduced interaction as a starting point in learning a new language (Bygate 2001: 15). Similarly to the audiolingual method, communicative language teaching also had an emphasis on all the four language skills of listening, speaking, reading and writing (Dinçay 2010: 55). The difference to the audiolingual method was that the communicative approach also emphasized functions such as making a request (notions-functions) or on what the learner wanted to express (learner-centredness) (Bygate 2001: 15). The goal of the communicative approach was neither to achieve perfect grammatical accuracy nor to make everyone's pronunciation similar to that of native speakers but to achieve communicative competence (Dinçay 2010: 55). Communicative competence means that a learner's attention is drawn to communicative proficiency and intelligibility instead of language structures (Richards and Rogers 2001: 153). This also relates to practising listening with, for example, exercises with phoneme distinction and/or familiarising oneself with different accents and language varieties (Tergujeff 2013a: 33).

As the historical review shows, teaching English has been gradually moving from learning how to write to learning how to speak and from speaking grammatically correctly to learning how to speak understandably. In order to achieve communicative competence,

Finns must learn how to pronounce English in an understandable way. Naturally, there are multiple ways to achieve communicative competence and understandable pronunciation but, at the moment, phonemic transcription symbols are the only ones that provide the student with a visual aid for learning pronunciation which is why the use of symbols in teaching pronunciation should be promoted.

2.2 **Speech articulation and IPA**

Sounds are created, as explained by Ball et al. (1999: 19-22), by changing the flow of airstreams by changing the pressure. The pressure level can be affected by atmospheric pressure, subglottal pressure or relaxation pressure. The airflow that creates sounds can be made to move outward (egressive airflow, i.e. positive pressure) or inward (ingressive airflow, i.e. negative pressure). Most languages, e.g. English, use the pulmonic egressive airstream, which is caused by pressure changes in the lungs, as the only way of producing everyday speech sounds. For example, the loudness of the speech is dependent on subglottal (or pulmonic) pressure. Ball et al. (1999: 40) continue that the characteristics of speech can be consciously altered by, for example, abrupting the airflow with supraglottal vocal organs (i.e. lips, tongue, etc.). The supraglottal organs create long-term characteristics like voice quality which are therefore called suprasegmental aspects. Shorter-term aspects are referred to as speech segments which include, for example, separate consonants and vowels that create syllables and words (Ball et al. 1999: 40). In speech, the distinction between vowels and consonants is simple: sounds with free passage of air are called vowels and the ones with blocked or turbulent airflow are consonants (Ball et al. 1999: 41-42).

There are a total of 21 consonants in written English (Ball et al. 1999: 41). However, there are, in fact, according to Yule (2006: 34-35), 24 consonant sounds (/ p b t d k g f θ ð s z ʃ ʒ tʃ dʒ h j l m n ŋ r v w /). Furthermore, the list can be broadened to include rarer sounds such as the */x/* (i.e. Lo*ch* Ness) (Yule 2006: 34-35) and /ʍ/ (i.e. *wh*ine) (McMahon 2002: 29-33). IPA is widely used for transcribing English (McMahon 2002: 6, Wells 2001). Naturally, there is some scepticism to using IPA in teaching pronunciation, but, nevertheless, learning how to use the phonemic transcription symbols not only makes a student more independent in studying English, but it also helps him or her in learning other languages. The IPA chart offers a set of symbols and some guidelines for their use, however, the way words are

actually transcribed may change depending on the purpose of their use and the needs of the transcription (e.g. phonetic vs. phonemic transcript) (Wells 2001). In the case of language learners, there is no point in overburdening students with all phonetic symbols, instead a language specific description, i.e. phonemic symbols, should be used in schools. For the full list of the total of 26 consonantal phonemes, see Table 1.

Table 1. List of consonantal phonemes (McMahon 2002: 29-33)

Consonantal phonemes	**Sound description**
/p/	voiceless bilabial plosive
/b/	voiced bilabial plosive
/m/	voiced bilabial nasal
/w/	voiced labial-velar approximant
/ʍ/	voiceless labial-velar fricative
/f/	voiceless labio-dental fricative
/v/	voiced labio-dental fricative
/θ/	voiceless dental fricative
/ð/	voiced dental fricative
/t/	voiceless alveolar plosive
/d/	voiced alveolar plosive
/n/	voiced alveolar nasal
/s/	voiceless alveolar fricative
/z/	voiced alveolar fricative
/r/	voiced alveolar central approximant/ voiced alveolar trill
/l/	voiced alveolar lateral approximant
/ʃ/	voiceless postalveolar fricative
/ʒ/	voiced postalveolar fricative
/tʃ/	voiceless postalveolar affricate
/dʒ/	voiced postalveolar affricate
/j/	voiced palatal approximant
/k/	voiceless velar plosive
/g/	voiced velar plosive
/ŋ/	voiced velar nasal
/x/	voiceless velar fricative
/h/	voiceless glottal fricative

Although some of the symbols in phonemic transcription look similar to the Roman alphabets, they should not be confused with neither graphemes nor letters (Mehmet 2008:

2). *Grapheme* is a technical word that is parallel to the term phoneme (Birch 2002: 62-63). A grapheme can represent more than one sound and differs from *letter* as there can be more than 65 graphemes (e.g. *g, t, wh, sch*) but only 26 letters (e.g. *a, b, c, d*) in the English language. It is also worth pointing out that, for example, the grapheme *y* can, in fact, represent both a vowel (as in *by*) or a consonant (as in *yes*). The ambiguous orthography of English is a result of a mismatch in the number of graphemes used in relation to the phonemes. The mismatch can be divided into four subcategories (Mehmet 2008: 2):

1. the same sound can be presented by different graphemes (e.g. s<u>ea</u> vs. s<u>ee</u>);
2. the same grapheme can be pronounced in different ways (e.g. v<u>i</u>deo vs. w<u>i</u>fi);
3. subsequent letters (a grapheme) represent only one sound (e.g. <u>sch</u>edule) and
4. one letter can lead to the pronunciation of multiple phonemes (e.g. o<u>x</u>en)

The aforementioned mismatch produces various homophones in the English language (e.g. *no* vs. *know*) and make the division of graphemes into vowels and consonants seem sometimes slightly arbitrary. Having a unified way of transcribing English is desirable because it makes writing, reading and producing unfamiliar sounds easier. The aforementioned problems, however, are the reason why English cannot be used for transcribing pronunciation and why the International Phonetic Alphabet (IPA, Appendix 2) was created. McMahon (2002: 6-7) gives an example of a sound that is normally outside the language system (i.e. a paralinguistic sound e.g. *tut-tut*, which is a disapproving repeated clicking sound) that cannot be written in a way that everyone from different backgrounds would know what it meant without a transcription system.

> "It is true that a certain amount of learning is required to become familiar with the conventions of the IPA and the characteristics of sound underlying the notation: but once you know that 'tut-tut' is [|] -- -- it will always be possible to produce the relevant sound accurately; to write it down unambiguously; and to recognize it in other languages" (McMahon 2002: 6-7)

Furthermore, sounds that do not relate even paralinguistically to English are even more difficult to describe in writing as the transcription would be based on the ambiguous orthography of English. However, this, according to McMahon (2002: 6), is not an important notion considering the teaching of English as a foreign language (EFL) as the emphasis should, of course, be on the sounds that are included in the language. Nevertheless, trying to describe the unfamiliar sounds using a spelling system closest to the

orthography of the target language or a certain native language leads to transcriptions that cannot be generalized because of their lack of consistency and because the sounds are not always produced exactly the same way (McMahon 2002: 6). Thus, phonemic symbols should be used when teaching how to pronounce English.

It can be argued that consonants have five basic modes of phonation: voiceless, whisper, breathy voice and creak (Gut 2009: 21). Because of the new area of study of phonetics in general, however, there is some variation in, for example, if there should be only four basic modes of phonation and combinations of the basic modes (Ball et al. 1999: 30). To exemplify the vague terminology, sometimes falsetto is named as a mode of phonation of its own (even though it is not used linguistically in any language), whereas the breathy voice can also be seen as a combinatory phonation type (Ball et al. 1999: 35-36). In the present study, the breathy voice is briefly discussed under voiceless sounds whereas falsetto is looked at together with the creak.

Despite the ongoing debate in the terminology, the very basic division to voiced and voiceless sounds is rather simple and does not create too much disagreement among researchers probably because of its presence in all known languages (Ball et al. 1999: 34). McMahon (2002: 25-26) states that pulmonic egressive air (i.e. air flowing out from the lungs) travels through the larynx, in which the vocal folds are situated. If at the time of the air flow the vocal folds that control the air flow are pulled back and apart, the free space, the glottis, produces a voiceless sound (McMahon 2002: 25-26). In voiceless sounds, the glottis is open at between 65 % and 95 % of its maximum (Ball et al. 1999: 30). In layman terms, as McMahon (2002: 26) suggests, voiced and voiceless sounds can be easily distinguished from one another by testing if there is vibration in the larynx (colloquially Adam's apple) during sound production. In short, if vibration occurs, the sound (e.g. /z/) is voiced and if not, the sound (e.g. /s/) is voiceless (McMahon 2002: 26). The vibration is created both with muscular and aerodynamic forces (Ball et al. 1999: 32). The vocal folds are pressed together by the adductor muscles of the larynx, which causes air pressure in the sub-glottal area (Ball et al 1999: 32). The continuing air flow causes the elastic vocal folds temporarily to part in cycles which then causes vibration in the larynx and, therefore, a voiced sound (McMahon 2002: 26). Ball et al. (1999: 30-31) state that if the volume-velocity of the sound is low it makes the air flow laminar (i.e. smooth) and the sound (e.g.

[f] in the word *feet*) is then using a more specific mode of phonation called the nil-phonation. In a way, the opposite of nil-phonation is the breath as a mode of phonation: the volume-velocity is high and it causes turbulence when the air flows through the glottis (Ball et al. 1999: 30-31). In breathy voice the airflow is so significant that the vocal folds are forced to vibrate even if they are slightly open (Gut 2009: 22).

Creak is similar to voiced sounds in the way that it also consists of air flowing through the glottis in cycles, the difference, however, being in the frequency of the pulses (Ball et al. 1999: 34). In a creaky voice, the vocal folds are together but they only vibrate in the front part; the vibration is caused by a subglottal pressure (Gut 2009: 22). Ball et al. (1999: 34-35) specify that the subglottal pressure in the creaky voice is rather low; also the volume-velocity of the creaky voice is low. Ball et al. (1999: 34-35) continue to review falsetto: Falsetto is also created by a pulsating air flow. Furthermore, when producing falsetto, the glottis is slightly open and the sub-glottal pressure is lower than normal. In falsetto, the vocal folds vibrate at a very high frequency.

In a whisper the glottis is open at around 25 % of the maximum and the vocal folds are slightly closer to one another than in voiceless sounds (Ball et al. 1999: 35). When a person is whispering, the glottis does not vibrate, but because the glottis is only a little open the sounds can be heard as hissing (McMahon 2002: 26). In whispery sounds, the air flow is turbulent (Ball et al. 1999: 35). Whispery sounds are most often used simply to reduce the volume of the sound, in which case the voiced sounds are turned into whispers whereas the voiceless sounds remain the same as before to enable distinguishing of the sounds (Ball et al. 1999: 35).

McMahon (2002: 26-27) compares oral and nasal sounds to one another. Usually the air travels through the pharynx into the oral cavity and exits at the lips, however, there are three English sounds (/ m n nj /) that are nasalized and exit through the nasal cavity. When an oral sound is formed, the air flow through the nose is supressed by the velum (i.e. soft palate), which pushes against the back of the pharynx. In the case of nasal sounds, the velum lowers and prevents the air from flowing through the mouth and the air is forced to travel through the nose. In addition to the aforementioned three sounds, also other sounds may sometimes be partly nasalized, with the air passing through both the nasal and oral cavity, because of their surrounding sounds (McMahon 2002: 26-27).

McMahon (2002: 30) defines the difference between central and lateral sounds. Normally, in the English language, the air flows through the centre of the mouth (central sounds). However, in the case of [l], the air flows along the sides of the mouth, which makes it a lateral sound. In short, the shape of the tongue during a sound makes the sound either central or lateral.

The manner of articulation of a consonant depends, as McMahon explains (2002: 28-29), on how close and active the articulators get: an active articulator is situated near base of the vocal tract whereas a passive articulator is closer to the top. A stop is created by the active and passive articulator briefly touching and blocking airflow into the oral cavity. The aforementioned definition makes all nasal sounds stops. Consequently, as McMahon (2002: 28-29) continues to explain stops, first, they are not normally referred to as nasal stops because English does not include any other manner of articulation for nasal sounds. Second, a stop can be created by both a velaric ingressive airstream (i.e. clicks) and a pulmonic egressive airstream (i.e. plosives, taps and trills). McMahon (2002: 28-29) clarifies the differences between sounds created by a pulmonic egressive airstream. First, when producing a plosive sound the airstream is completely blocked and usually then released. Second, a tap is produced similarly but the stopping of the airflow is extremely brief and created when the active articulator makes a ballistic movement against the passive one. Third, when an active articulator is vibrating against a passive one, a trill, i.e. a repeated tap, is created.

Another manner of articulation is producing fricative sounds, which are explained by McMahon (2002: 29). First, an active and a passive articulator are close to one another but in a way that does not obstruct the airflow into the oral cavity in fricative sounds. Second, the air rapidly trying to squeeze out of the lungs creates friction, which is heard as hissing or buzzing depending on whether the sound is voiced or not. The voiceless dental fricative /*θ*/, voiced dental fricative /ð/, the voiced postalveolar fricative /ʃ/ and the voiced postalveolar fricative /ʒ/ are known to cause consonantal articulatory problems for Finns (Morris-Wilson 2003: 1). Sounds that begin as stops but end in a fricative sound are called affricates whereas approximants are produced by changing the shape of the oral cavity (McMahon 2002: 29). When forming an approximant, two articulators move closer together and form a sound without friction (Gut 2009: 30). An approximant is close to a

vowel in its production but is categorized as a consonant because of its behaviour in the sound system of English (Gut 2009: 30). Also the affricates are known to cause consonantal articulatory problems for Finns because the sounds are not present in Finnish (Morris-Wilson 2003: 1). Paananen (1998: 116) also found out that students were unable to differentiate the labiodental fricatives *v* and *w* from each other. Morris-Wilson (2003: 1) explains that the reason why Finns have difficulties recognizing */v/* and */w/* from each other is that Finns often pronounce the voiced labiodental fricative */v/* as a voiced frictionless labiodental continuant */ʋ/*, which is usually interpreted as the voiced labio-velar approximant */w/*.

The place of the articulators logically determines the place of articulation (McMahon 2002: 30-33). For example, as McMahon (2002: 30-33) exemplifies, first, the top lip functions as a passive articulator and the bottom lip as an active articulator in bilabial sounds. Second, the bottom lip is the active articulator and the top of the front teeth is the passive articulator in labio-dental sounds. Third, the lips are approximated but, in addition, also the tongue is lightly pressed against the velum in labial-velar sounds. Fourth, the tongue, more specifically its tip, is used as an active articulator and the top front teeth as a passive articulator in dental sounds. Fifth, alveolar sounds are created by moving the tip or blade (just behind the tip) up towards the alveolar ridge. Sixth, the blade of the tongue is used against the hard palate to produce postalveolar sounds. Seventh, when the front of the tongue (behind the blade) moves up towards the hard palate, a palatal sound is produced. Eighth, the back of the tongue (nearest to the pharynx) functions as an active articulator for velar sounds, where, logically, the velum works as a passive articulator. Ninth, glottal sounds are produced by the vocal folds.

The vowel system of the English language consists of monophthongs, diphthongs and triphthongs. A monophthong (e.g. */e/*, Table 2) is a single sound which remains the same throughout an utterance, whereas a diphthong (e.g. */aɪ/*) can glide and change its vowel quality within a syllable. Logically, a triphthong (e.g. */aʊə/*) includes two changes in vowel quality. Vowels can be described in a qualitative, a quantitative or a quantitative-qualitative manner, out of which the last one is used most frequently as it makes both the vowel quality and the length explicit (Wells 2001). Depending on what way of description is used there can be, for example, seven short (/ ɪ ə e ʊ ɒ ʌ æ /) and five long vowels (/ iː ɜː ɔː ɑː uː

/) (quantitative-qualitative way of transcribing) (Rogerson-Revell 2011: 67-75). Another way of transcribing is the qualitative way in which there is a total of 12 vowels that include the sounds / ɪ ə e ʊ ɒ ʌ æ i ɛ u o a /. In addition, the Upton's scheme where, for example, the */e/* sound is replaced with a more open */ɛ/* which is normally used for languages, such as French, where there are many *e*-types, can also be used for a more accurate description of a language (Wells 2001). Although ways of marking the vowels may differ slightly, the number of pure vowels (monophthongs) in English is normally considered to be 12. In addition to monopthongs, there are eight diphthongs in English: three diphthongs are centering diphthongs that end in a shwa sound (/ ɪə eə ʊə /) and five are closing diphthongs, of which three end in */ɪ/* (/ aɪ eɪ ɔɪ /) and two in */ʊ/* (/ əʊ aʊ /) (Roach 2009: 17).

Table 2. List of vowel phonemes (McMahon 2002: 70-72)

Vowel phoneme (monophthong)	**Sound description**
/ɪ/	front high unrounded (near-close near-front)
/iː/	front high unrounded
/ɛ/	front mid unrounded (open-mid)
/e/	front mid unrounded (close-mid)
/a/	front low unrounded
/æ/	front low unrounded (near-open)
/ə/	central mid unrounded
/ɜː/	central mid unrounded (close-mid)
/ʌ/	central mid unrounded (open-mid)
/ʊ/	back high rounded (near-close near-back)
/uː/	back high rounded
/ɒ/	back mid rounded
/ɔː/	back mid rounded (open-mid)
/oː/	back mid rounded (close-mid)
/ɑː/	back low unrounded

In comparison to consonants, all vowels need to have a very wide articulatory channel, which makes it possible for the tongue to take different positions inside the mouth (Ball et al 1999: 91). Traditionally it is considered that there are five vowels in written English, however, most accents of English actually include approximately 20 vowels (Ball et al. 1999: 41). All English pure vowels, as stated by McMahon (2002: 68-69), are voiced,

central and oral continuants (with few allophonic exceptions) that are produced with a pulmonic egressive airstream. Continuants (i.e. vowels whose airflow is not significantly limited) can be analysed based on their manner of articulation (height, frontness and rounding) and on their length (bearing in mind that a vowel can be a monophthong, diphthong or a triphthong) (McMahon 2002: 68-69).

Looking at the manner of articulation of vowels, as Ball et al. (1999:92) argue, it is important to identify four degrees for tongue height: close, close-mid, open-mid and open. When a vowel is close, the tongue is in the vowel area but very close to the roof of the mouth. In contrast, when the vowel is open, the tongue is pressed low and the jaw is open. Another way of looking at the closedness/openness of vowels, as Ball et al. (1999: 92) continue, is to use the terms high, mid and low vowels. Similarly, in high vowels, the tongue is lifted almost to the roof of the mouth leaving enough space for the air to travel freely and in low vowels the tongue is pressed down (McMahon 2002: 70-71). The term mid vowel covers both close-mid and open-mid as they are often interchangeable according to local varieties of the language (Ball et al. 1999: 93).

The second way of classifying vowels is according to their frontness/backness or in newer terms anteriority (McMahon 2002: 69, Ball et al. 1999: 93). First, in front vowels, as McMahon (2002: 69-70) explains, the utterer's tongue is raised towards the hard palate in a way that allows the air to flow without friction. Second, when the back of the tongue is raised towards the velum, it produces a back vowel. Third, in central vowels, the back of the tongue is in between the hard palate and velum.

A third way to classify vowels is according to their rounding (McMahon 2002: 69). The lips will adjust according to the sound to be rounded or unrounded (McMahon 2002: 71). Also a tripartite division into rounded, neutral and spread is possible and it makes the analysis of the lip shape more precise (Ball et al. 1999: 93).

2.3 **Teaching pronunciation with phonemic symbols**

The Finnish *National Core Curriculum for Basic Education 2004* (NCC 2004: 137) guides teachers teaching grades 1 to 2 to focus on oral comprehension and repetition. In addition, applying oral skills and practicing oral communication are highlighted. When teaching

grades 3 to 6, the focus should still be mainly on oral skills but also written skills should be introduced gradually (NCC 2004: 138). The NCC (2004: 141) indicates that in grades 7 to 9, the proportion of written language should be increased. Thus, it is obvious that oral skills are more valued at the beginning of the comprehensive school. The early emphasis on oral communication would suggest that the students' oral skills in upper secondary school are, in fact, already in good shape and they can concentrate more on written English. However, also the students in upper secondary school need to practice their oral skills as pronunciation is a major reason for problems in interaction both between fluent speakers of English and between native speakers and non-native speakers (Jenkins 2000: 83-85). Pronunciation can, in fact, be a barrier to successful communication for learners in levels from low to upper-intermediate and beyond (Jenkins 2000: 83-85). Having major pronunciation problems at all levels highlights how important teaching pronunciation is. Despite the importance of teaching pronunciation, teachers often pay more attention to lexicon, syntax, morphology and pragmatics as they are viewed more important than pronunciation (Tergujeff 2012a: 34). Nevertheless, an emphasis on oral skills and also an increased level of interest in phonetic skills, which include both productive and receptive skills, is developing (Iivonen 1998: 15-16). This argument is supported by Tergujeff (2012a: 35) who agrees that teachers would like to spend more time on teaching pronunciation.

It is generally known that small babies can learn any language in the world: in the babbling phase they produce sounds covering the whole range of phonetic features that they may never even have heard. McMahon (2002: 3-5) defines phonetics as scientific description of speech sounds that can be used to describe any language i.e. all the sounds that babies make. As McMahon (2002: 3-5) explains, firstly, phonetic symbols represent how the sounds are actually said: a slight phonetic difference in a word does not necessarily create a difference in meaning. Secondly, a subtle mechanical analysis can prove that it is actually impossible to produce the same utterance the exact same way twice even by the same speaker. Thirdly, looking at English from the perspective of phonetics, there are as many English languages as there are its speakers. Even if some phonetic differences are difficult to notice, others can be detected without any mechanical assistance. For example, the phoneme /p/ is pronounced differently in the words *pill [pʰɪl]* and *spill [spɪl]* (McMahon 2002: 18). The sounds *[pʰ p]* are allophones of the same phoneme /p/, the first of which is

aspirated and the second of which is not aspirated. Also vowels can have allophones and, for example, the sound /æ/ has two allophones: one occurs immediately before the voiced velarized alveolar lateral approximant */ɫ/*, another can be found in all other situations that include the sound */æ/* (Wiik 1965: 68). Replacing one allophone with another does not change the word meaning. Recognizing and identifying different allophones is important for linguists but not so important to language learners that wish to learn to language for communication purposes.

When sounds create two lexically different items, the distinguishing sounds are called phonemes and the difference is thus phonemic. Phonemic symbols are generalizations for a certain language and phonemic differences can thus be detected without any mechanical assistance in normal surroundings (no loud background noise). Noticing and being able to produce phonemic differences is crucial in communicating in any language. McMahon (2002: 3) explains, first, that after practicing making all types of sounds, babies gradually start to focus on the language(s) that surround them, i.e. phonemes, which then leads to learning a language, in which only a small number of the possible sounds are used to differentiate words from each other. Second, after learning one language it is unlikely that the child can produce sounds that he or she was able to produce earlier but that are not present in the child's native language. Third, forgetting sounds that one could make before makes learning foreign language pronunciation more difficult. Although learners are exposed to foreign languages more than before and exposure to authentic material improves learners' listening comprehension, it is not enough to ensure good pronunciation skills (Wells 1996). Acquiring pronunciation is not obvious because, in addition to exposure, it is affected by many factors such as first language (L1), age, phonetic ability, sense of identity, motivation and attitude, and, consequently, teaching pronunciation it is of great importance (Rogerson-Revell 2011: 5-6). As phonemes are the description of sounds that differentiate words from one another, instead of using phonetic symbols and overburdening students, phonemic symbols can be used when teaching how English is pronounced.

Rogerson-Revell (2011: 243) claims that using phonemic script in teaching pronunciation is advantageous particularly for languages that have an inconsistent spelling system. This is because phonemic script raises learners' awareness of individual phonemes (especially the vowels) and phonemes in connected speech. The use of phonetic symbols also distracts

attention from ordinary letter associations (James 1986: 324). In addition, once learnt, phonemic script provides learners and teachers with a shared reference point that can be used for error correction, as, for example, the schwa /ə/ would be impossible to refer to without a script (Rogerson-Revell 2011: 243). Phonemic script also helps learners to gain more information from dictionaries and books (James 1986: 324). A less teacher-oriented attitude can be encouraged as learners can become more independent with the help of phonetic notation; the phonetic transcription symbols can be, for example, used in learners' notes when they hear a new word (James 1986: 324).

It can be argued that phonemic transcription symbols are difficult to teach and learn. Some of the disadvantages of using phonetic notation are as follows (James 1986: 324):

1. "may confuse
2. overloads (young) learners
3. poses questions of level
4. can be confusing because of the proliferation of different 'alphabets'"

However, a study (n=34) by Lintunen (2004: 185-187) with university students showed that 76.3 % of the university students studying English found transcription symbols easy to understand and 20.3 % found some symbols easy. In conclusion it can be argued that it is not the transcription symbols *per se* that are difficult. Though university students are more advanced in their language and academic skills, the vast majority (82 %) of the students considering the transcription symbols advantageous to their pronunciation implies that also younger students could benefit from their use.

Phonetic training (33 %) was the most frequent way of teaching pronunciation in an EFL book analysis that based on 16 different EFL books (n=1803) (Tergujeff 2013a: 39), which, together with the information that 97.8 % of the teachers (n=90) use text books (Tergujeff 2012a: 35-36), suggests that phonetic symbols should be somewhat familiar to students nowadays. However, EFL teachers in Finland, as exemplified earlier, disagree on how useful phonetic symbols are and, in fact, phonetic training exercises are not used by all teachers (Tergujeff 2012a; 2013: 41). As phonemes change a great deal due to their environment and speaker it is important to teach transcription symbols explicitly to students (Lintunen 2004: 188). Although the pronunciation of lexical items is provided in textbooks

76.9 % of university students of English had not been taught how to use transcription symbols in lower levels of school (Lintunen 2004: 187). Nowadays, based on a study by Tergujeff (2012a), 72.8 % (n=92) of the teachers teach students to recognize phonetic symbols whereas only 5.4 % teach student to write them. In the opinions of some reserved teachers, the pupils do not need to learn the symbols and they would be too difficult and confusing for the students. However, others found that phonetic symbols had taught students to pronounce English better and they had made their students' independent study easier. The symbols were also thought to help the student in distinguishing written language from its spoken counterpart. In addition, the teachers thought that some students enjoy learning the symbols as they are fun and interesting.

Especially if phonemic symbols are not taught to students a teacher acts as a role model for pronunciation: articulation has to be clear and accurate and the language used by the teacher should not deviate too much from the standard language (Kallioinen 1998: 77). However, the definition of a standard language in English is difficult as there are hundreds of millions of its speakers in different parts of the world (Nevalainen 1998: 95). Furthermore, probably as a result of aiming to use standard English, the strong forms of the phonemes are extensively used by teachers, which actually gives students an inaccurate pronunciation model (Morris-Wilson 2003: 179) which, in turn, results in a foreign accent (Iivonen et al. 2006: 67-68). According to Rogerson-Revell (2011: 160, 173), there are approximately 50 words that have weak and strong forms, which account for every seventh word in spoken English. Although, as Rogerson-Revell (2011: 160, 173) observes, the weak and contracted forms (e.g. *and /ə/, can't /kaːnt/*) are frequent in English, their use is not self-evident to L2 learners. Even though the weak and strong forms do not normally affect intelligibility, they make speech more fluent and effective (Rogerson-Revell 2011: 160, 173). Teaching the strong forms for Finns causes pronunciation difficulties, such as failing to acquire the natural flow, rhythm and stress placement (Morris-Wilson 1992: 179), which are all suprasegmental features of speech that have an essential role in intelligibility (Tergujeff 2013a: 25). Possibly with the help of phonemic symbols, the difference between strong and weak forms could be clarified and the role of a teacher as a provider of a pronunciation model for new words would decrease. Students could also acquire a more natural flow with a visual aid for pronunciation.

Words can become homophones (neutralization) because of the reduction of various vowel sounds to /ə/ and because of the loss of consonants in weak forms (Morris-Wilson 1992: 187). A syllable which includes a weak form is called a weak syllable. Vowels can also be elided in weak syllables (e.g. *per* in *perhaps* /præps/) (Rogerson-Revell 2011: 108). Nevertheless, even the reduced sounds and elisions follow certain rules, and they cannot be used ambiguously and, in fact, also their use is a source for learning difficulties (Iivonen 1998: 16). However, failing to use weak forms is not essential for intelligibility but it makes speech more effective and fluent (Rogerson-Revell 2011: 173). The strong form of a word is used as rarely as one time out of ten, which is why at least the awareness of the weak forms should be raised already at school (Morris-Wilson 2003: 184). The awareness of weak forms could be raised, for example, with the help of phonemic transcriptions. Pronunciation and transcription skills correlate and phonemic transcription exercises are effective in teaching English as a foreign language especially for learners who are used to having a close grapheme-phoneme system in their native language (Lintunen 2005: 1). Transcriptions can be used to correct misperceptions of pronunciation (Kuutti 2009: 6).

Similarly to the use of strong and weak forms, also co-articulation is thought to be difficult for Finns probably because of a resistance towards co-articulation that arises from an idea of what is believed to be good pronunciation (Morris-Wilson 1992: 190). Co-articulation means fusing phonemes into one syllabic unit and instead of producing all letters as distinct phonemes, one produces an entity that can be very confusing for a child learning to write. The medial vowel that is influenced by its surrounding consonants and that influences the initial consonant is thus important (Adams et al. 1998: 4). The influence of the medial vowel can be seen, as exemplified by Rogerson-Revell (2011: 162-170), first, in *went*, where the medial vowel *e* is nasalized before a nasal consonant *n.* Second, neighbouring words change the way words are pronounced (e.g. *light blue / laɪt bluː /* becomes */ laɪp bluː /*) and many speakers add an intrusive *w*, *j* or *r* into their parole (e.g. *high up /haɪjʌp/, media event /miːdɪəriːvent/*). Even though co-articulation and connected speech cause Finns some problems in pronouncing English (Morris-Wilson 1992: 190), they are not present in almost any pronunciation exercises in Finnish EFL book series (Tergujeff 2013a: 40).

Normally, the pitch of the voice, which can have an effect on the phoneme, is determined by the length of the vocal folds (McMahon 2002). However, the speaker can, as explained

by Gut (2009: 10, 19-20), with some limitations, also consciously affect the pitch and, for example, form a question with a rising pitch by affecting the tenseness and length of the vocal fold. First, the aforementioned limitations are caused by tenseness, length and size of the vocal folds. The shorter, thinner and tenser the vocal folds are the faster they get when they vibrate; fast vibration causes a higher pitch. Second, the aforementioned changes in pitch when forming a question can be seen in spelling in some cases with the help of punctuation marks, nevertheless, the coverage of punctuation marks is inadequate for all changes in pitch.

The English spelling system gives no hints about where the word stress is placed (unlike, for example, French with diacritic marks) which makes the learning of correct stressing more difficult (Gut 2009: 10). Especially Finns have been found to have problems with proper stress placement in English as Finnish is a syllable-timed language and English stress-timed (Morris-Wilson 1992: 190). As English is considered to be a stress-timed language, placing the stress correctly makes a difference in the speech rhythm, which, in hand, affects the intelligibility of the speech (Pennington 1996: 135). On some occasions, for example, if the utterer wants to stress a specific word for informational purposes, the intonation and stress placement can be affected (Roach 2009, 126-129). In the worst case, failing to use proper intonation can lead to misleading people, disrupting communication and causing annoyance (Rogerson-Revell 2011: 192).

The stress placement of English can be somewhat predicted and could thus also be taught to students of English: English often stresses the first syllable of the stem because of its history with Germanic languages (McMahon 2002: 119-120). However, as McMahon (2002: 120) demonstrates, English has also been influenced by loan words from Romance languages, which has led to English having a mixed stress system. There are two rules that help in predicting the stress placement (McMahon 2002: 120). The first rule is the noun rule, according to which, the syllable is stressed if it is heavy (i.e. syllable has a branching rhyme with a long vowel or a diphthong or a short vowel with a coda) and if not, stress the antepenult. The second rule is the verb rule, which tells the speaker to stress the final syllable if it is heavy and otherwise keep the stress on the penultimate syllable. The stress on the right syllable is especially important when distinguishing, for example, specific nouns from verbs and adjectives (e.g. the noun *a present* vs. the verb *to present* vs. the

adjective *present*). Homophones, such as *write* and *right,* homographs, such as *lead,* and changes in the word stress, such as in the verb-noun pair *object,* prove that English pronunciation is rather ambiguous (Wells 1996). In addition to lexical and grammatical meanings, phonological differences can also change what the speaker actually means with the help of word stress (e.g. sarcasm) (Rogerson-Revell 2011: 3). An example of a difference in discourse meaning are sentences in which the word stress is in bold, "I **thought** you went home" (i.e. and the person did) and "I thought **you** went home" (i.e. but the person did not; it was someone else). The discourse meaning can also be affected by other phonetic gestures such as pitch, tempo, breathing, laughter, stuttering, pauses or even silence (Koyama 2006: 704). In order to help students learn how to stress words, where to place intonation and, ultimately, how to pronounce English, they should be provided with a visual aid such as phonemic symbols. As Tergujeff (2013a: 23) points out, using phonemic symbols in teaching pronunciation of English to Finns is especially beneficial because Finnish speakers are used to a close grapheme-phoneme relation.

Morris-Wilson (2003: 6) suggests that articulatory fluency will lead to speaker confidence, which, in turn, will allow and encourage students to concentrate on smaller mistakes such as, defined by Collins and Mees (2003: 187), errors in intonation, lack of syllabic consonants and compound stress. However, in order to be able to concentrate on smaller errors, one must first acquire fluency in segmental phoneme production (Morris-Wilson 2003: 6). Learning how to pronounce separate sounds is especially important for Finns, whose mother tongue (Finnish) is clearly phonologically different from English (Tergujeff 2013a: 28). Phoneme production can be made easier with the help of phonemic transcriptions as the grapheme-phoneme relation is not straightforward in English. In order to make the gap between pronunciation and orthography smaller, it is useful to describe oral production with transcription symbols that provide students with visual aids. Transcription symbols also raise students' awareness in pronunciation as they notice, for example, how there are strong and weak forms in English (Morris-Wilson 1992: 179). Morris-Wilson (2003: 4, formatting in the original) writes that "many Finnish learners experience pronunciation difficulties not because of the practical 'mechanics' of producing a sound but because of the **spelling** used to represent the sound visually (and silently) on the page." Without a doubt, Finns also have consonantal articulatory problems with sounds that are not known in the Finnish sound system (i.e. the plosives / p b t d k g /, the fricatives

/ f v θ ð s z ʃ ʒ/ and the affricates / tʃ dʒ /) (Morris-Wilson 2003: 1). The main reason for using phonetic transcription in studying languages is that it gives a direct specification of the pronunciation of a word that the written form normally does not give (Wells 1996). Often, however, a phonemic transcription is enough as phonemes distinguish words from each other.

3 METHODOLOGY

The methodology of the present study begins from section 3.1 by explaining the aims of the study. The focus then moves on to explaining how the study was conducted with the help of a questionnaire in section 3.2. Section 3.3 describes the data analysis.

3.1 Research questions

The first aim of the study (RQ1a) is to find out if students in upper secondary school value orthography and writing more than pronunciation and speaking. This is an interesting and relevant question to the research field, because of the shift from grammar-centred methods to more communicative ways of teaching EFL, which was explained more thoroughly in section 2.1. This topic has not been previously studied and the study can be later used as a comparison point for future studies of upper secondary school students' opinions that might change, for example, if Finland adopts an oral subtest to the matriculation examination of English.

The second aim of the study (RQ1b) is to learn how much pronunciation is taught in elementary and upper secondary schools in the experience of the students. There is already some knowledge of how much teachers believe to teach pronunciation of English (Tergujeff 2012a) but little information of what the students experience (Tergujeff 2013b). The present study offers insights in particular into the views of upper secondary school students that have not previously been in the focus of a study about learner experiences of teaching EFL pronunciation.

As previously mentioned, as phonemic symbols are language-specific and therefore narrowed down from phonetic symbols, they are not as exhaustive to learn as phonetic symbols. With fewer symbols to learn, it is more advantageous to use phonemic symbols, instead of the phonetic ones, in teaching EFL. For this reason, the present study focuses on phonemic symbols that could be used in teaching pronunciation of English. Phonemic notation is already well presented in EFL books series in Finland (Tergujeff 2012a: 39) but to what extent teachers take advantage of them varies (Tergujeff 2012a: 41). The third aim (RQ2) is to find out how well students already master phonemic transcription symbols.

This information can be used for designing new teaching materials and it functions as a comparison point for how the students' level of mastery of phonemic symbols might change in the future.

The following research questions will be answered:

RQ1a. Are pronunciation and speaking, in the students' opinion, more important than orthography and writing?

RQ1b. How much is pronunciation taught in elementary and upper secondary schools in the experience of upper secondary school students?

RQ2. How well do the students master the phonemic symbols in upper secondary school?

3.2 **Data collection**

The data collection of the present study in section 3.2.1 explains how the questionnaire was created by first giving general information about it and then by going through the questionnaire question by question. Also the piloting stage is looked into in section 3.2.1 Section 3.2.2 focuses on the respondents.

3.2.1 Questionnaire

The data collection was conducted by administering a questionnaire (see Appendix 1). The first question of the questionnaire provides an answer to the first sub-question of the first research question (RQ1a). Questions 2 to 4.3 find out how much pronunciation has been taught to the students from elementary school up to upper secondary school and thus gives an answer to the second sub-question of the first research question (RQ1b). Questions 5 and 6, answering the second research question (RQ2), give more detailed information about how well the students, first, think they know the phonemic transcription symbols and, second, how well they can recognize the words written in phonemic symbols. At the end of the questionnaire the students were given a chance to comment on their experiences of how pronunciation had been taught to them and/or phonemic transcription symbols. The rest of the questionnaire asked for background information of the respondents.

The questionnaire is built so that it moves logically from easy questions to more difficult ones as suggested by Heikkilä (1998: 47-48). A reason for leaving personal questions last is that once participants are ready to answer giving them a questionnaire that reminds them of filling in an official form can be highly off-putting (Dörnyei and Taguchi 2010: 48). The instructions are kept simple and the layout of the questionnaire has been made as appealing as possible with the use of simple colours; the questionnaire also has a clear sequencing with the help of running numbers as recommended by Heikkilä (1998: 47).

It was decided that the questionnaire should be done in writing to avoid any inaccuracies in interpreting the answers and to increase the number of participants in the study. Getting many participants was considered important because previous studies of teaching EFL pronunciation have been conducted with interviews and as case studies (Tergujeff 2012a, 2012b, 2013b). The number of possible answers to multiple-choice questions was limited in the present study to two options in section 1, four options in sections 2 to 4 and three options (in addition to the student's self-invented option) in section 6. Multiple-choice questions were selected, as argued by Heikilä (1998: 50), because of their advantages: answering does not take too long and the answers are easy to analyse statistically. Multiple-choice questions, of course, have also disadvantages that include answering without considering the answers properly, not having an option that the respondent would like and that the options might lead the respondent to answer in a certain way (Heikkilä 1998: 50). The disadvantage of not having the option the respondent would like was considered a serious problem and, therefore, in section 6, the student could also come up with a more suitable option of her or his own. In addition, all the sections with multiple-choice questions also included space for the student to comment on his or her answers.

As completely open-ended questions are easy to construct but more difficult to analyse and as grouping the open-ended questions can be challenging and, as Heikkilä (1998: 48) suspects, they can attract the respondent to leave some questions blank, the present study used open-ended questions only for comments. Section 7 was an open-ended question about the methods used in teaching pronunciation and left room for the students to tell about their own experiences. To make sure that the students get to express their own opinions without feeling tied down by multiple-choice questions, section 7 also functioned as a way for the student to comment on the questionnaire.

The first page of the questionnaire offered the respondents details about the study. First, the cover letter explains why English pronunciation is relevant and what the study aimed at. Second, the respondents were offered an explanation of what phonemic symbols are. The explanation of the phonemic symbols was that they are instructions for pronunciation that are often inside square brackets (e.g. [ˈhæpi] for the word *happy*). The respondents were also made aware of the similarities of the phonemic symbols and the Roman alphabets. The respondents were specifically asked to think if they know the symbols as alphabets or as phonemic symbols when answering. Third, the cover letter explains that the individual respondents' answers are not judged or evaluated in a negative way and that the questionnaire is anonymous. Also, the respondents were informed that the questionnaire forms will be destroyed after the analysis. These clarifications were given to the respondents to make sure that they would feel confident to answer the questions the best they could without being afraid of not knowing everything. Fourth, the cover letter gives technical instructions in how to fill out the questionnaire. Fifth, the cover letter reminds the respondents that they are allowed to comment on their answers. The respondents were also informed of the fact that the analysis is a part of the author's Master's Thesis and that the findings can be found in the publication archives of the University of Jyväskylä.

The questionnaire begins with questions of what the student values more: writing or speaking and orthography or pronunciation. Both questions are simple questions with two options to choose from to make the comparison clear. Naturally, as the choice might be difficult the students were given the chance to justify their answer in the comment field.

The second question finds out how pronunciation has been taught in elementary schools in grades from 1 to 6. Logically, the third question concentrates on the same issue in grades from 7 to 9 or, in some cases, 10. The fourth question reveals the same experiences for upper secondary schools. The suggested options for how pronunciation has been taught to the students based on the author's previous experience of studying teaching EFL pronunciation (Saarelainen 2011) and checked in the piloting stage of the present study. The students were provided with a separate space for commenting on EFL pronunciation teaching. The scale of how often pronunciation had been taught to students was the same in sections 2, 3 and 4: 1 = Not at all or very rarely (a few times a year at the most), 2 = Rarely (approximately every second month), 3 = Occasionally (approximately every month) and

4 = Often (Approximately every week). All the sections were divided into sub-questions finding out exactly what methods of teaching pronunciation had been in use and how often. This division was made to gather more information of how common the use of phonemic symbols is, in the students' experience, especially in comparison to other ways of improving the students' pronunciation.

Section 5 of the questionnaire was a recognition task of phonemic symbols. The respondents were asked to pronounce the symbols silently in their minds and assess which symbols they recognized as phonemic symbols. In section 5, the respondents were also asked to think if they would know how to pronounce a word with the help of the symbol. The respondents were simply asked to circle the ones they were familiar with. In section 6 of the questionnaire the respondents' skills in recognizing the corresponding words to given phonemic transcriptions were tested with multiple-choice questions. The benefits of using multiple-choice questions are as listed below. The students were also encouraged to add their own choice if they thought none of the words corresponded to the transcript. The option "I don't know" was intentionally left out to encourage insecure respondents to choose the option they considered the best.

The phonemic symbols in sections 5 and 6 of the questionnaire follow the International Phonetic Alphabet (IPA, see Appendix 2 for a full table) system because it is the most common and well-known way of transcribing and because it is often used in Finnish EFL book series (Tergujeff 2013a). In section 5 of the questionnaire, the vowels are introduced in a quantitative–qualitative way of transcribing (e.g. Rogerson-Revell 2011: 67-75), in which the vowel quality and length are explicit (see section 2.2.), to offer the students a consistent way of using the phonemic symbols throughout the study. However, in section 6 of the questionnaire the phonemic symbols are used together with Upton's scheme (see e.g. Wells 2001) to make the difference between *e*-sounds more distinct. The diphthongs are introduced as is usual in the research field (see e.g. Roach 2009: 17): there are three centring diphthongs (/ ɪə eə ʊə /) and five closing diphthongs (/ aɪ eɪ ɔɪ əʊ aʊ /). The focus in the present study is on monophthongs and diphthongs and, therefore, no triphthongs were included in the questionnaire. The consonants for the questionnaire were chosen based on Yule (2006: 34-35) because the book thoroughly introduces the consonant system of

English and because future EFL teachers use it in their studies. The symbol */x/* was excluded because it is only used in rare words such as *loch*.

The sample words for the questionnaire were mostly chosen based on Morris-Wilson's (2003: 84-85) examples of consonants of Received Pronunciation (RP) and pure vowels of RP. The RP consonants that were used in the study included *ladder, thank, this, ice, easy, pleasure, watch, suggest* and *write.* Pure RP vowels in the study included *bat* and *bird.* The phonemic transcriptions for the lexical items were checked from *Concise Oxford Dictionary of Current English* (1990), in which the transcripts follow the International Phonetic Alphabet (IPA) system.

Section 8 of the questionnaire consisted of background questions. The background questions concentrated on the gender, upper secondary school years, completed English courses and the grade for the last English course completed. These questions were asked so that a comparison between, for example, the skills in recognizing phonemic symbols and what was the last grade the student had received in English would be possible.

The author's Bachelor's Thesis (Saarelainen 2011) functioned as the first piloting stage for the present study. Based on the experience gathered with the previous study, the present study has left out all the productive tasks related to phonemic symbols that the students would probably have found too difficult. This decision was made based on the fact that too difficult questions might make students feel too insecure to answer which would prevent an accurate analysis of the students' productive skills. The productive part was left out also because productive skills are not that often explicitly taught to students and it is questionable if students even need productive skills to be competent in English pronunciation (Tergujeff 2012a: 38). Consequently, the present study concentrates only on receptive skills in phonemic symbols but reveals more about the students' background in learning pronunciation in English. In addition, the number of word recognitions included in the questionnaire has been increased significantly.

In the second piloting stage of the study, the questionnaire form was introduced to two upper secondary school students. The first student went through the questionnaire with the author and some wordings were revised. Overall, the first student found the questionnaire clear enough to be handed out to the target group. However, in order to find out if there

were some difficulties in filling in the questionnaire and to find out how long it takes, another student filled out the form without the author's assistance. In the second student's opinion, the questionnaire was easy to fill out but all the questions regarding the phonemic symbols were difficult because he had not paid any attention to learning them before. Despite the lack of knowledge of the symbols, the student was, however, able to fill out the whole form, which is why no further changes were made to the questionnaire. The estimated time for filling out the questionnaire was 30 minutes. However, the teachers were informed that, depending on the group and their willingness to comment on the questions, filling out the questionnaire could be faster or slower.

3.2.2 Respondents

The target group of the present study was students in upper secondary schools in grades 1 or 2 who study English as an A-language in a Finnish school in Central Finland. A-language means that the students have been studying English already in elementary school. The students in the present study were from six different schools which situated all across Central Finland. The author was present when the first questionnaires were filled out in classroom settings. This was to ensure that if there were any further questions about the questionnaire, the author could let all the other schools know, for example, what the questions meant. However, despite some questions about the technicalities of the questionnaire, for example, the students wanted to specify if the question about the number of courses meant the actual number of the courses or if the students were expected to circle all the courses that they had passed, there were no questions asked. The technicalities of filling out the questionnaire were not considered crucial for the success of the study as the author believed she could interpret the answers whichever way the students understood the question and, therefore, the information about them was not passed on to the other schools. The schools for the study were randomly selected; the only criterion for the selection being the location of the school. The total number of the respondents was 96 students (see Table 3).

Table 3. Respondents by school

		Frequency	Percent
Valid	School A	16	16,7
	School B	22	22,9
	School C	10	10,4
	School D	14	14,6
	School E	17	17,7
	School F	17	17,7
	Total	96	100,0

Out of the 96 respondents 57 (~59 %) were girls and 36 (~38 %) boys (see Table 4). Three students (~3 %) did not specify their gender. The present distribution of the students into boys and girls represents the Finnish upper secondary schools fairly well because, for example, in 2013 ~57 % of students in upper secondary schools were girls and ~43 % boys (Koulutustilastot 2013).

Table 4. Respondents by gender

		Frequency	Percent
Valid	Girl	57	59,4
	Boy	36	37,5
	Total	93	96,9
Missing	-9999	3	3,1
Total		96	100,0

The majority of 76 students (~79 %) were in their second year and 19 (~20 %) were in their first year in upper secondary school (see Table 5). One student (~1 %) did not answer the background question. First-year students have, usually, studied English for almost eight years whereas the students in grade 2 normally have almost nine years of studies in English. All the students in the same grade should, as they have received the same EFL teaching, theoretically, be on the same level with each other in their English skills which is why the background information is important even if the exact years of studying English is not known.

Table 5. Respondents by year in upper secondary school

		Frequency	Percent
Valid	First	19	19,8
	Second	76	79,2
	Total	95	99,0
Missing	-9999	1	1,0
Total		96	100,0

Most of the students had good grades in their previous English course: 66 (~69 %) students had a grade of 8 or above which means that the students' level of English was altogether fairly high (see Table 6). Some students naturally had received lower grades, too. Two students (~2 %) did not answer the question.

Table 6. Respondents by previous English course grade

		Frequency	Percent
Valid	4	1	1,0
	5	2	2,1
	6	13	13,5
	7	12	12,5
	8	22	22,9
	9	29	30,2
	10	15	15,6
	Total	94	97,9
Missing	-9999	2	2,1
Total		96	100,0

In order to avoid some unwanted variables, such as the students feeling nervous about the questionnaire, the respondents filled in the questionnaire in regular classroom settings. The questionnaire was briefly introduced in the cover letter by explaining who was conducting the present study and for what purposes. The teachers reported of no technical problems in filling out the questionnaire. However, one teacher (school D) made a remark that she had not taught any phonemic symbols to the students, which had made filling out the questionnaire slightly confusing to her students.

3.3 **Data analysis**

The answers were investigated both quantitatively and qualitatively and the statistical values of the results were partly calculated manually and partly with a statistical analysis programme SPSS (Statistical Package for the Social Sciences). The answers to the first sub-question of the first research question (RQ1a), which can be found in section 4.1, were looked into by counting the percentages of how many students valued speaking and pronunciation over writing and orthography. In addition, the students' comments were looked into but as there were few comments, no grouping was found necessary (See Appendix 3 for all comments).

The answers to how much pronunciation was taught in the experience of upper secondary school students (RQ1b) can be found in section 4.2. The results were analysed by level, i.e. first, grades from 1 to 6, second, grades from 7 to 9 and, last, upper secondary school. In the case of how pronunciation had been taught to students, a division between phoneme-related and other ways of teaching was made to bring out how much the frequency of using phonemes in teaching EFL pronunciation might vary from one level to the next. The averages of the students' answers were counted to represent the tendencies of the frequency of EFL pronunciation teaching. The averages were also compared to the previous education level to find out whether pronunciation teaching, in the experience of the students, increased or decreased when moving from lower to higher levels. The choice of looking at the students' answers with the help of averages instead of looking at each question individually was made because of the limited scope of the present study. Naturally, in later studies the differences between the use of different techniques and their frequencies should be more thoroughly analysed as only a fraction of possible EFL pronunciation teaching techniques were listed in the present study. The results were presented by school to find out if there were any differences between schools on how much the students felt that they had received EFL pronunciation teaching.

The second research question (RQ2) of how well students master phonemic symbols in upper secondary school will be dealt with in section 4.3. First, the students' performance in symbol recognition was analysed with the help of percentages of how many students claimed to know each phonemic symbol. Second, similarly, also the students' performance

in pronunciation recognition was looked into. The results were shown by school to see if there was any variation between them. The results were also divided by groups of good level of mastery (with exactly or more than 50 % of the students recognizing the symbol or pronunciation), average level of mastery (from 26 % to 49 % recognition rate) and poor level of mastery (exactly 25 % or less recognition rate). In addition, the reasons why students might have struggled with recognizing the symbols were discussed (see Chapter 5).

4 FINDINGS

The present chapter reports the findings of the present study one research question at a time. Section 4.1 answers the first research question (RQ1a and RQ1b) about the students' views and experiences of teaching English pronunciation. Section 4.3 concentrates on phonemic symbols and how well the students mastered them (RQ2). Also some background variables are looked into.

4.1 Students' views and experiences of speaking and pronouncing English

The present section answers the first research question. The present section concentrates on finding out which the students in upper secondary school appreciated higher: speaking or writing and pronunciation or orthography (RQ1a). In addition, the present section tells how much pronunciation was taught in elementary and upper secondary schools in the experience of the upper secondary school students (RQ1b).

The first question of the questionnaire concentrated on what the respondents (n=96) found more important in learning English: writing or speaking. The result of the vast majority (~90 %) of the students considering speaking more important than writing (Figure 1) is in line with the historical review which concluded that there has been a shift from teaching writing to teaching speaking in English (see Section 2.1.). The result shows how important speaking is for the students and supports the idea of teaching oral skills. The students' comments (see Appendix 3) revealed that they believed speaking to be more important because it was more often used in real life situations such as travelling. One student also stated that speaking was more important because one can rarely use any help in speaking whereas in writing one can always consult, for example, dictionaries. Another student also noted that speaking was easier to make use of as a way of learning especially in comparison to a more mechanic way of learning by writing. This comment supports the opinions of reformist thinkers who thought that concentrating on pronunciation is more advantageous than teaching a student how to spell (Howatt 1984: 172)

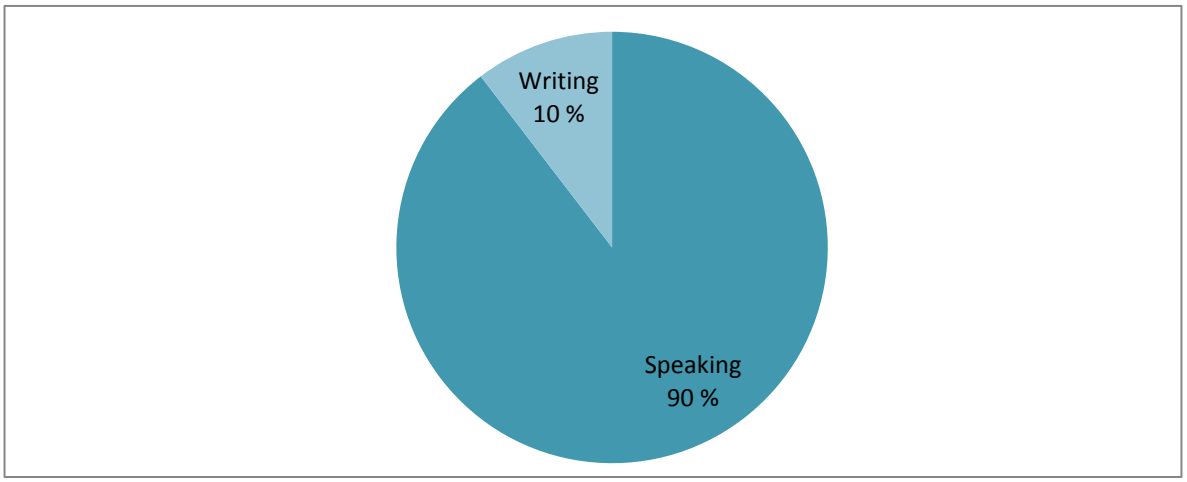

Figure 1. Speaking vs. writing (n=96)

The study also found out which the students (n=96) considered more important, pronunciation or orthography (Figure 2). Pronunciation was considered more important than orthography by the majority of the students (~55 %). In a student's opinion, spoken language is more understandable even if it not pronounced correctly, which might not be the case with writing and spelling mistakes.

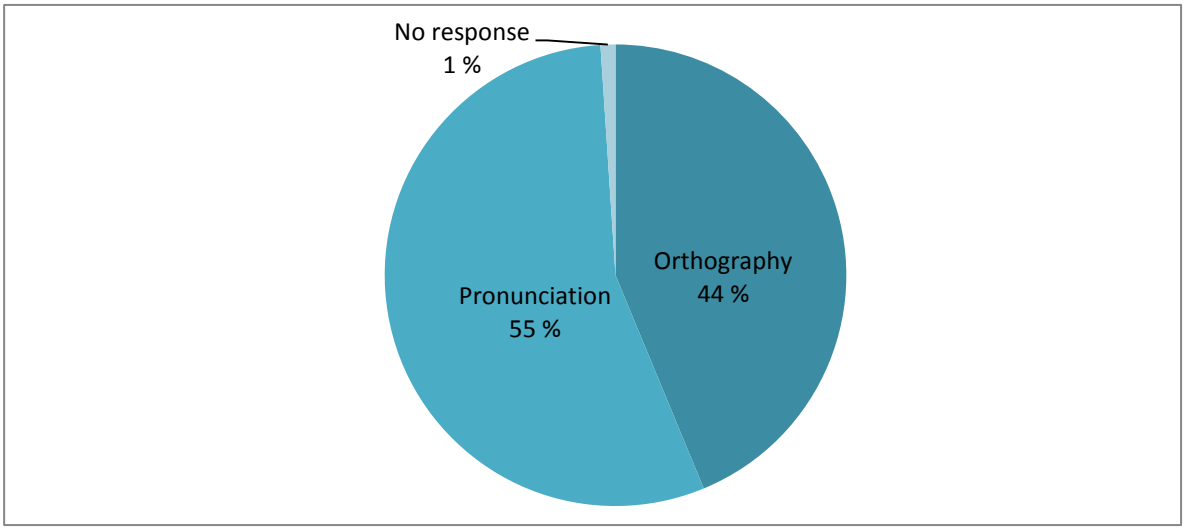

Figure 2. Pronunciation vs. orthography (n=96)

The information of how often and in what ways pronunciation had been taught was gathered with sections 2 to 4.3 in the questionnaire. The scale for the answers concentrating on how often pronunciation of English was, first, taught in elementary schools in grades 1

to 6, then, in grades 7 to 9 and, lastly, in upper secondary schools was 1=Not at all or very rarely (a few times a year at the most), 2=Rarely (approximately every second month), 3=Occasionally (approximately every month) and 4=Often (Approximately every week) (see Appendix 1). The findings reveal that most of the students (~53 %, n=96) thought that pronunciation had, as the NCC (2004) suggested, been taught to them often (approximately every week) in elementary school in grades 1 to 6 (Figure 3). Some of the students (~40 %) felt that pronunciation had been taught only occasionally (approximately every month). Furthermore, ~6 % of the students thought that pronunciation had been taught rarely (approximately every second month). Some of the students commented that they could not remember and/or were not sure how often pronunciation had been taught to them (see Appendix 3). One student commented on how changing the school in the middle of elementary school made the evaluation of the frequency of pronunciation teaching difficult: in one school pronunciation had been carefully taught but little attention had been paid to it in another one. This comment is in line with previous findings that, for example, phonetic training exercises are not used by all teachers as teachers disagree on how useful phonemic symbols are in learning how to pronounce a language (Tergujeff 2012a; 2013: 41).

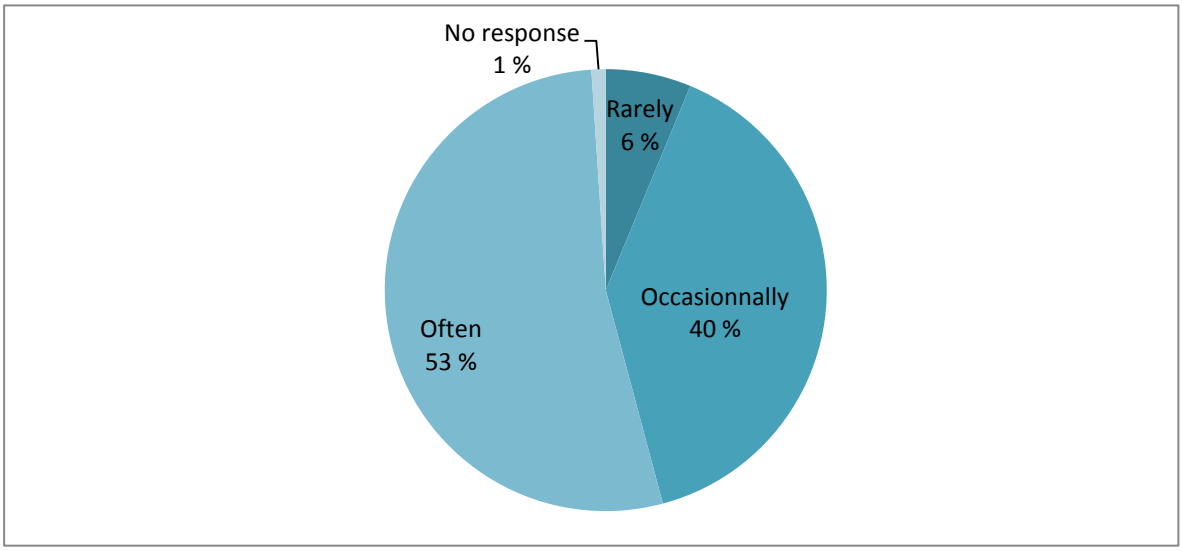

Figure 3. Frequency of teaching pronunciation (grades 1 to 6, n=96)

Table 7 has been compiled using the combined average of the answers of each student to question 3.2 in the questionnaire. This means that the questions a, b, c, d, e and f in section 3.2 represent the values for other teaching techniques. Similarly, the questions g, h, i, j, k and l in section 3.2 are the basis for evaluating the frequency of teaching pronunciation

with the help of phonemes. The same logic was also used for other tables in the present section. The present study found out that phonemes are not used as often as other techniques in teaching pronunciation of English. However, the results of the present study are also in accordance with a previous study stating that there are differences between teachers in much they take advantage of phonemic notation (Tergujeff 2012a: 41).

Table 7. The average frequency of teaching pronunciation (grades 1 to 6)

The average frequency of teaching pronunciation in grades 1 to 6 with the help of…	School A (n=16)	School B (n=22)	School C (n=10)	School D (n=14)	School E (n=17)	School F (n=17)	Total (n=96)
Phonemes	~2.10	~1.61	~1.85	~1.45	~1.95	~1.97	~1.82
Other techniques	~2.49	~2.51	~2.91	~2.55	~2.46	~2.55	~2.55

These results show that phonemes had been used as a teaching technique on average less than every second month with an average answer of ~1.82 for all schools. It can also be inferred that other techniques were used around every six weeks with an average answer of ~2.55. Some of the students commented that EFL pronunciation had been taught to them only in one particular way (see Appendix 4). However, there are clear differences between schools and teachers as some of the students continued the list of pronunciation teaching techniques by listening, repeating words or phrases after the teacher or record player, singing and simply speaking. Overall, these results show that pronunciation is taught rather extensively in grades 1 to 6 in elementary school but not that much with the techniques listed in the questionnaire.

The results for grades 7 to 9 in elementary school show a change in emphasis in EFL pronunciation teaching. A clear majority of the students (~68 %, n=96) believed that pronunciation had been taught to them often (Figure 4). In addition, ~26 % of the students felt that pronunciation had been taught to them occasionally (approximately every month). Teaching EFL pronunciation in grades 7 to 9 saw a 15 %-unit increase in comparison to grades 1 to 6 for the option *often* (approximately every week). This change in the amount of teaching pronunciation differs from what the NCC (2004) suggests.

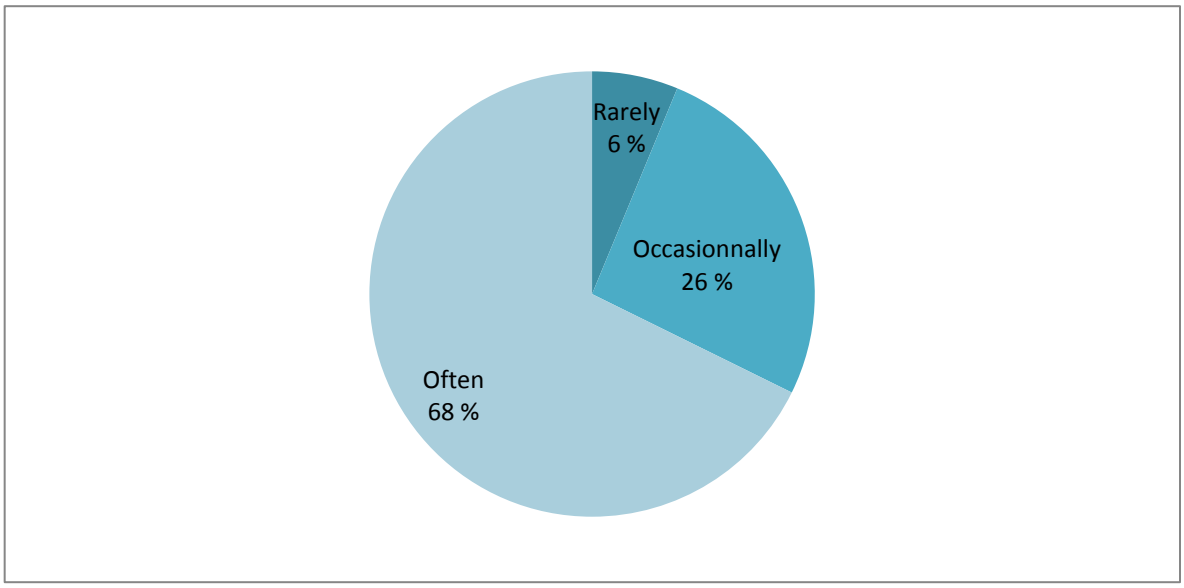

Figure 4. The frequency of teaching pronunciation (grades 7 to 9, n=96)

Table 8 gives an idea that phonemes had been used, similarly to grades 1 to 6, as a teaching technique on average less than every second month with an average answer of ~1.74. It can also be inferred, again similarly to grades 1 to 6, that other techniques had been used around every six weeks with the average answer of ~2.51. The results for the listed teaching techniques show that the frequency of teaching pronunciation had decreased from lower levels, which is also what the NCC (2004) suggests. The students, however, suggested that also other techniques that had not been listed in the questionnaire, for example singing, had been used in class (see Appendix 4).

Table 8. The average frequency of teaching pronunciation (grades 7 to 9)

The average frequency of teaching pronunciation in grades 7 to 9 with the help of…	School A (n=16)	School B (n=22)	School C (n=10)	School D (n=14)	School E (n=17)	School F (n=17)	Total (n=96)	Difference in average total to grades from 1 to 6 (n=96)
Phonemes	~2.07	~1.44	~1.60	~1.25	~1.77	~2.26	~1.74	-0.08
Other techniques	~2.65	~2.32	~2.73	~2.26	~2.37	~2.84	~2.51	-0.04

The frequency of teaching pronunciation decreased in upper secondary school in comparison to grades from 7 to 9 in elementary school (Figure 5). However, the frequency of teaching pronunciation is similar to grades 1 to 6 in elementary school for the option *often (approximately every week)*. Despite the similar results for *often*, there were more students than before choosing the option *rarely* (~11 %) and some students (~2 %) also felt that there had been no or very little teaching of pronunciation.

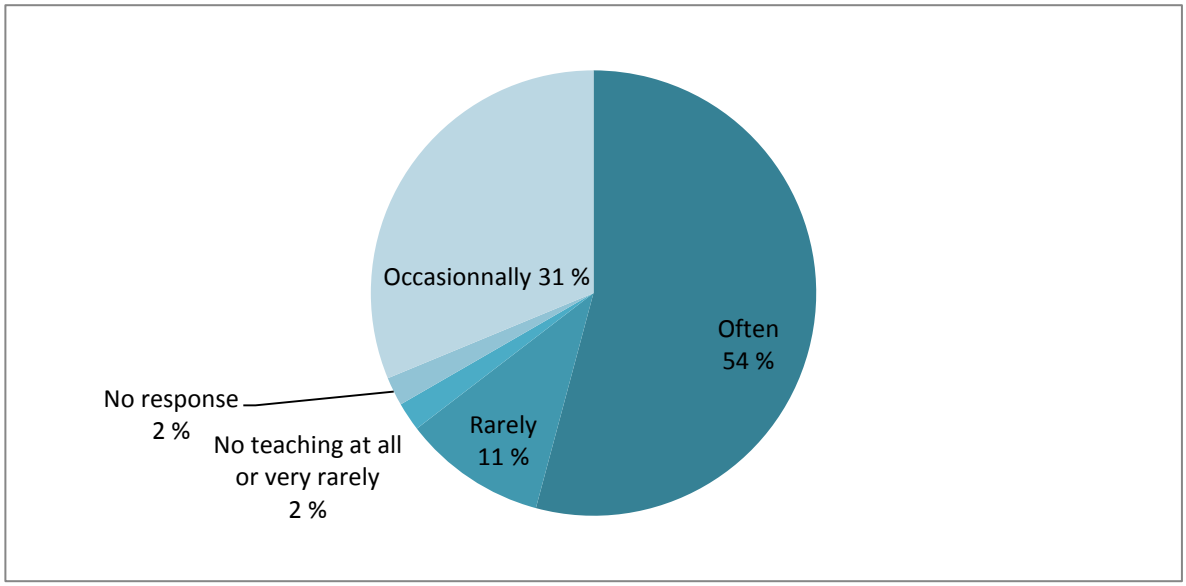

Figure 5. Frequency of teaching pronunciation (upper secondary school, n=96)

The results show that pronunciation had been taught with the help of phonemes less than every second month with the average answer of ~1.55. Other techniques that were listed in the questionnaire had been used around every six weeks with the average answer of ~2.47. Especially the results for the use of other techniques are very similar in elementary school and upper secondary school. It is worth pointing out that the use of phonemes in school D had decreased almost linearly from elementary school to upper secondary school and were constantly close to the value 1, which means that phonemes had not been taught to the students at all or very rarely (a few times a year at the most).

Table 9. The average frequency of teaching pronunciation (upper secondary school)

The average frequency of teaching pronunciation in upper secondary school with the help of…	School A (n=15)	School B (n=22)	School C (n=10)	School D (n=13)	School E (n=17)	School F (n=17)	Total (n=94)	Difference in average total to grades from 1 to 6 / from 7 to 9 (n=94/96)
Phonemes	~1.80	~1.27	~1.88	~1.10	~1.51	~1.88	~1.55	-0.27 / -0.19
Other techniques	~2.88	~2.07	~2.78	~2.12	~2.51	~2.70	~2.47	-0.08 / -0.04

In general, the teaching of pronunciation decreased from elementary school to upper secondary school. However, when looking at the frequency of teaching of pronunciation, the results suggest that pronunciation had, in fact, been taught the most in elementary school in grades from 7 to 9 but with techniques that had not been listed in the study.

4.2 Mastery of phonemic transcription symbols

The present section answers the second research question (RQ2) by telling how well the students master the phonemic symbols in upper secondary school. The information was gathered with questions 5 and 6 in the questionnaire (see Appendix 1). The present section of the study, first, focuses on symbol recognition (question 5 in the questionnaire) and, second, in the students' ability to recognize the corresponding word for a pronunciation given in phonemic symbols (question 6). Also background information is compared to the results to see if there is any correlation between the previous grade in English and the level of mastery of phonemes.

The percentages of how well monophthongs (mp) and diphthongs (dp) were recognized as separate items by the upper secondary school students in the following tables (Table 10, 11 and 12) have been calculated by school and rounded to the closest whole number. Recognition percentage of 50 is marked with the colour green. The colour red stands for 25 % recognition. Table 10 concentrates on the recognition level of consonantal

monophthongs. In general, the symbol recognition of consonantal monophthongs was fairly good as the students recognized 65 % of the symbols.

Table 10. Symbol recognition of consonantal monophthongs

Consonantal mp	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
p	9	56	14	64	9	90	5	36	10	59	11	65	58	60
b	9	56	14	64	10	100	4	29	9	53	12	71	58	60
t	9	56	16	73	10	100	5	36	11	65	12	71	63	66
d	9	56	15	68	10	100	4	29	9	53	12	71	59	62
k	10	63	14	64	10	100	5	36	10	59	11	65	60	63
g	9	56	15	68	9	90	4	29	9	53	12	71	58	60
f	9	56	14	64	9	90	5	36	9	53	11	65	57	60
v	9	56	14	64	9	90	4	29	9	53	13	76	58	60
θ	7	44	9	41	4	40	1	7	8	47	9	53	38	40
ð	6	38	8	36	5	50	0	0	4	24	7	41	30	31
s	9	56	15	68	8	80	5	36	11	65	12	71	60	63
z	9	56	14	64	8	80	4	29	10	59	11	65	56	58
ʃ	7	44	11	50	7	70	3	21	6	35	13	76	47	50
ʒ	8	50	7	32	5	50	1	7	4	24	9	53	34	35
h	9	56	13	59	9	90	3	21	9	53	8	47	51	53
tʃ	9	56	11	50	8	80	0	0	6	35	12	71	46	48
dʒ	8	50	9	41	7	70	0	0	4	24	11	65	39	40
m	10	63	14	64	9	90	5	36	11	65	10	59	59	62
n	9	56	14	64	9	90	5	36	10	59	10	59	57	60
ŋ	5	31	7	32	6	60	0	0	2	12	6	35	26	27
l	8	50	13	59	8	80	5	36	9	53	8	47	51	53
w	10	63	14	64	9	90	3	21	10	59	9	53	55	57
r	10	63	16	73	9	90	4	29	11	65	12	71	62	65
j	10	63	14	64	9	90	4	29	7	41	10	59	54	56
Total	207 (n=384)	54	305 (n=528)	58	196 (n=240)	82	79 (n=336)	24	198 (n=408)	49	251 (n=408)	62	1236 (n=1896)	65

The results show that the symbols that are also present in the orthography of Finnish and/or English were easier to recognize than symbols only used in phonemic notation. The students recognized the symbols for bilabial plosives *p* and *b,* alveolar plosives *t* and *d* and velar plosives *k* and *g* fairly well (over 60 % recognition in total). The symbols for the phonemes *p* and *b* were both recognized by a total of ~60 % of the students. The symbols *t*

and *d* reached an even better recognition percentage: ~66 % of the students recognized the phoneme *t* and ~62 % of them recognized *d*. In addition to the symbols for plosive sounds, also the symbols for the voiced labiodental fricative */f/* and the voiceless labiodental fricative */v/* were recognized well as both symbols were recognized by 60 % of the students. Also the symbol *w* was recognized by 57 % of the students. The symbols *m*, *n* and *l* were all recognized by over half of the students participating in the study (*m* by ~62 %, *n* by ~60 % and *l* by ~53 %). The symbol *s* was recognized by ~63 %, *z* by ~58 %, *h* by ~53 % and *j* by ~56 % of the students. The symbol *r* was recognized by ~65 % of the students.

In comparison, the symbols that are only used in phonemic notation (θ ð ʃ ʒ tʃ dʒ ŋ) were recognized by less than half of the students but by more than 25 % of the participants. The symbol for the voiceless dental fricative *θ* was recognized by ~40 % and the symbol for the voiced dental fricative /ð/ was recognized by ~31 % of the students. The symbol for the voiced postalveolar fricative /ʃ/ was familiar to ~50 %, and the symbol for the voiced postalveolar fricative /ʒ/ to ~35 % of the students. The symbol for the voiceless postalveolar affricate /tʃ/ was recognized by ~48 % and the symbol for the voiced postalveolar affricate /dʒ/ by ~40 % of the students. Even though the velar voiced nasal /ŋ/ is included in the Finnish sound system there is no symbol that represents it in the Finnish orthography. Thus the symbol *ŋ* was familiar only to ~27 % of the students.

Table 11 focuses on how well the students recognized the vowel monophthongs. Again, the results are given by school. Also the recognition percentages are marked with colours: green for exactly or over 50 % and red for exactly or less than 25 % recognition rate. In general the recognition percentage of the vowels was fair as the symbols were recognized, on average, by ~30 % of the students.

Table 11. Symbol recognition of vowel monophthongs

Vowel mp	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
iː	5	31	5	23	6	60	1	7	4	24	10	59	31	32
ɪ	2	13	1	5	2	20	0	0	1	6	2	12	8	8
e	7	44	12	55	7	70	4	29	7	41	9	53	46	48
æ	13	81	11	50	7	70	5	36	10	59	12	71	58	60
uː	8	50	5	23	5	50	0	0	4	24	9	53	31	32
ʊ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ɔː	7	44	0	0	1	10	0	0	2	12	3	18	13	14
ɒ	1	6	0	0	1	10	0	0	1	6	0	0	3	3
ɑː	3	19	3	14	3	30	0	0	3	18	6	35	18	19
ə	4	25	4	18	5	50	0	0	5	30	8	47	26	27
ɜː	2	13	2	9	4	40	0	0	2	12	2	12	12	13
ʌ	2	13	4	18	1	10	0	0	3	18	2	12	12	13
i	9	56	13	59	6	60	3	21	9	53	9	53	49	51
u	8	50	14	64	8	80	2	14	9	53	8	47	49	51
o	9	56	13	59	8	80	4	29	10	59	9	53	53	55
a	10	63	12	55	8	80	3	21	10	59	9	53	52	54
Total	90 (n=256)	35	99 (n=352)	28	72 (n=160)	45	22 (n=224)	10	80 (n=272)	29	98 (n=272)	36	461 (n=1536)	30

Most of the frequently recognized symbols for vowels were the ones that are the closest to the Roman alphabets. The symbol *o* was recognized by ~55 %, *a* by ~54 %, *i* by ~51 %, *u* by ~51 % and *i* by ~51 % of the students. Nevertheless, not all grapheme-like symbols were recognized by more than half of the students as, for example, the symbol *e* was recognized by only ~48 %.

In comparison, on average, the symbols that are not present in the Finnish orthography were less recognized. However, the symbol *æ* received the highest number of recognitions out of all vowels as it was recognized by ~60 % of the students. The symbol *iː* was recognized by ~32 % of the students and ɪ by only ~8 %. The symbol *ɔː* was recognized by ~14 % and *ɒ* by ~3 % of the students. The symbol *aː* reached a recognition percentage of ~19 % and the symbol ʌ ~13 %. The symbol *ə* was recognized by ~27 % of the students.

The symbol *ɜː* was recognized by ~13 % of the students. The symbol *uː* was recognized by ~32 % and *ʊ* by 0 % of the students.

Some vowels were not recognized by a single student whereas all the consonantal sounds were recognized by more than 27 % of the participants. This result, even if the recognition percentages are rather low, reveals that consonantal symbols are easier for the students to recognize than the symbols for vowels. Similar problems can be seen in Table 12 that shows how well the students recognized diphthongs. The average recognition rate for all diphthongs was 7 %.

Table 12. Symbol recognition of diphthongs

Dp	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
ɪə	3	19	1	5	1	10	0	0	3	18	3	18	11	11
eə	3	19	2	9	4	40	0	0	5	30	2	12	16	17
ʊə	0	0	0	0	0	0	0	0	0	0	0	0	0	0
eɪ	3	19	2	9	2	20	0	0	3	18	1	6	11	11
aɪ	4	25	2	9	3	30	0	0	3	18	2	12	14	15
ɔɪ	2	13	0	0	0	0	0	0	1	6	0	0	3	3
əʊ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
aʊ	0	0	0	0	0	0	0	0	0	0	1	6	1	1
Total	15 (n=128)	12	7 (n=176)	4	10 (n=80)	13	0 (n=112)	0	15 (n=136)	11	9 (n=136)	7	56 (n=768)	7

The most frequently recognized diphthong was *eə* with 17 % and the least recognized symbols were *əʊ* and *əʊ* with no recognitions. It is also worth pointing out that the students in school D did not recognize any of the diphthongs.

There were clear differences between schools but, it can be concluded, the symbols that look the same in English orthography and in phonemic notation were generally recognized more often than symbols that appear only in the latter. Consonantal monophthongs were recognized more frequently than vowels. The tendency not to recognize a symbol increases greatly when the symbol is a diphthong.

Tables from 13 to 40 will look into how well the students recognized the symbols within transcripts and how well they connected the transcript to the corresponding word. The number of recognitions of the words has been calculated and they are reported in the tables. As the students were not specifically told to choose only one option some of the students chose multiple answers in some sections of the questionnaire. These answers are marked as halves in the tables. The correct word is in bold in the tables and again exactly or over 50 % recognitions are marked with the colour green and exactly 25 % or less recognitions are in red. The percentages are rounded to the closest whole number.

Table 13 shows that the majority of the students (~78 %) were able to recognize the corresponding word *ice* for the pronunciation */aɪs/*. However, ~16 % of the students thought that the corresponding word was *eyes.*

Table 13. Word recognition for */aɪs/*

Word recognition for */aɪs/*	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 aisle	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 eyes	1.5	9	3	14	1	10	2	14	3	18	5	30	15.5	16
3 **ice**	13.5	84	18	82	9	90	8	58	14	82	12	71	74.5	78
No response	1	6	1	5	0	0	4	29	0	0	0	0	6	6

Table 14 shows the distribution of answers between options for the pronunciation */bæt/*. The majority of the students (~56 %) were able to recognize *bat* to correspond to */bæt/*. However, many of the students (~30 %) thought that the given pronunciation was for *beat*. A mere ~4 % of the students chose the alternative *bet,* whereas ~2 % chose the alternative *other*. One of the students did not specify what word would have corresponded to the given pronunciation better, the other, however, though that the word *bate* would have been more accurate.

Table 14. Word recognition for /bæt/

Word recognition for */bæt/*	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 **bat**	9	56	14	64	5	50	4	29	12	71	10	59	54	56
2 bet	0	0	0	0	1	10	1	7	1	6	1	6	4	4
3 beat	6	38	5	23	4	40	5	36	3	18	6	35	29	30
Other	1	6	0	0	0	0	0	0	1	6	0	0	2	2
No response	0	0	3	14	0	0	4	29	0	0	0	0	7	7

Table 15 shows how the students recognized the corresponding word *ladder* for the pronunciation */ˈladə(r)/*. The majority of the students (~72 %) recognized the corresponding word correctly. Approximately 14 % of the students thought that the corresponding word was *leader* and ~9 % chose the option *later*.

Table 15. Word recognition for /ˈladə(r)/

Word recognition for */ˈladə(r)/*	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 leader	3	19	3	14	2	20	0	0	4	24	1	6	13	14
2 **ladder**	12	75	17	77	8	80	7	50	10	59	15	88	69	72
3 later	1	6	1	5	0	0	3	21	3	18	1	6	9	9
No response	0	0	1	5	0	0	4	29	0	0	0	0	5	5

Table 16 show the number of recognitions and their percentages for the transcript */ˈpleʒə(r)/*. The word *pleasure* was well recognized in the present study with the overall recognition percentage of ~68 %. Still some of the students, a total of ~16 %, thought *pleaser* and ~9 % thought that *player* was the best alternative.

Table 16. Word recognition for /ˈpleʒə(r)/

Word recognition for */ˈpleʒə(r)/*	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 player	0	0	0	0	0	0	2	14	7	41	0	0	9	9
2 **pleasure**	10	63	16	73	9	90	7	50	8	47	15	88	65	68
3 pleaser	5	31	4	18	1	10	1	7	2	12	2	12	15	16
No response	1	6	2	9	0	0	4	29	0	0	0	0	7	7

Table 17 shows that only ~45 % of the students recognized the corresponding word for /bɜːd/ as *bird*. The option *bead* was chosen by ~38 % and *bad* by ~7 % of the students. One of the students also decided that none of the alternatives was good but gave no specification of what would have been a better option.

Table 17. Word recognition for /bɜːd/

Word recognition for /bɜːd/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 **bird**	7	44	9	41	7	70	4	29	7	41	9	53	43	45
2 bad	0	0	1	5	1	10	1	7	3	18	1	6	7	7
3 bead	7	44	10	45	2	20	5	36	5	30	7	41	36	38
Other	1	6	0	0	0	0	0	0	0	0	0	0	1	1
No response	1	6	2	9	0	0	4	29	2	12	0	0	9	9

Table 18 shows that the majority of the students (~58 %) were able to recognize the transcript /ðɪs/ to stand for the word *this*. The alternative *dice* was chosen by ~28 % whereas *hiss* was chosen by ~4 % of the students. In addition, one student chose *other* with no specifications.

Table 18. Word recognition for /ðɪs/

Word recognition for /ðɪs/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 dice	3	19	6	27	2	20	4	29	9	53	3	18	27	28
2 **this**	11	69	13	59	8	80	6	43	7	41	11	65	56	58
3 hiss	1	6	0	0	0	0	0	0	1	6	2	12	4	4
Other	0	0	1	5	0	0	0	0	0	0	0	0	1	1
No response	1	6	2	9	0	0	4	29	0	0	1	6	8	8

Table 19 shows that the majority of the students (~73 %) were able to recognize *write* as the corresponding word for the transcript */raɪt/*. In addition to these correct responses, eight students (~8 %) choosing the option *other* were also able to correctly recognize the word *right*. All correct responses combined, a total of 78 students (~81 %) interpreted the transcript in a correct way. One of the students chose the word *rites* and ~5 % of the students chose the alternative *ride*. In addition, four students (~4 %) thought that none of the options was the right one but gave no specification of what could have been a better alternative. One student thought that the corresponding word should have been *rate*.

Table 19. Word recognition for /raɪt/

Word recognition for /raɪt/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 **write**	15	94	10	45	9	90	8	58	14	82	14	82	70	73
2 ride	0	0	2	9	0	0	1	7	1	6	1	6	5	5
3 rites	0	0	0	0	0	0	1	7	0	0	0	0	1	1
Other	1	6	8	36	1	10	0	0	2	12	1	6	13	14
No response	0	0	2	9	0	0	4	29	0	0	1	6	7	7

As can be seen in Table 20, the majority of the students (~65 %) recognized the transcript /θæŋk/ to refer to *thank*. However, ~15 % of the students thought the best option was *skank*

and another ~10 % thought it to be *sank*. In addition, ~2 % of the students thought the answer to be something else but could not think of any better options.

Table 20. Word recognition for /θæŋk/

Word recognition for /θæŋk/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 skank	4	25	2	9	0	0	3	21	2	12	3	18	14	15
2 **thank**	11	69	16	73	8	80	5	36	11	65	11	65	62	65
3 sank	1	6	1	5	2	20	2	14	3	18	1	6	10	10
Other	0	0	1	5	0	0	0	0	1	6	0	0	2	2
No response	0	0	2	9	0	0	4	29	0	0	2	12	8	8

Table 21 shows the recognition percentages for the transcript */ˈiːzi/*. The majority of the students (~73 %) recognized the transcript as *easy*. However, ~14 % of the students thought that the word *izzy* was closer to the transcript. The answer *eaze* was chosen by ~7 % of the students.

Table 21. Word recognition for /ˈiːzi/

Word recognition for /ˈiːzi/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 izzy	2	13	5	23	0	0	2	14	3	18	1	6	13	14
2 eaze	2	13	0	0	0	0	1	7	0	0	4	24	7	7
3 **easy**	12	75	15	68	10	100	7	50	14	82	12	71	70	73
No response	0	0	2	9	0	0	4	29	0	0	0	0	6	6

The Table 22 shows that the word *watch* was correctly chosen for the transcript /wɒtʃ/ by a vast majority of the students (~80 %). A mere ~2 % of the students could not find an answer they thought to correspond to the transcript; nevertheless, they could not think of any better options. Also ~2 % of the students thought the answer to be *wotcher*, an imaginary word suggested by one of the piloted students. Only ~6 % of the students thought the word to be *wash*.

Table 22. Word recognition for /wɒtʃ/

Word recognition for /wɒtʃ/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 wash	0	0	2	9	1	10	0	0	1	6	2	12	6	6
2 **watch**	15	94	18	82	9	90	7	50	13	76	15	88	77	80
3 wotcher	0	0	0	0	0	0	1	7	1	6	0	0	2	2
Other	0	0	0	0	0	0	0	0	2	12	0	0	2	2
No response	1	6	2	9	0	0	6	43	0	0	0	0	9	9

Table 23 shows the results for /tɔːk/. Only ~29 % of the students chose the correct alternative *talk*. The word *took* was chosen by the majority of the students (~59 %). In addition, ~5 % of the students thought that *take* was the best alternative.

Table 23. Word recognition for /tɔːk/

Word recognition for /tɔːk/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 took	10	63	14	64	4	40	7	50	14	82	8	47	57	59
2 **talk**	5	31	7	32	3	30	2	14	3	18	8	47	28	29
3 take	0	0	0	0	3	30	1	7	0	0	1	6	5	5
No response	1	6	1	5	0	0	4	29	0	0	0	0	6	6

The word *suggest* was, as Table 24 shows, correctly chosen to correspond to the transcript */səˈdʒɛst/* by ~67 % of the students. However, ~22 % of the students thought that the word *saddest* was a better option. *Southeast* was chosen by ~3 % of the students.

Table 24. Word recognition for /səˈdʒɛst/

Word recognition for /səˈdʒɛst/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 **suggest**	9	56	18	82	9	90	4	29	12	71	12	71	64	67
2 saddest	6	38	1	5	1	10	3	21	5	30	5	30	21	22
3 southeast	0	0	0	0	0	0	3	21	0	0	0	0	3	3
No response	1	6	3	14	0	0	4	29	0	0	0	0	8	8

Table 25 shows the results for recognizing the transcript /geɪt/. The overwhelming majority of the students (~92 %) were able to recognize the transcript as *gate.* Only ~2 % of the students thought that the word was *kate.*

Table 25. Word recognition for /geɪt/

Word recognition for /geɪt/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 kate	0	0	0	0	0	0	2	14	0	0	0	0	2	22
2 get	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 **gate**	15	94	21	95	10	100	8	58	17	100	17	100	88	92
No response	1	6	1	5	0	0	4	29	0	0	0	0	6	6

As can be seen in Table 26, the students were able to recognize the word *full* to correspond to the transcript /fʊl/ with an accuracy of ~43 %. Nevertheless, ~49 % of the students thought *fool* to be a better answer. One student also chose *other* but gave no specification of what would have been a better option. In the present question, it is also worth pointing out that the results between schools vary greatly as in schools A, B and D the transcript was correctly recognized, on average, by ~58 % of the students in those particular schools. The combined recognition percentage for students in schools C, E and F was exactly 25 %. This result creates a ~33 %-unit difference between schools A, B and D and schools C, E and F.

Table 26. Word recognition for /fʊl/

Word recognition for /fʊl/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 fool	5	31	8	36	8	80	2	14	12	71	12	71	47	49
2 **full**	10	63	12	55	2	20	8	58	5	30	4	24	41	43
3 wool	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	1	6	1	1
No response	1	6	2	9	0	0	4	29	0	0	0	0	7	7

Table 27 shows how well the students recognized the corresponding word for the transcript /vɔɪs/. The vast majority of the students (~92 %) correctly chose *voice.* Only one of the students chose *foils* and another chose *void.*

Table 27. Word recognition for /vɔɪs/

Word recognition for /vɔɪs/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 **voice**	15	94	21	95	10	100	9	64	16	94	17	100	88	92
2 foils	0	0	0	0	0	0	1	7	0	0	0	0	1	1
3 void	0	0	0	0	0	0	0	0	1	6	0	0	1	1
No response	1	6	1	5	0	0	4	29	0	0	0	0	6	6

As Table 28 shows, only ~17 % of the students were able to correctly choose the option *short* to stand for /ʃɔːt/. Both answers *foot* and *shoot* were chosen by ~38 % of the students each. In addition, one of the students (~1 %) did not find a suitable answer but did not specify what would have been a better one.

Table 28. Word recognition for /ʃɔːt/

Word recognition for /ʃɔːt/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 foot	8	50	6	27	2	20	4	29	7	41	9	53	36	38
2 shoot	7	44	9	41	3	30	4	29	7	41	6	35	36	38
3 **short**	0	0	5	23	4	40	2	14	3	18	2	12	16	17
Other	0	0	0	0	1	10	0	0	0	0	0	0	1	1
No response	1	6	2	9	0	0	4	29	0	0	0	0	7	7

Table 29 shows that the majority of the students 8 (~76 %) recognized the transcript */tʃeɪndʒ/* for *change.* However, ~4 % of the students thought that *theirs* and ~5 % that *tends* was more accurate. Similarly, ~4 % of the students chose the alternative *other* but did not specify what would have been a better option.

Table 29. Word recognition for /tʃeɪndʒ/

Word recognition for /tʃeɪndʒ/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 tends	0	0	1	5	0	0	2	14	2	12	0	0	5	5
2 theirs	0	0	0	0	0	0	3	21	0	0	1	6	4	4
3 **change**	15	94	17	77	9	90	4	29	12	71	16	94	73	76
Other	0	0	1	5	1	10	0	0	2	12	0	0	4	4
No response	1	6	3	14	0	0	5	36	1	6	0	0	10	10

As can be seen in Table 30, the word recognition of */ˈmɛʒə/* as *measure* reached ~48 %. Also the option *omega* was chosen by ~23 % of the students, whereas *mesh* was chosen by ~15 % of the students. *Other* was chosen by ~3 % of the students and one student specified *mega* as the corresponding transcript for */ˈmɛʒə/*. The students in schools A, C and F were able to recognize the transcript better with a combined recognition percentage of 60 %. The combined result for schools B, D and E is ~38 %. There is thus a ~22 %-unit difference between schools A, C and F and schools B, D and E for recognizing */ˈmɛʒə/*. If school D is left out because of their lack of answers (only 50 % of the students answered), the schools

that did not recognize the transcript that well reach a combined total of ~44 % recognition. This recognition rate still leaves a ~16 %-unit difference in comparison to schools A, C and F.

Table 30. Word recognition for /ˈmɛʒə/

Word recognition for /ˈmɛʒə/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 omega	4	25	6	27	1	10	3	21	4	24	4	24	22	23
2 mesh	2	13	2	9	0	0	1	7	5	30	4	24	14	15
3 **measure**	8	50	10	45	9	90	3	21	7	41	9	53	46	48
Other	1	6	1	5	0	0	0	0	1	6	0	0	3	3
No response	1	6	3	14	0	0	7	50	0	0	0	0	11	11

The transcript */hæŋ/* was, as Table 31 shows, rather well matched with the word *hang* with a recognition percentage of ~76 %. The word *hen* was chosen by ~7 % and *hand* was chosen by ~5 % of the students. The option *other* was chosen by ~2 % with no specification of what could have been a better option.

Table 31. Word recognition for /hæŋ/

Word recognition for /hæŋ/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 hand	1	6	0	0	0	0	2	14	2	12	0	0	5	5
2 **hang**	12	75	18	82	7	70	7	50	13	76	16	94	73	76
3 hen	1	6	0	0	2	20	1	7	2	12	1	6	7	7
Other	1	6	1	5	0	0	0	0	0	0	0	0	2	2
No response	1	6	3	14	1	10	4	29	0	0	0	0	9	9

The recognition percentages of the transcript */jɛl/* are shown in Table 32. The correct word *yell* was chosen by a total of ~43 % of the students. The word *gel* was chosen by ~33 % and the word *jail* by ~17 % of the students. One student left a comment *jell* but did not answer the question.

Table 32. Word recognition for /jɛl/

Word recognition for /jɛl/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 jail	3	19	2	9	2	20	2	14	4	24	3	18	16	17
2 gel	4	25	5	23	4	40	6.5	46	5	30	7	41	31.5	33
3 **yell**	8	50	13	59	4	40	1.5	11	8	47	7	41	41.5	43
No response	1	6	2	9	0	0	4	29	0	0	0	0	7	7

Table 33 shows how well the students recognized the transcript */θruː/*. The transcript was correctly interpreted as *through* by ~39 % of the students. Also the option *true* was a popular alternative as it was chosen by ~37 % of the students. The option *brute* was chosen by ~4 % and *other* with no specification by ~2 %. There were significant differences between the schools as the students in school B recognized the symbols with an accuracy of ~68 % and only ~21 % of the students were able to do the same in school D. In the best performing schools A, B and F, altogether ~62 % of the students recognized the transcript whereas the average for the other schools (C, D, E) was ~32 % with a difference of ~30 %-units.

Table 33. Word recognition for /θruː/

Word recognition for /θruː/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 brute	0	0	0	0	1	10	1.5	11	1	6	0	0	3.5	4
2 true	4	25	4	18	5	50	4.5	32	10	59	8	47	35.5	37
3 **through**	10	63	15	68	4	40	3	21	6	35	9	53	37	39
Other	1	6	1	5	0	0	0	0	0	0	0	0	2	2
No response	1	6	2	9	0	0	5	36	0	0	0	0	8	8

Table 34 shows the results for the transcript */faː(ɹ)/*. The transcript was recognized as *far* by ~68 % of the students. The option *fare* was selected by ~23 % of the students and *war* by ~1 %.

Table 34. Word recognition for /fɑː(ɹ)/

Word recognition for /fɑː(ɹ)/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 fare	2	13	3	14	3	30	2	14	6	35	6	35	22	23
2 **far**	13	81	16	73	7	70	8	58	10	59	11	65	65	68
3 war	0	0	0	0	0	0	0	0	1	6	0	0	1	1
No response	1	6	3	14	0	0	4	29	0	0	0	0	8	8

Table 35 shows the number of recognitions and their percentages for the transcript */ʌndə(ɹ)/*. The transcript was correctly recognized as the word *under* by ~71 % of the students. The option *wander* was chosen by ~20 % of the students.

Table 35. Word recognition for /ʌndə(ɹ)/

Word recognition for /ʌndə(ɹ)/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 **under**	11	69	17	77	9	90	5	36	14	82	13	76	69	72
2 undo	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 wander	4	25	2	9	1	10	5	36	3	18	4	24	19	20
No response	1	6	3	14	0	0	4	29	0	0	0	0	8	8

As can be seen in Table 36, the word *fear* was correctly chosen to correspond to the transcript */fɪə/* by ~60 % of the students. The word *fire* was selected by ~26 % and *field* by ~2 % of the students. The student who chose the option *other* did not specify what would have been a better alternative.

Table 36. Word recognition for /fɪə/

Word recognition for /fɪə/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 fire	4	25	3	14	3	30	3	21	6	35	6	35	25	26
2 **fear**	10	63	16	73	7	70	6	43	9	53	10	59	58	60
3 field	1	6	0	0	0	0	0	0	0	0	1	6	2	2
Other	0	0	0	0	0	0	0	0	1	6	0	0	1	1
No response	1	6	3	14	0	0	5	36	1	6	0	0	10	10

Table 37 shows that 75 % of the students chose the word *ear* to correspond to the transcript /eə(ɪ)/. *Heir* was selected by ~9 % and *hare* by ~3 % of the students. The option *other* was the best in the opinions of ~4 % of the students and one student was able to correctly offer the word *air* as an alternative.

Table 37. Word recognition for /eə(ɪ)/

Word recognition for /eə(ɪ)/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 ear	13	81	15	68	6	60	8	58	15	88	15	88	72	75
2 **heir**	1	6	2	9	3	30	2	14	1	6	0	0	9	9
3 hare	0	0	0	0	0	0	0	0	1	6	2	12	3	3
Other	1	6	2	9	1	10	0	0	0	0	0	0	4	4
No response	1	6	3	14	0	0	4	29	0	0	0	0	8	8

As can be seen in Table 38, the transcript */ʃʊə/* was correctly identified as *sure* by ~33 % of the students. The word *shoe* was preferred by ~37 % and the word *foe* by ~18 %. Out of the four students (~2 %) that had selected *other* three had suggested *hoe* as a more suitable answer. There were also differences between the schools: ~70 % of the students in school C recognized the transcript whereas only ~14 % of the students in school D and ~12 % of the students in school E were able to do the same. The word that led the students in school C and D most astray was *shoe* with ~32 % of the students choosing it in school D and ~71 % choosing it in school E.

Table 38. Word recognition for /ʃʊə/

Word recognition for /ʃʊə/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 **sure**	6	38	7	32	7	70	2	14	2	12	8	47	32	33
2 shoe	3	19	8	36	2	20	4.5	32	12	71	6	35	35.5	37
3 foe	6	38	4	18	0	0	1.5	11	3	18	3	18	17.5	18
Other	0	0	0	0	0	0	2	14	0	0	0	0	2	2
No response	1	6	3	14	1	10	4	29	0	0	0	0	9	9

Table 39 shows that the transcript */səʊ/* caused some difficulties for the students as it was correctly interpreted as *so* only by ~32 % of the students. The word *saw* was chosen by ~39 % of the students. The word *sew* was supported by ~22 % of the students.

Table 39. Word recognition for /səʊ/

Word recognition for /səʊ/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 **so**	6	38	8	36	4	40	1	7	5	30	7	41	31	32
2 saw	5	31	6	27	5	50	6	43	8	47	7	41	37	39
3 sew	4	25	5	23	1	10	3	21	4	24	3	18	21	22
No response	1	6	3	14	0	0	4	29	0	0	0	0	8	8

Table 40 shows how well the students recognized the corresponding word to */haʊ/*. The word *how* was chosen by ~76 % of the students. The option *hound* was chosen by ~4 % of the students and *have* by ~11 %.

Table 40. Word recognition for /haʊ/

Word recognition for /haʊ/	School A (n=16)		School B (n=22)		School C (n=10)		School D (n=14)		School E (n=17)		School F (n=17)		Total number of word recognitions (n=96)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1 hound	1	6	0	0	0	0	0	0	3	18	0	0	4	4
2 **how**	12	75	17	77	10	100	7	50	12	71	15	88	73	76
3 have	2	13	2	9	0	0	3	21	2	12	2	12	11	11
No response	1	6	3	14	0	0	4	29	0	0	0	0	8	8

Table 41 shows how the level of the students varied in word recognitions: one student managed to recognize only one word correctly whereas two students were able to recognize 27 words out of 28. The average number of recognitions was ~15 (n=92). The median for the recognitions was slightly higher at 17 (~60.7 % word recognition rate, n=92). This table shows that, in general, Finnish upper secondary school students' level of English is average when examining the level of mastery of phonemic symbols. However, as the results show, there are huge differences between students.

Table 41. Correct recognitions of words

Number of correct recognitions		Frequency	Percent
Valid	1	1	1,0
	2	0	0
	3	1	1,0
	4	1	1,0
	5	1	1,0
	6	1	1,0
	7	1	1,0
	8	0	0
	9	1	1,0
	10	3	3,1
	11	0	0
	12	1	1,0
	13	6	6,3
	14	12	12,5
	15	8	8,3
	16	6	6,3
	17	5	5,2
	18	5	5,2
	19	5	5,2
	20	8	8,3
	21	2	2,1
	22	8	8,3
	23	7	7,3
	24	3	3,1
	25	2	2,1
	26	2	2,1
	27	2	2,1
	Total	92	95,8
Missing	-9999,00	4	4,2
Total		96	100,0

Table 42 compares the number of correct recognitions to the students' grade in English in their previous course. The correlation analysis was made with the programme SPSS (Statistical Package for the Social Sciences). The correlation between the grade of the previous course and the level of mastery of phonemic symbols is statistically significant at the 0.01 level (2-tailed).

Table 42. Correlation between previous grade and word recognition

		Grade in English in the previous course	Correct recognitions of words
Grade in English in the previous course	Pearson Correlation	1	,288**
	Sig. (2-tailed)		,006
	N	94	90
Correct recognitions of words	Pearson Correlation	,288**	1
	Sig. (2-tailed)	,006	
	N	90	92
**. Correlation is significant at the 0.01 level (2-tailed).			

5 DISCUSSION AND CONCLUSION

In this chapter the findings are discussed. Section 5.1. discusses the first research question (RQ1a and RQ1b) and section 5.2. the second research question (RQ2). Section 5.3. discusses the study as a whole and concludes the present study.

5.1 Discussion of the students' views and experiences of speaking and pronouncing English

The first sub-question of the first research question (RQ1a) sought to find out whether students in upper secondary school find speaking and pronunciation more important than writing and orthography. It was expected that the students might find choosing between the two options of writing and speaking (Appendix 1) rather difficult and because of that the distribution between the answers would be rather even. Nevertheless, it was presumed that students would be slightly more likely to choose writing over speaking because of the likely emphasis on writing skills caused by, for example, matriculation and other written examinations. The result of ~90 % of the students considering speaking more important than writing showed how essential speaking is to the students. Oral skills were also considered a good way of learning the English language. The result suggests that oral skills should be taught extensively in Finnish schools because the students find them important and would thus be likely to be motivated to study English and getting practise in speaking.

The assumption that the students would find also orthography more important than pronunciation was incorrect as ~55 % of the students thought vice versa. This opinion was in a way different from the opinions of teachers who, according to Tergujeff (2012a: 34-35), would like to use more time teaching pronunciation but still find lexicon, syntax, morphology and pragmatics more important than pronunciation. Naturally this conclusion is not straightforward as the teachers were never directly asked which they value higher: pronunciation or orthography and thus the opinions of teachers should be investigated further. One reason why students might have chosen pronunciation over orthography was, as mentioned in a student's comment, that spoken language was considered more understandable even if it not pronounced correctly, which might not have been the case

with spelling mistakes. Another reason, even if not mentioned in the students' comments, might be that written language can be argued to be, as mentioned earlier, more appreciated in schools than oral skills.

Interestingly, the difference between pronunciation and orthography is significantly smaller than between speaking and writing. The topic should be investigated in more detail to find out the reasons behind the choices. Also the importance of speaking in comparison to writing and pronunciation in comparison to orthography should be investigated with a scale of, for example, 1 to 10 to see how obvious the choices are for the students and how much more important the students find one or the other. In addition, the use of oral examinations should be thoroughly investigated. Furthermore, it would be interesting to find out how the inclusion of oral exams and/or the exclusion of written exams would affect students' opinions about the importance of speaking and pronunciation.

The second sub-question of the first research question concentrated on how much pronunciation had been taught in elementary and upper secondary schools in the experience of the upper secondary school students. An expected outcome was that pronunciation had been taught to the students more in grades 1 to 6 than in grades 7 to 9 because of the early emphasis on oral skills in the NCC (2004: 137-141). The results, however, showed that the frequency of teaching pronunciation had increased when moving from grades 1 to 6 to grades 7 to 9 of elementary school. One reason that might explain the increase in the frequency of teaching pronunciation in grades 7 to 9 is, naturally, that the students simply might have a better recollection of the methods and techniques used in grades 7 to 9 than in grades 1 to 6. Most likely, the reason why one of the students did not answer the question about the frequency of pronunciation teaching in grades 1-6 was that the students did not simply remember how often pronunciation had been taught to them. This suggestion is supported by some of the students' comments saying that they could not remember and/or were not sure how often pronunciation had been taught to them (Appendix 3). Furthermore, the students' memories might not present the case of how much pronunciation was actually taught to the students in elementary school but the experience of the student is equally important as that is how the students feel about the extent to which pronunciation had been taught to them. Nevertheless, the results showed how the students felt that the teaching of oral skills had been emphasized more in grades 7 to 9 than in the lower grades. The result is

somewhat of a surprise because of the opposite emphasis in the curriculum (NCC 2004). However, teaching oral skills, which should be in the focus of language teaching in grades 1 to 6, includes much more than only pronunciation; consequently, teachers might have different priorities in teaching oral skills, and pronunciation might get slightly less attention than other ways of teaching speaking.

The shift from speaking to writing, which the NCC (2004) suggests, was assumed to continue in upper secondary school. However, there was a lot of variation in the students' answers in upper secondary school and the results imply that pronunciation might be taught to students in some courses, such as the oral course, to a large extent, whereas in other courses pronunciation does not receive that much emphasis. Naturally, also different teachers having a different emphasis on pronunciation and speaking in general may have resulted in variation in the students' answers. However, to validate these claims, new and more specific studies should be conducted.

Overall, the results showed that pronunciation had been taught rather extensively but not that much with the techniques listed in the questionnaire. Some of the students continued the list of pronunciation teaching techniques by listening, repeating words and phrases after the teacher or record player, singing and simply speaking (Appendix 4). There were clear differences between schools and teachers in how much pronunciation and phonemes had been taught. Nevertheless, in general, the results showed that the frequency of teaching pronunciation with all the techniques listed in the questionnaire had decreased slightly from the lower levels to upper secondary school. These results were not completely in accordance with the students' responses to the previous question about the frequency of pronunciation teaching in general as the previous results showed that the students had, in fact, received the most teaching of pronunciation in grades from 7 to 9. The reason, however, for this could simply be that the list of other teaching techniques did not cover all teaching techniques for the pronunciation of English. Not having a more versatile list of teaching techniques for pronunciation is definitely one of the downfalls of the present study and, without a doubt, as, due to the scope of the study, the results were analysed with averages, the use of phonemes and other techniques in comparison to one another should be more thoroughly investigated. Naturally, in later studies, also the frequencies of different teaching techniques should be more thoroughly analysed. Even if the list of other teaching

techniques was not exhaustive the study showed that the students were aware of different learning and teaching techniques, which is very important when analysing which teaching techniques and methods might, in the students' opinions, be the most useful in teaching and learning speaking in the future. Thus more studies on what teaching techniques and methods the students prefer for learning oral skills should also be conducted.

5.2 Discussion of the students' level of mastery of phonemic symbols

This section discusses how well the students master the phonemic symbols in upper secondary school. First, this section concentrates on the students' ability to recognize individual symbols and, second, on how well the students knew which word corresponded to a certain transcript written in phonemic symbols. It was expected that students do not master the phonemic symbols well even though students are taught to recognize phonetic symbols both by teachers and books (Tergujeff 2012a, 2013a: 39). The results showed that the symbols that are not present in Finnish orthography were more difficult for the students than symbols that resemble graphemes.

The letters and graphemes that most often represent plosive sounds (i.e. [p b t d k g]) are similar in appearance in comparison to the phonemic symbols, which made the recognition of the plosive sounds and their symbols easier. A possible explanation why *t* was slightly better recognized than *d* is that *t* is present in the Finnish sound system and orthography more often than *d*. Despite the assumption that the voiced labiodental fricative /*v*/ is difficult for Finns to pronounce, as Finns often pronounce the voiced labiodental fricative /*v*/ as a voiced frictionless labiodental continuant /*ʋ*/ (Morris-Wilson 2003: 1), all the symbols /*f v w*/ were equally well recognized at least on paper. The symbols *m, n* and *l* were all recognized by over half of the students participating in the study. Similarly, other symbols that are present in the orthography of English, *s*, *z*, *h* and *j*, were all rather well recognized. The symbol *r* was also well recognized even though it might have been marked differently in the students' book series.

Nevertheless, it is worth noticing that the students know the symbol *r* as a part of the Roman alphabet system, which could, in fact, have had an impact on the good recognition

percentage even though there might have been variation in how *r* had been transcribed in their books. This suggestion is supported by the fact that the recognition level is especially high in consonantal symbols that are used both in phonemic transcription symbols and in English orthography. In comparison, the symbols that are only used in phonemic transcriptions (θ ð ʃ ʒ tʃ dʒ ŋ) were all recognized by less than half of the students. It is worth noticing that even though the velar voiced nasal /ŋ/ is included in the Finnish sound system the symbol *ŋ* was familiar only to ~27 % of the students as there is no symbol that represents it in Finnish orthography. Altogether, all the consonantal sounds were recognized by more than 25 % of the participants. This result, even if the recognition percentage is rather low, revealed that consonantal symbols are easier for the students to recognize than the symbols for vowels.

The most frequently recognized symbols for vowels were *æ*, *o*, *a*, *i* and *u*. It is rather surprising that the symbol *æ* received the highest number of recognitions but the result could be explained by, for example, noticing that a similar way of marking the Finnish orthographical symbols *ä* (ae) and *ö* (oe) is used in many sports. All of the other well recognized symbols are very similar to the graphemes *o, a, i* and *u* that makes their recognition slightly easier. Even though the symbol *e* is a grapheme-like symbol, it was not as well recognized as the other symbols that are also similar to Roman alphabets. Naturally here, having seen multiple ways of transcribing *e*, for example, in different books, the students might have confused the vowel symbols with one another. For example, Auvinen et al. (2009: 162) uses a quantitative way of transcribing and thus, for example, uses the symbol *ə* in two contexts: /ə/ and /əː/, the latter replacing the quantitative-qualitative way of transcribing */ɜː/* that was introduced earlier by Rogerson-Revell (2011: 67-75). In the piloting stage of the present study the symbol */ɛ/* that represents a sound that is more open than */e/* and that is important for languages like French was also included in the study but then left out because of the focus on English in the present study (Wells 2001). Nevertheless, out of the e-like symbols *e* was recognized the best. Also the symbols *ɜː* and *ə* were recognized by some of the students. In conclusion, the vowel symbols that look the same in English orthography and in phonemic transcriptions were generally recognized more often than symbols that appear only in the latter. The tendency not to recognize a symbol increased when the symbol was a diphthong. The reason for the weaker performance in recognizing diphthongs was probably that diphthongs seem to include more

sounds than a monophthong and the students might already have had difficulties in recognizing individual symbols, such as /ʊ/, in them.

As there was no knowledge of how students in Finland have previously mastered the symbols in upper secondary schools, the results have no comparison point in the specific age group. However, studies (e.g. Lintunen 2004) focusing on university students' experiences about phonemic transcription symbols have shown that the symbols can be useful in teaching English, which is why gathering knowledge of the present situation was important. The studies of how well students master individual symbols should, nevertheless, be studied more and for example, the students' level of mastery of phonemic symbols should be compared to the students' oral skills and the actual production of the sounds.

When the students were asked to recognize the symbols within words most of the students were expected to recognize almost all transcriptions of the words because the students were most likely accustomed to seeing the symbols together with the corresponding word, for example, in word lists in their text books. However, as Paananen (1998: 117) states, many of the problems in pronunciation are caused by the unambiguous grapheme-phoneme relationship in Finnish that the students are accustomed to using. Thus the appearance of the transcript for the words was likely to cause some mistakes in the present study as well. The expectation proved to be correct as the transcriptions were recognized, on average, by more than half of the students but there were difficulties, in particular, in recognizing words that included many symbols that are only present in phonemic notation. In general, the students were more insecure with individual symbols that described vowel sounds in comparison to consonantal sounds.

The reason why some words were recognized easier than others could have been simply dependant on the students' vocabulary. For example, the recognition of the transcript */jɛl/* proved difficult as it spread the students' opinions greatly (Table 32 in section 4.2.2). One student left a comment *jell* and revealed that the student might have known how the transcript should be pronounced but did not know which word is pronounced in that particular way. This might also, at least partly, explain the difficulties that the other students had. Another explanation could be that the students confused the sound */j/* with */dʒ/* that would be used in pronouncing *gel* and *jail*. Furthermore, the reason why most of

the students were able to recognize the corresponding word for the pronunciation */aɪs/* was most likely also partly due to the familiarity of the word (Table 13 in section 4.2.2). However, the second most popular response *eyes* was probably chosen by the students because of the differences in the pronunciation of the s-marker. The s-marker for third person singular (*he coughs, he loves*), for plural nouns (*troughs, gloves*) and for genitive (*Cliff's book, Dave's book*) is pronounced either as */s/* or */z/* depending on the previous sound (Morris-Wilson 1981: 59). As students become familiar with words that differentiate the voiceless and voiced sounds it is likely that also differentiating the *s* sounds in multiple auditive environments becomes easier in time. Nevertheless, the distinction of the sounds is more difficult for a student whose mother tongue is pronounced almost the same way as it is written and whose attention has not been specifically drawn to the difference. Thus the orthographical similarity of the sounds */s/* and */z/* in some words may have confused the students and explains the differences in recognizing the pronunciation */aɪs/*. The students had similar problems in differentiating the sounds */s/* and */z/* in the options for the transcript /ˈiːzi/ (Table 21 in section 4.2.2). Also not knowing how the word ending vowel should be pronounced in the option *eaze*, presumably led some students astray. The distinction between the symbols *f* and *v*, the corresponding sounds of which also differ in their voicing, was not too difficult for the students in the transcript */vɔɪs/* (Table 27 in section 4.2.2). Naturally, these are only interpretations of the results and they should be investigated further to see if voicedness really is difficult for students to pronounce or if it is the symbol that is misleading them.

The symbols *ð* and *θ* (Table 10 in section 4.2.1) caused some difficulties in recognizing *this* and *thank* (Tables 18 and 20 in section 4.2.2). Naturally the recognition percentages are significantly higher for the transcripts in comparison to the individual phoneme as the students were choosing the corresponding word from three alternatives. The recognition rate of the transcript might have been worse if the students had not had the ready-made options. Nevertheless, the students clearly had some difficulties in recognizing the word that included a symbol that is neither used in Finnish nor English orthography even though they were given the alternatives. Naturally the result could also imply that, despite the difficulties in recognizing the symbols on their own, some of the students might have an idea of what type of a sound the symbol represents.

In the case of *this,* some of the students clearly confused the symbol */ð/* with the letter *d* because of their similarities in their appearances. Also the orthographic double consonant, which is pronounced only as a voiced alveolar plosive */d/* in *ladder,* may have caused some students problems with the recognition of the transcription that only had one symbol representing the sound in it (Table 15 in section 4.2.2). The students might have also had some difficulties in recognizing the correct pronunciation also because of the schwa sound */ə/* in *ladder;* this, however, seems unlikely because all the options had the same orthographic ending *–er*. Furthermore, as was expected based on the good recognition percentage for the vowel /æ/ (Table 11 in section 4.2.1), the transcript */hæŋ/* was easily recognized by the students (~76 %) (Table 31 in section 4.2.2). The majority of the students were also able to recognize *bat* to correspond to the pronunciation */bæt/* (Table 14 in section 4.2.2). However, many of the students also thought the word to be *beat*. This could be explained by confusion between the pure vowel symbol *æ* and the orthographic form *ae*. Similarly, also the visual appearance of the transcript */eə(ɹ)/* and maybe not knowing the word *heir* led to the majority of the students choosing the word *ear*. The claim of the students not knowing how *heir* should be pronounced is supported by students having offered *air* as the correct word.

The voiced palato-alveolar fricative */ʒ/* is an unusual sound in the English language as it never commences a word except for a few loan words (Morris-Wilson 1981: 72). As the sound is rarer in the initial position, it is natural that also the recognition level of the symbol is weaker than with other symbols (Table 10 in section 4.2.1). Students with more phonemic awareness are, nevertheless, able to differentiate sounds also in the middle of the word. Even though the sound */ʒ/* was not familiar to the students, the word *pleasure* was well recognized (Table 16 in section 4.2.2). The reason why students were able to recognize the pronunciation might have, naturally, been because of the surrounding symbols that they knew. In the case of */ˈmɛʒə/* for *measure*, which included the same symbol *ʒ*, the difficulties were most likely partly caused by the deceptive length of the transcript */ˈmɛʒə/* in comparison to the orthographical form *measure* (Table 30 in section 4.2.2). Based on the results, the students were likely to confuse the symbol *ʒ* with the letter *g*. However, the symbol *ɡ* in the transcript /ɡeɪt/ did not cause the students problems as the appearance of the symbol is similar to the Roman alphabets and because the word *gate* was most likely familiar to the students (Table 23 in section 4.2.2). There were similar

difficulties with the symbol *dʒ*. The symbol *dʒ* was confused with the grapheme *d* in the transcript */səˈdʒɛst/* (Table 24 in section 4.2.2). The difficult combination of same symbol *dʒ* and the symbol *tʃ* was most likely also the reason behind the high number of students not wanting to answer the question of the transcript */tʃeɪndʒ/* for *change* (Table 29 in section 4.2.2)

The symbol */ʃ/* was well recognized both individually and inside the transcript */wɒtʃ/* (Table 10 in section 4.2.1 and Table 22 in section 4.2.2). However, the transcript */ʃʊə/* that included two slightly tricky symbols: */ʃ/* and */ə/* caused some difficulties to the students (Table 38 in section 4.2.2). Out of the four students (~2 %) that had selected *other* three students had suggested *hoe* as a more suitable answer. This might have been a joke but because of its high frequency among the students who chose *other* the students should maybe be taken seriously. However, the reason why the students thought */ʃʊə/* to be *hoe* is unclear.

The students had difficulties in recognizing the individual symbols *uː* and */ʊ/* (Table 11 in section 4.2.1) and, consequently, the students also had difficulties in differentiating the short and long sounds in *fool* and *full* (Table 26 in section 4.2.2). The ~33 %-unit difference between schools A, B and D and schools C, E and F was also mainly caused by the confusion of the short and long vowels (Table 26 in section 4.2.2). It is also worth pointing out that school D was among the schools in which most of the students were able to find the correct alternative. This might even suggest that because the students in schools C, E and F are more familiar with the phonemes, as it would seem at least in the case of individually presented consonantal monophthongs (Table 10 in section 4.2.1), they might be prone to choosing an alternative that looks different in orthographical and phonemic form when they do not know what the transcript actually says. Without a doubt, this should be more thoroughly investigated before any conclusions can be drawn. The repercussion of not recognizing the symbol for the long central mid vowel */ɜː/* (Table 11 in section 4.2.1) can be seen in the recognition rate of the corresponding word for */bɜːd/* (Table 17 in section 4.2.2).

The recognition difficulties of the vowel symbol ɔː (Table 11 in section 4.2.1) can be clearly seen in the results for /tɔːk/ (Table 23 in section 4.2.2). It is obvious that the

students were probably misled by the orthographical form of the word *took*, which is visually similar to the transcript. In the case of /tɔːk/ even the students who might have known how to pronounce the transcript might have chosen the option *took* because, if phonemic symbols were not in use, that is how Finns would be likely to write down the pronunciation of *talk*. The same phenomenon can be seen in the transcript /*ʃɔːt*/ for *short*, where also the symbol *ʃ* caused some difficulties (Table 27 in section 4.2.2). Without a doubt the transcript */ʃɔːt/* has a similar appearance with the orthographic form *foot*. If the respondent recognized the symbol */ʃ/* but not /ɔː/ then also to *shoot* had similar features with the orthographic form. Again, even the students who knew how the symbols were pronounced might have been led astray because of the unambiguous grapheme-phoneme relation in Finnish.

The transcript */θruː/* had a rather low recognition percentage (Table 33 in section 4.2.2) which could be explained by the fact that the word included two sounds that were considered unknown by the students: the symbols *uː* and *θ* (Tables 10 and 11 in section 4.2.2). In the best performing schools A, B and F, altogether ~62 % of the students recognized the transcript whereas the average for the other schools (C, D, E) was ~32 %. Looking at the previous results for the symbols *uː* and *θ,* it can be stated that the present result for */θruː/* is logical for the well performing schools A and F and the not so well performing schools D and E. School C was a borderline case in how it performed so its results can also be said to have been anticipated. However, in school B the students had not recognized the symbol *uː* with the same accuracy as the result for */θruː/* would have implied. Despite the low recognition percentage for the symbol *uː*, naturally, surrounding symbols helped the students in choosing the right alternative. The same phenomenon of surrounding sounds and alternatives helping the students in recognizing vowel sounds can be seen in the result for */faːɹ/* and */fɪə/* (Tables 34 and 36 in section 4.2.2).

The transcript */səʊ/* (Table 38 in section 4.2.2) must have been difficult because it included two difficult symbols for the students: ə and ʊ (Table 11 in section 4.2.1). The same *ʊ* caused some problems also in the form of a diphthong in recognizing */haʊ/*. It seems that this time the students most likely struggled with distinguishing */ʊ/* and */v/* from each other.

Table 41, in section 4.2.2, showed some variation in the levels of the students in word recognitions. Altogether the results support the earlier results of knowing the individual symbols: the grapheme-like symbols aided the students in recognising the words. Naturally, if there were one or more unrecognizable symbols for the student, the recognition of the transcript was difficult. The reason for the better recognition percentages of some students could also be due to a broader vocabulary. A broad vocabulary might help the students see a difficult word as a whole instead of separate letters; this makes it easier for the student to think of the correct pronunciation of the words and not be so easily led astray by the similar appearances of some of the symbols and graphemes. Naturally, identifying the correct pronunciation of a word is simpler if the student has knowledge of the pronunciation of English in general. The students that outperformed other participants of the study might have studied phonemic transcription symbols implicitly for a longer period of time, which, undoubtedly, is an advantage in recognizing the symbols. Nevertheless, some students had major difficulties in separating the orthography and the phonemic transcription symbols from each other.

The students' background information was compared to the students' performance in word recognition and a correlation was found: more advanced students were better in recognizing the symbols. However, to find out if the students were first good in English and then learnt the phonemic symbols or if learning the symbols first had led to better grades should be investigated further. Also other background information, such as motivation to learn how to pronounce, should be examined further in comparison to the students' level of mastery of phonemic symbols.

5.3 Discussion of the study and suggestions for further research

In this section, first, the design of the study and the generalizability of the results are discussed. At the same time, a possible rerun of the study is discussed. Second, further areas of study are suggested.

There were some questions posed about the technicalities the first time questionnaire filled out by a class of students. For example, the students wanted to specify if the question about

the number of courses meant the actual number of the courses or if the students were expected to circle all the courses that they had passed. The technicalities of filling out the questionnaire were not considered crucial for the success of the study as the author believed she could interpret the answers whichever way the students understood the question and, therefore, the information about them was not passed on to the other schools. This, however, was a mistake as interpreting the answers for the students' course history proved too difficult. In the possible rerun of the present study, the background questions should be altered and their number added to find out what, for example, affects the students' level of mastery of phonemic symbols.

The schools for the study were selected based on the location of the school. The total number of the respondents was 96 students. Out of the 96 respondents 57 (~59 %) were girls and 36 (~38 %) boys (Table 4). Three students (~3 %) did not specify their gender. The present distribution of the students into boys and girls represents the Finnish upper secondary schools fairly well because, for example, in 2013 ~57 % of the students in upper secondary schools were girls and ~43 % boys (Koulutustilastot 2013). Naturally all the respondents in the present study are from Central Finland so from that perspective the results cannot be representative of Finland altogether. In addition, most of the students answered the questions, which means that also from that perspective the answers are representative. Some questions were possibly not answered because of accidental skipping of the pages. In the possible rerun of a similar study, the study should maybe be filled out online so that skipping questions would not be possible. However, possible skipping of the pages is only speculation and it might also be that the students felt that they did not, for example, know the symbols well enough to answer. An online questionnaire would also make a larger group of students possible. Even though the result will never be 100 % accurate even for Central Finland, they give answers to the research questions.

As mentioned before, the importance of pronunciation and speaking in comparison to orthography and writing should be more thoroughly investigated with, for example, a scale. Another option for studying students' views could be, for example, observing how they act in classrooms when speaking is taught in comparison to when other areas of the language are dealt with. Another classroom study could be a case study where, for example, teaching pronunciation would first be observed and then students could tell how they perceived the

teaching situation and how well they thought to have learnt to pronounce English. Naturally, as mentioned earlier, only by looking at the present results, no conclusion can be drawn of whether the students were first good at English and then learnt the phonemic symbols or if they first mastered the phonemic symbols and thus became better in English. To draw such conclusions, a longitudinal comparative study should be conducted.

Teachers' opinions about the importance of phonemic transcription symbols should also be examined as a teacher has a major influence on what is actually taught. Teachers' opinions also have an effect on students' views on learning the phonemic transcription symbols which may have an effect on the results of the method and teaching technique. Some attention should also be paid to how much pressure teachers are feeling about teaching oral skills and pronunciation. In addition, teachers' priorities in teaching should be investigated further and compared to the opinions of the students.

Using phonemic symbols in teaching how to pronounce should be more thoroughly studied as well: it is important to know how much effort is needed for teaching the symbols and how much upper secondary school students' pronunciation enhances. In addition, also the time required for learning the symbols should be looked into. The results of the present study should also be compared later with results gained with the teaching of phonemic transcription symbols to find out the possible advantages of the method. Small test groups have already been used to examine the area of phonemic symbols as a teaching method on a smaller scale (Kuutti 2009) but, if possible, the method should be used throughout the students' schooling in order to see the impacts on a larger scale. Naturally, it would be good to not only look at the level of mastery of the symbols but at how well students learn how to pronounce English. In addition, as there is no guarantee that students would actually use the symbols after learning them, also students' motivation to use the symbols should be studied.

As there is research only on how well phonemic symbols are present in exercises in teaching materials (see e.g. Tergujeff 2013) but no previous research on the way EFL book series transcribe pronunciation. For example, first, some book series might distinguish the symbol ɹ from other *r*-like sounds; the symbol ɹ describes an approximant that is present, for example, in the word *red* (Wells 2004-2005: 5). However, as Wells (2004-2005: 5) remarks, it is typographically simpler to transcribe *r* and often the distinction is not made.

Second, Aula et al. (2002) introduces different transcription symbols gradually and concentrates on specific sounds at a time whereas Auvinen et al. (2009) introduce the sounds as an entity. Third, some book series use an asterisk for the silent *r* sound (e.g. Aula et al. 2002) instead of /(ɹ)/. Unfortunately, there was no knowledge of what EFL book series the specific target group of the present study had used and thus no knowledge of how the silent r was marked in the students' books. However, the students in upper secondary schools might have had different backgrounds altogether as they might have, for example, just moved to Central Finland. Moreover, having different backgrounds is not necessarily a bad thing for the present study as all students should be taught according to the same NCC (2004). Nevertheless, the symbols for the silent *r* caused no problems for the students in the present study as the transcript /ʌndə(ɹ)/ was well recognized (Table 35 in section 4.2.2). In addition to finding out the way pronunciation is described in EFL books, also how different EFL book series introduce phonemic transcription symbols the topic should be more thoroughly investigated. The study could also seek for information, for example, about if the book series are in accordance with the syllabi. Further research is also needed on whether the results in teaching pronunciation and mastering the phonemic alphabets differ if a different school book series is used.

The knowledge of how well students master phonemic transcription symbols can be used in, for example, teaching pronunciation and oral skills, and is therefore of importance to the research field. The present study implies that students have prerequisites for the use of phonemic transcription symbols as a teaching method that Kuutti (2009) has examined more thoroughly. The limitations of the present study are apparent because due to the scope of the present study some questions were not exhaustive and not analysed in full detail. Without a doubt, as demonstrated in this section, more research is needed.

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[1] The exercises in the book are based on exercises that have been compiled and used in the English Department of Oulu University. Who originally designed the exercises is not known but it can assumed that at least Richard Goymer, Malcolm Hicks, Jane McKinlay, Bentley Mathias and the editor himself have made some changes in the material. Morris-Wilson has written the introductory notes, drawn the diagrams and put the whole into a form of a book. However, as the original authorship for many parts of the exercises is untraceable, Morris-Wilson has named himself the editor of the book.

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APPENDIX 1. QUESTIONNAIRE

Hei opiskelija!

Englannin kielen suullista osaamista korostetaan aiempaa enemmän ja lukion päättövaiheessa opiskelijan tulisikin olla puhumisessa itsenäisen kielitaidon perustasolla. Jotta tavoitteeseen päästäisiin, on tärkeää osata lausua englannin kieltä ymmärrettävästi. Tämä tutkimus keskittyykin siihen, **miten paljon ja millä tavoilla lausumista opetetaan** ja **miten hyvin** kirjoissa esiintyviä **foneemisia merkkejä on hyödynnetty**.

Foneemisilla merkeillä tarkoitetaan yleensä hakasuluissa olevia **ääntämisohjeita kuten [ˈhæpi]** englannin sanalle happy. Vaikka osa merkeistä näyttääkin normaaleilta suomen aakkosilta, saattaa niiden lausumisohje poiketa suomalaisesta ääntämisestä. Yritäthän kyselyssä miettiä, **tunnistatko merkin nimenomaan foneemisena merkkinä** vai normaalina aakkosena.

Vaikka tutkimuksessa testataan osittain myös tämän hetkistä lukiotason foneemisten merkkien hallintaa, **ei yksilöiden kyselyvastauksia arvostella**. Vastaathan siis parhaasi mukaan kyselylomakkeen jokaiseen kohtaan **ympyröimällä vastaustasi vastaavan numeron**. Voit myös halutessasi avoimesti tarkentaa vastaustasi kommenttikentässä.

Tutkimus teetetään **nimettömänä** ja **kyselylomakkeet tuhotaan** niiden analysoinnin jälkeen. Tutkimus on osa Jyväskylän yliopistossa tehtävää maisterin tutkielmaa ja sen tuloksia voi halutessaan kysyä suoraan tutkimuksen tekijältä:

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Tutkimustulokset julkaistaan myöhemmin myös Jyväskylän yliopiston julkaisuarkistossa (https://jyx.jyu.fi/dspace).

Kiitos, että täytät kyselylomakkeen huolellisesti!

1. Valitse kahdesta vaihtoehdosta mielestäsi tärkeämpi				Kommentit
Kirjoittaminen	1	Puhuminen	2	
Oikeinkirjoitus	1	Oikein lausuminen	2	

2. Vastaa seuraaviin väittämiin alakoulun kokemustesi perusteella asteikolla 1-4, jossa
1 = Ei ollenkaan tai hyvin harvoin (enintään muutaman kerran vuodessa)
2 = Harvoin (noin joka toinen kuukausi)
3 = Silloin tällöin (noin joka kuukausi)
4 = Usein (noin joka viikko)

2.1 Alakoulussa…					Kommentit
Minulle on opetettu englannin kielen oikein lausumista	1	2	3	4	

Mikäli vastasit edelliseen kysymykseen vaihtoehdon numero 1 (ei ollenkaan), voit siirtyä suoraan kyselylomakkeen kohtaan 3. Muussa tapauksessa jatka vastaamista normaalisti kohdasta 2.2.

2.2 Alakoulussa opettaja on…					Kommentit
a) Antanut oikean lausumismallin etukäteen minulle henkilökohtaisesti	1	2	3	4	
b) Antanut oikean lausumismallin etukäteen yhteisesti koko luokalle	1	2	3	4	
c) Korjannut lausumistani minulle	1	2	3	4	

	henkilökohtaisesti				
d)	**Korjannut lausumista yhteisesti koko luokalle**	1	2	3	4
e)	**Antanut esimerkin väärästä ja oikeasta lausumistavasta minulle henkilökohtaisesti**	1	2	3	4
f)	**Antanut esimerkin väärästä ja oikeasta lausumistavasta yhteisesti koko luokalle**	1	2	3	4
g)	**Näyttänyt foneemisia aakkosia ja kertonut miten ne tulee lausua minulle henkilökohtaisesti**	1	2	3	4
h)	**Näyttänyt foneemisia aakkosia ja kertonut miten ne tulee lausua yhteisesti koko luokalle**	1	2	3	4
i)	**Lausunut foneemisilla aakkosilla kirjoitettuja sanoja minulle henkilökohtaisesti**	1	2	3	4
j)	**Lausunut foneemisilla aakkosilla kirjoitettuja sanoja koko luokalle yhteisesti**	1	2	3	4
k)	**Näyttänyt miten sanoja tai sen osia kirjoitetaan foneemisilla aakkosilla minulle henkilökohtaisesti**	1	2	3	4
l)	**Näyttänyt miten**	1	2	3	4

sanoja tai sen osia **kirjoitetaan** **foneemisilla aakkosilla** **koko luokalle** **yhteisesti**

2.3 Onko sinulle opetettu muilla tavoilla englannin kielen lausumista alakoulussa? Miten?

3. Vastaa seuraaviin väittämiin yläkoulun kokemustesi perusteella asteikolla 1-4, jossa
1 = Ei ollenkaan tai hyvin harvoin (enintään muutaman kerran vuodessa)
2 = Harvoin (noin joka toinen kuukausi)
3 = Silloin tällöin (noin joka kuukausi)
4 = Usein (noin joka viikko)

3.1 Yläkoulussa…					**Kommentit**
Minulle on opetettu englannin kielen oikein lausumista	1	2	3	4	

Mikäli vastasit edelliseen kysymykseen vaihtoehdon numero 1 (ei ollenkaan), voit siirtyä suoraan kyselylomakkeen kohtaan 4. Muussa tapauksessa jatka vastaamista normaalisti kohdasta 3.2.

3.2 Yläkoulussa opettaja on…					**Kommentit**
a) Antanut oikean lausumismallin etukäteen minulle henkilökohtaisesti	1	2	3	4	
b) Antanut oikean	1	2	3	4	

	lausumismallin etukäteen yhteisesti koko luokalle					
c)	**Korjannut lausumistani minulle henkilökohtaisesti**	1	2	3	4	
d)	**Korjannut lausumista yhteisesti koko luokalle**	1	2	3	4	
e)	**Antanut esimerkin väärästä ja oikeasta lausumistavasta minulle henkilökohtaisesti**	1	2	3	4	
f)	**Antanut esimerkin väärästä ja oikeasta lausumistavasta yhteisesti koko luokalle**	1	2	3	4	
g)	**Näyttänyt foneemisia aakkosia ja kertonut miten ne tulee lausua minulle henkilökohtaisesti**	1	2	3	4	
h)	**Näyttänyt foneemisia aakkosia ja kertonut miten ne tulee lausua yhteisesti koko luokalle**	1	2	3	4	
i)	**Lausunut foneemisilla aakkosilla kirjoitettuja sanoja minulle henkilökohtaisesti**	1	2	3	4	
j)	**Lausunut foneemisilla aakkosilla kirjoitettuja sanoja koko luokalle yhteisesti**	1	2	3	4	

k)	**Näyttänyt miten sanoja tai sen osia kirjoitetaan foneemisilla aakkosilla minulle henkilökohtaisesti**	1	2	3	4
l)	**Näyttänyt miten sanoja tai sen osia kirjoitetaan foneemisilla aakkosilla koko luokalle yhteisesti**	1	2	3	4

3.3. Onko sinulle opetettu muilla tavoilla englannin kielen lausumista yläkoulussa? Miten?

4. Vastaa seuraaviin väittämiin lukion kokemustesi perusteella asteikolla 1-4, jossa
1 = Ei ollenkaan tai hyvin harvoin (enintään muutaman kerran vuodessa)
2 = Harvoin (noin joka toinen kuukausi)
3 = Silloin tällöin (noin joka kuukausi)
4 = Usein (noin joka viikko)

4.1 Lukiossa…					**Kommentit**
Minulle on opetettu englannin kielen oikein lausumista	1	2	3	4	

Mikäli vastasit edelliseen kysymykseen vaihtoehdon numero 1 (ei ollenkaan), voit siirtyä suoraan kyselylomakkeen kohtaan 5. Muussa tapauksessa jatka vastaamista normaalisti kohdasta 4.2.

4.2 Lukiossa opettaja on…					**Kommentit**
a) Antanut oikean	1	2	3	4	

	lausumismallin etukäteen minulle henkilökohtaisesti					
b)	**Antanut oikean lausumismallin etukäteen yhteisesti koko luokalle**	1	2	3	4	
c)	**Korjannut lausumistani minulle henkilökohtaisesti**	1	2	3	4	
d)	**Korjannut lausumista yhteisesti koko luokalle**	1	2	3	4	
e)	**Antanut esimerkin väärästä ja oikeasta lausumistavasta minulle henkilökohtaisesti**	1	2	3	4	
f)	**Antanut esimerkin väärästä ja oikeasta lausumistavasta yhteisesti koko luokalle**	1	2	3	4	
g)	**Näyttänyt foneemisia aakkosia ja kertonut miten ne tulee lausua minulle henkilökohtaisesti**	1	2	3	4	
h)	**Näyttänyt foneemisia aakkosia ja kertonut miten ne tulee lausua yhteisesti koko luokalle**	1	2	3	4	
i)	**Lausunut foneemisilla aakkosilla kirjoitettuja sanoja minulle henkilökohtaisesti**	1	2	3	4	
j)	**Lausunut foneemisilla**	1	2	3	4	

	aakkosilla kirjoitettuja sanoja koko luokalle yhteisesti					
k)	**Näyttänyt miten sanoja tai sen osia kirjoitetaan foneemisilla aakkosilla minulle henkilökohtaisesti**	1	2	3	4	
l)	**Näyttänyt miten sanoja tai sen osia kirjoitetaan foneemisilla aakkosilla koko luokalle yhteisesti**	1	2	3	4	

4.3. Onko sinulle opetettu muilla tavoilla englannin kielen lausumista lukiossa? Miten?

5. Lue hiljaa mielessäsi englannin ääntämisen kuvaamisessa käytettävät foneemit läpi. Ympyröi ne foneemit, jotka ovat sinulle ennestään tuttuja ja joiden avulla osaisit lausua sanan, jonka ääntämisohjeessa kyseinen merkki esiintyy.

p	b	t	d	k	g	f	**v**	θ	ð	s	z
ʃ	ʒ	**h**	**tʃ**	**dʒ**	**m**	**n**	**ŋ**	**l**	**w**	**r**	**j**
iː	**ɪ**	**e**	**æ**	**uː**	**ʊ**	**ɔː**	**ɒ**	**ɑː**	**ə**	**ɜː**	**ʌ**
i	**u**	**o**	**a**	**ɪə**	**eə**	**ʊə**	**eɪ**	**aɪ**	**ɔɪ**	**əʊ**	aʊ

6. Ympyröi annettua ääntämisohjetta vastaavan vaihtoehdon numero. Valitessasi vaihtoehdon 4 muu, mikä?, kirjoita ääntämisen mukainen **Kommentit**

sana kommenttikenttään.				
a) /aɪs/	1 aisle	2 eyes	3 ice	4 muu, mikä?
b) /bæt/	1 bat	2 bet	3 beat	4 muu, mikä?
c) /ˈladə(r)/	1 leader	2 ladder	3 later	4 muu, mikä?
d) /ˈpleʒə(r)/	1 player	2 pleasure	3 pleaser	4 muu, mikä?
e) /bɜːd/	1 bird	2 bad	3 bead	4 muu, mikä?
f) /ðɪs/	1 dice	2 this	3 hiss	4 muu, mikä?
g) /raɪt/	1 write	2 ride	3 rites	4 muu, mikä?
h) /θæŋk/	1 skank	2 thank	3 sank	4 muu, mikä?
i) /ˈiːzi/	1 izzy	2 eaze	3 easy	4 muu, mikä?
j) /wɒtʃ/	1 wash	2 watch	3 wotcher	4 muu, mikä?
k) /tɔːk/	1 took	2 talk	3 take	4 muu, mikä?
l) /səˈdʒɛst/	1 suggest	2 saddest	3 southeast	4 muu, mikä?
m) /geɪt/	1 kate	2 get	3 gate	4 muu, mikä?
n) /fʊl/	1 fool	2 full	3 wool	4 muu, mikä?
o) /vɔɪs/	1 voice	2 foils	3 void	4 muu, mikä?
p) /ʃɔːt/	1 foot	2 shoot	3 short	4 muu, mikä?
q) /tʃeɪndʒ/	1 tends	2 theirs	3 change	4 muu, mikä?
r) /ˈmɛʒə/	1 omega	2 mesh	3 measure	4 muu, mikä?
s) /hæŋ/	1 hand	2 hang	3 hen	4 muu, mikä?
t) /jɛl/	1 jail	2 gel	3 yell	4 muu, mikä?
u) /θruː/	1 brute	2 true	3 through	4 muu, mikä?
v) /fɑː(ɹ)/	1 fare	2 far	3 war	4 muu,

				mikä?
w) /ʌndə(ɹ)/	1 under	2 undo	3 wander	4 muu, mikä?
x) /fɪə/	1 fire	2 fear	3 field	4 muu, mikä?
y) /eə(ɹ)/	1 ear	2 heir	3 hare	4 muu, mikä?
z) /ʃʊə/	1 sure	2 shoe	3 foe	4 muu, mikä?
aa) /səʊ/	1 so	2 saw	3 sew	4 muu, mikä?
bb) /haʊ/	1 hound	2 how	3 have	4 muu, mikä?

7. Onko sinulla muita lausumisen opettamiseen tai foneemisiin merkkeihin liittyviä kokemuksia, joita haluaisit jakaa? Voit kirjoittaa tähän myös muita tutkimukseen liittyviä kommentteja.

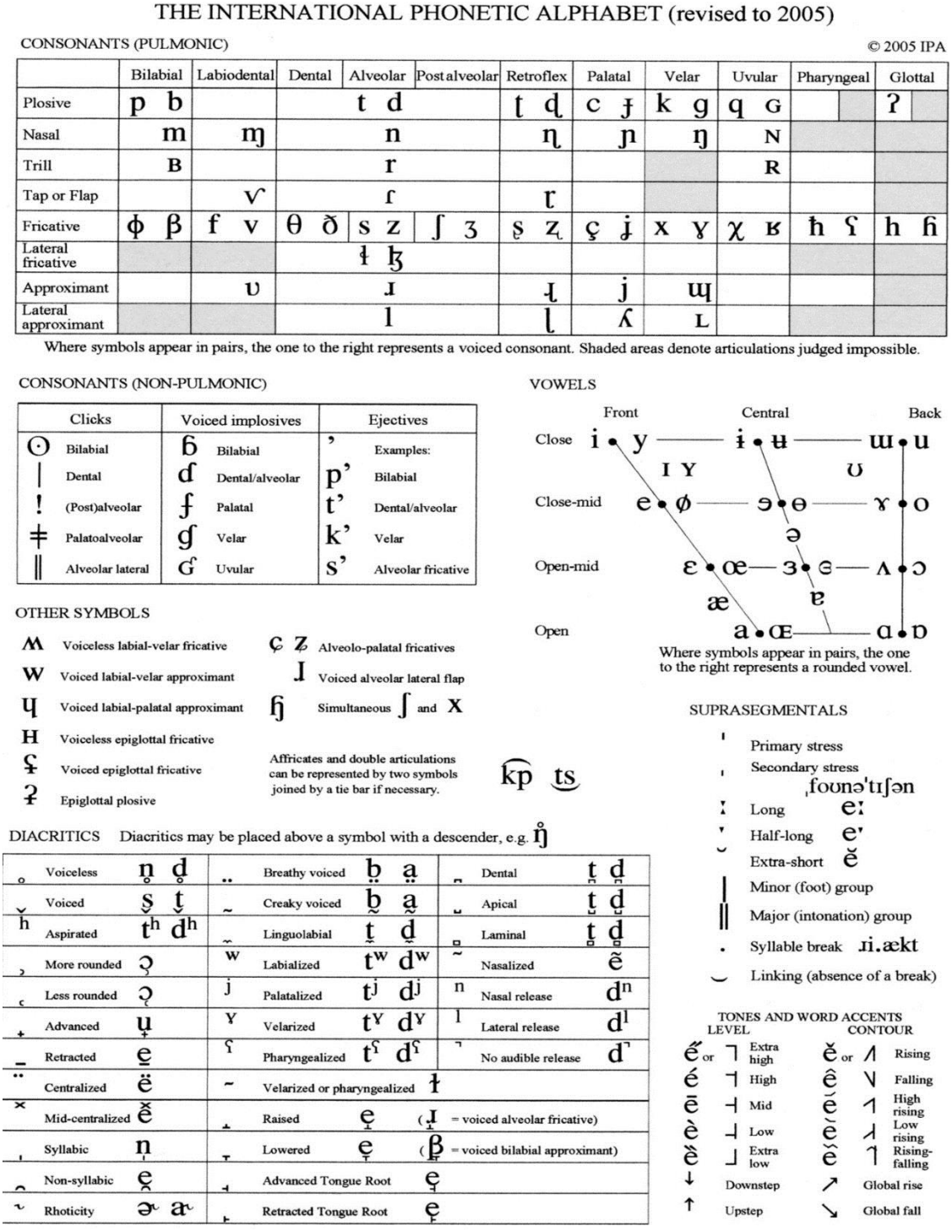
8. Taustatiedot													**Kommentit**
Olen	1 tyttö	2 poika											
Olen lukion vuosikurssilla (monesko lukiovuosi)			1	2	3	4							
Olen suorittanut tai olen suorittamassa englannin kielen lukion kursseja			1	2	3	4	5	6	7	8	9	10	11	12

Viimeisimmän arvostellun englannin kurssini arvosana	4	5	6	7	8	9	10

Mikäli haluat saada itsellesi tiedon tutkimuksen valmistumisesta, kirjoita tähän sähköpostiosoitteesi

Kiitos vastauksista ja aurinkoista kesää!

APPENDIX 2. IPA CHART



The International Phonetic Association 2005. *The International Phonetic Alphabet.* Aristotle University of Thessalonki [online]. (4 Dec 2011) http://www.langsci.ucl.ac.uk/ipa/IPA_chart_%28C%292005.pdf

APPENDIX 3. STUDENTS' COMMENTS ABOUT THE STUDY

Section 1, first question
"Kun olet puhumassa voit harvoin käyttää apua, toisin kuin kirjoittamisessa esim. sanakirjaa"
"Usein puhumisella pääsee pidemmälle"
"Puhuminen on paljon soveltavampi tapa oppia kieliä. Kirjoittaminen on paljon mekaanisempaa"
Specific comments on speaking in the first question:
"Tarvitsee enemmän"
"Tärkeämpää esim. matkustellessa"

Section 1, second question
"Puhuttu kieli on ymmärrettävää vaikkei sitä täysin oikein lausuiskaan. Kirjoittaessa väärin sitä pitää miettiä enemmän"
"Vaikkei lausuisi oikein, tulee kuitenkin yleensä ymmärretyksi"

Section 2, first question
"en muista"
"en ole varma"
"vaihdoin koulua kesken alakoulun. toisessa opetettiin ääntämistä tarkasti toisessa ei niinkään"

APPENDIX 4. STUDENTS' COMMENTS AND OTHER TECHNIQUES

School A: Comments and other methods in pronunciation teaching in elementary school
On täytynyt toistaa opettajan perässä /levyn perässä. Kuunneltu malleja, toisteltu perässä Ollaan kuunneltu paljon tekstejä Toistimme yhdessä luokan kanssa sanoja Ei ole Ei ole En juurikaan muista mitään

School B: Comments and other methods in pronunciation teaching in elementary school
CD-levyllä toisto ja sitten kaikki lausuvat perässä Ei juurikaan Vain ope sanoo muut toistaa tyylillä Opin lausumisen vain puhumalla englantia, foneemisia aakkosia on opetettu vain satunnaisesti On, kirjojen mukana oli cd ja kotona piti joskus lukea / harjoitella sanoja äänitteen perässä Harjoiteltu lukemista yhtä aikaa CD-äänitteen kanssa Tiettyjä äänneharjoituksia Elokuvilla ilman tekstitystä (?) ja aika paljon toistamalla opettajan perässä Ei mitenkään erityisesti, erinäisten ääntämistehtävien kautta Toistamalla nauhan tai opettajan perässä Sanasto toistettiin open perässä Normijutut, opettajan jälkeen ääntäminen jne. Toistamalla nauhan tai opettajan perässä sanoja / lauseita Kuuntele ja toista

School C: Comments and other methods in pronunciation teaching in elementary school
Kuunteluiden kautta Kuunnellaan tekstinpätkiä tai sanoja jonka jälkeen ne toistetaan Luimme oppikirjan kappaleita ääneen yhdessä ja erikseen ja opettaja korjasi, jos lausuimme väärin

School D: Comments and other methods in pronunciation teaching in elementary school

Ei varmaankaan, ei ole niin selkeät muistikuvat niin pitkältä. Foneemisia merkkejä ei ole käytetty juuri ollenkaan
Erityisopetuksessa ja sillein että harjoteltiin ääniä leikkimällä
Ihan vain puhumalla
Ihan vaan puhumalla
En muista miten ja onko opetettu
Leikkien kautta ja lapsille mielenkiintoisilla tavalla
Englannin kielisillä leikeillä ja lauluilla
Puhumalla, ääneen lukemalla
Esim. opettaja lausuu tekstin pätkän ensin yksin, sitten koko ryhmä lausuu perässä

School E: Comments and other methods in pronunciation teaching in elementary school
Toistamalla opettajan perässä sanoja
Ei muista
En muista
Ei muuten kuin toistamalla

School F: Comments and other methods in pronunciation teaching in elementary school
Ei ole
Siten, että opettaja lausuu sanat ääneen ja oppilaat toistaa perässä
Englanninkielisillä videoilla yms.
Kuunneltiin lauluja ja laulettiin mukana