English Pronunciation Development of Finnish Upper Secondary School Students: A Study on the Influence of a Seven-Week Spoken English Course to the Pronunciation of Sibilants and Intonation

Aija Markkula

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School of Languages and Translation Studies

Faculty of Humanities

University of Turku

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This thesis examined the changes in English pronunciation regarding segmental and suprasegmental features of upper secondary school students during a spoken English course. Sibilants and intonation were chosen as the features that were rated by the Finnish teachers of English. The research strived to answer the following research questions: 'How does an English spoken course in upper secondary school influence the pronunciation of sibilants of Finnish learners of English according to English teacher ratings?' and 'How does an English spoken course in upper secondary school influence the intonation of Finnish learners of English according to English teacher ratings?'. The issues were approached through a quantitative method and, in addition, a brief qualitative section will be presented to give support to the statistics. First, 20 Finnish upper secondary school students learning English were randomly selected. It was important to keep the number of participants fairly low to be able to also keep the duration of the evaluator questionnaire to a reasonable length. The questionnaire was built of several background information questions and 40 speech samples in which the evaluators rated the participants' pronunciation on a 0–100 continuous scale. After collecting responses from 25 Finnish teachers of English, statistical analysis was conducted and analysed.

Even though the results did not show any statistical significance on the group level, there were both positive and negative changes on an individual level. The changes were positive for the sibilant /s/ and intonation and like previous studies have showed, the pronunciation of voiced sibilants was poor before and after the spoken English course. The overall pronunciation ratings showed that more than half of the students were able to develop their overall pronunciation skills during the course. The evaluators' answers to open-ended questions revealed that suprasegmental features were commented significantly more compared to segmental features. Based on the results, more emphasis should be put into teaching pronunciation explicitly and one course that focuses on oral skills is not enough for students to develop their pronunciation skills on either segmental or suprasegmental level. It is suggested that further research on pronunciation teaching would start from earlier ages and lower grades, as well as adding explicit pronunciation instruction to the teaching of English and investigating that in all ages.

Keywords: segmentals, suprasegmentals, pronunciation, sibilants, intonation, L2 English, English as second language, second language acquisition

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1 Introduction

A person can make a first impression only once after which it cannot be changed. When using a foreign language in a face to face interaction situation, pronunciation is the first concrete thing that creates the first impression. Intelligibility is attained through pronunciation and even though attitudes towards foreign accents and poor pronunciation skills are constantly changing from judgmental to more tolerant, it is necessary to know certain aspects of pronunciation (Seidlhofer 2001). Pronunciation is an important part through which a person creates his or her personal identity. According to Pennington and Richards (1986) some speakers may intentionally speak with an accent and use phonological features from their mother tongue to indicate that they belong to a certain ethnical group or that they want to keep an identity of a certain group. As phonological features and speakers' accents play a major role in pronunciation, also identity and intonation, play a major role in communication. Poor intonation can cause misinterpretations, resentment and disrupt communication because intonation conveys a lot of features. Intonation conveys interest and attitudes, emotions and doubt, it signals emphasis, helps in grammatical identification of spoken language and it gives different kinds of clues in communication (e.g. turn-taking) (Rogerson-Revell 2011, 192).

Good pronunciation skills in English require mastering the production of both segmental (individual sounds) and suprsasegmental (e.g. stress, rhythm and intonation) features of speech. It has been noted that pronunciation has been neglected in English teaching in Finland altogether and that especially suprasegmental features are very rarely explicitly taught in classrooms (Tergujeff 2014). Studies on the teaching of pronunciation have indicated that teaching pronunciation in Finland, in particular, still focuses mostly on the segmental features (Tergujeff 2014). However, Lintunen (2004) found in his study that even advanced learners of English struggle with the segmental sounds due to lack of teaching during secondary and upper secondary school.

There is very little research done in the pronunciation skills of younger learners and, to my knowledge, no previous studies as to whether the spoken English course in the upper secondary school has an impact on the development of the pronunciation skills of Finnish learners of English. Hence, the present study aims to find out whether a seven-week spoken course in upper secondary school is enough for students to develop their pronunciation skills. Segmental difficulties have been studied quite extensively in Finland (see Lintunen, 2004 and Morris-Wilson, 2004) and sibilants were mentioned amongst the most difficult phonemes in all the studies conducted on segmental difficulties that Finnish learners of English face. Therefore,

sibilants were chosen to be examined for the purposes of this study. Intonation has been ignored extensively in pronunciation research in Finland thus, it will be looked at as the suprasegmental feature.

In order to find out whether there is any development in the segmental and/or suprasegmental features in the pronunciation of the learners', sibilants and intonation were studied closely. In other words, the study aimed at answering the following questions:

1) How does an English spoken course in upper secondary school influence the pronunciation of sibilants of Finnish learners of English according to English teacher ratings?
2) How does an English spoken course in upper secondary school influence the intonation of Finnish learners of English according to English teacher ratings?

A quantitative method was used to study the subject. A group of Finnish teachers of English evaluated the pre- and post-recordings of 20 Finnish learners of English. The recordings were recorded before and after the national spoken English course to see whether there is any development in the pronunciation of the students. According to the ratings, numerical values for each student were calculated individually and as a group.

The outline of this thesis is as follows: first, in the theoretical framework section, the segmental and suprasegmental features will be presented with insight to previous research. As the segmental feature, English and Finnish sibilants will be introduced and as the suprasegmental feature, intonation will be introduced. The chapter also includes insight to the difficulties that Finnish learners of English face with these particular segmental and suprasegmental features. As well as introducing previous studies, the theoretical framework also includes introduction to pronunciation teaching in education in general and to English teaching in Finland. Second, the methods of the present study will be introduced, followed by the report of the results with relevant tables and figures. The results are interpreted in the discussion section which includes the implication of the results to education. The present study will be evaluated and suggestions for further research will be given. In the last section, the thesis will be concluded with a summary of the results as well as the main points from the discussion.

2 Segmental and suprasegmental features

This chapter presents an overview of the segmental and suprasegmental features in regard to advanced second language acquisition. Previous literature investigating the role of segmental and suprasegmental features separately will be introduced first after which a closer look will be taken to research papers that have studied both segmental and suprasegmental features together. In the first two subsections, the sibilants will be introduced as the segmental feature and intonation as the suprasegmental feature and they will be later used for the purposes of this study. Finally, in the last subsection, the theory of Cross-Linguistic influence will be introduced and some well-known differences between Finnish and English will be investigated.

The human speech signal carries information about both segmental and suprasegmental features (Miller 1978, 175). *Segmental features* can be defined as units that can be physically or auditorily categorised in the stream of speech, such as vowels and consonants which can appear in different orders (Crystal 2008, 150). *Suprasegmental features* are defined as units of speech, such as tone, stress pitch and intonation (Fox 2000). A segmental feature is considered as an entity itself whereas a suprasegmental feature is a longer stretch of speech since it extends over more than one sound segment (Chun 2002, 3).

Over the years, the perception and production of non-native speech have been studied by mainly focusing on the segmental features that are different from the pronunciation of native speakers. For example, Flege et al. (1997) conducted a research on the effects of experience on non-native speakers' production and perception of English vowels and Walley and Flege (1999) assessed the lexical influences and the possible age-related changes in children's and adults' vowel perception. In the same way, most recent theoretical models that account for the production and perception of L2 speech, such as Flege's Speech Learning Model (1995) and Best's Perceptual Assimilation Model (1995) focus more on the segmental features. Flege (1995) and Best (1995) have studied the production and perception of segments and have also examined phonetic transfer from L1 to L2. Because the segmental features have been widely studied, the suprasegmental features of speech in the perception and production of learners of languages have been downgraded in the research field for years (Piske et al. 2001, 212).

Having noted that, in recent decades, it has been evident that the direction of research has been changing. There are quite many fairly recent studies on the perception and production of suprasegmental features in second language acquisition that argue for a major role for those features. Munro (1995) studied to what extent an untrained listener could accurately rate native and accented speech on the basis of only non-segmental information. The utterances of

Mandarin-speaking learners of English as well as native English speakers were recorded after which the recordings were made unintelligible through low-pass filtering. Native English evaluators assigned foreign accent scores to the utterances and it was found that the utterances of native English speakers received consistently higher ratings throughout. In other words, it was found that suprasegmental features do carry sufficient information to be able to detect a foreign accent without any segmental information (ibid.). Ramus & Mehler (1999) explored the discrimination of languages on the basis of prosodic clues only. They used speech synthesis to construct stimuli that preserved different possible levels of prosodic information in English and in Japanese sentences. The discrimination of the two sets of stimuli were tested by French subjects. The results show that syllabic rhythm is sufficient to allow for discrimination between English and Japanese. The results were consistent with previous studies and showed that suprasegmental features play a major role in separating languages (ibid.). Automatic approaches for identifying foreign accents have been a trend in recent studies.

Usually, when native speakers rate the speech of language learners, they report to perceive learners' language as foreign accented because of both segmental and suprasegmental errors. Fluency as a suprasegmental feature determines the degree of accentedness perceived by native raters. Examples of features of fluency are pause and hesitation phenomena, such as silent and filled pauses, repetitions, false starts, and the rate of speech (Piske et al. 2001, 212). Having said that, it has to be noted that in many cases it is very difficult to separate segmental and suprasegmental features as they are very closely related. Missaglia (1999), for example, indicated a close relationship between segmental and suprasegmental parameters as she found that prosody centred phonetic training had a major positive change on both segmental and suprasegmental features of native Italian speakers' pronunciation of German. In the research, the experimental group (20 Italian students) got 20-hour suprasegmental training in German and the control group got 20-hour segmental training in German. Pre- and post-test analysis method was used for comparing the improvement rates after the two different trainings. The results show that L2-learners trained with suprasegmental-centred and segment-centred training both improve, but at different rates. The statistical evidence favours suprasegmental-centred pronunciation training over segmental-centred training even though explicit training of both features results in development of pronunciation skills (Missaglia 1999, 551–554). Toivanen (1999) states that there are no reasons to separate segmental and suprasegmental competencies in language teaching since they develop together.

For the purposes of this research, sibilants were used as the segmental features and intonation as the suprasegmental feature measuring the possible development of the upper

secondary students' pronunciation skills. The reason for choosing these features, in particular, will be explained in the next subsections.

2.1 Sibilants as the segmental feature

As mentioned above, for the purposes of this research, sibilants, /s z ʃ ʒ/, were used to study the possible development of the segmental features of Finnish learners of English. They were chosen because of their similarities and differences in English and Finnish pronunciation and because, for the scope of this research a wider range of phonemes would have been too much to assess.

In the English phoneme chart sibilants belong to the fricative sounds and there are nine fricative sounds in English: /f v θ ð s z ʃ ʒ/ and /h/. A *fricative* is a sound where the air is forced through a narrow channel made by two articulators close together and when the air passes through it makes a friction noise (Morris-Wilson 2004, 52). However, according to Morris-Wilson (2004, 64), the friction noise is not same for all the English fricatives thus, the friction noise of the four sibilants /s z ʃ ʒ/ is stronger, and the energy put into them is more concentrated and intense due to a narrower passageway. Out of the nine fricatives, four are sibilant phonemes of English (see Table 1): voiceless alveolar sibilant /s/, voiced alveolar sibilant /z/, voiceless palato-alveolar sibilant /ʃ/ and voiced palato-alveolar sibilant /ʒ/. Because all sibilants are necessarily fricatives, in this study, the term sibilant will be used to refer to the four phonemes: /s z ʃ ʒ/.

Table 1 English sibilants

	Place of articulation	Voiceless	Examples	Voiced	Examples
Sibilants	Alveolar	s	sick, sun	z	zip, zoom
	Palato-alveolar	ʃ	ship, shut	ʒ	genre, Jack

The alveolar sibilants are important in English since they are used as the markers of the possessive and the plural forms of nouns as well as the markers of the third singular present tense of verbs (Pennington 1996, 51). Hence, they occur very frequently in English and since the alveolar sibilants are two different phonemes and have an effect on the comprehensibility, it is very important that learners of English learn to pronounce them correctly. To get the sibilant sounds /s/ and /z/ right in English, the sides of the tongue must touch and be close to the upper side teeth and the tongue needs to be grooved so that the air can move right through the mouth

as well as the upper and lower teeth have to be close together to form the friction in the sounds as air passes through. /s/ is always voiceless thus, does not have vibration and /z/ is sometimes voiced, meaning that the vocal cords vibrate while producing the sound (when intervocalic) or either partly or fully devoiced. The hissing is still always present in both of the sounds regardless of the possible allophones produced (allophone is an audibly distinct variant of a phoneme) (Morris-Wilson 2004, 65). For the sounds /ʃ/ and /ʒ/, the place of articulation is slightly different compared to /s/ and /z/ (see Figure 1). The articulation is a little higher and further back in the mouth. The teeth are still close together to be able to form the hissing sound, but the front of the tongue rises to make a narrowing with the roof of the mouth thus, the difference in the place of articulation makes the hissing noise lower in pitch for /ʃ/ and /ʒ/. Both /ʃ/ and /ʒ/ involve friction at all times, even the devoiced /ʒ/. /ʃ/ is always voiceless but /ʒ/ is only fully voiced if intervocalic (e.g. in the word measure) and partly or fully devoiced in all other positions (e.g. in the word prestige) (Morris-Wilson 2004, 68–69). The alveolar sibilants and the voiceless palato-alveolar sibilant can be used in the word-initial, -medial and -final position. The voiced palato-alveolar sibilant /ʒ/ is a rare phoneme hence, it has a more limited distribution. It is most commonly used in the medial position and there are only a few words in English that begin or end with this phoneme, most of them being loan words from French (e.g. genre, beige).

In comparison to the nine fricatives of English, Finnish only has two fricatives which are the sibilant /s/ and the fricative /h/. The sibilant /s/ is therefore the only sibilant in many varieties of Finnish (Suomi et al. 2008, 27). The English phoneme /ʃ/ is used as an allophone in Finnish and it is only found in foreign loan words (such as shamppoo, meaning shampoo) and that is why it is not considered to be part of the core of the Finnish phoneme system (Laaksonen & Lieko 2003, 15). The Finnish /s/ differs from the voiceless English sibilants in two ways: in terms of length and in terms of place of articulation. The English voiceless sibilants are longer in duration than the Finnish /s/ and the English /z/ is shorter than the voiceless sibilants in the word-initial, -medial and -final position. It means that the duration of the Finnish /s/ and the English /z/ is almost the same (Lauttamus 1981, 350–352). It is evident that the most common allophone of Finnish /s/ is not as "sharp" as the sibilant denoted by the International Phonetic Alphabet (IPA) symbol [s] and it is safe to say that the Finnish sound /s/ is somewhere between IPA's [s] and [ʃ]. Hence, the Finnish sound /s/ has a large phonetic space for it without any danger of perceptual confusion (Suomi et al. 2008, 27). In short: the phoneme /s/ has a lot of variation between speakers and it is used often somewhere between the allophones [s] and [ʃ] and especially in fast speech between vowels as [z].

Figure 1 illustrates the places of articulation for the Finnish and English sibilants in the shape of a quadrangle. It attempts to show that the Finnish /s/ is not articulated in the identical place with any of the English sibilant phonemes. However, it has to be noted that this Figure is a rather simplified representation of the real distribution. The place of articulation of the Finnish /s/ thus, overlaps with the places of articulation of all the English sibilants (Lehtonen et al. 1977, 145). It should, however, be noted that the distribution of the Finnish /s/ is closest to the English voiceless alveolar sibilants and it is not as close to each sibilant as Figure 1 suggests. This explains why Finns have problems with English sibilants both in production and perception – they could mistakenly produce any English sibilants by using the Finnish /s/ which often results in mispronunciation and even in misunderstanding.
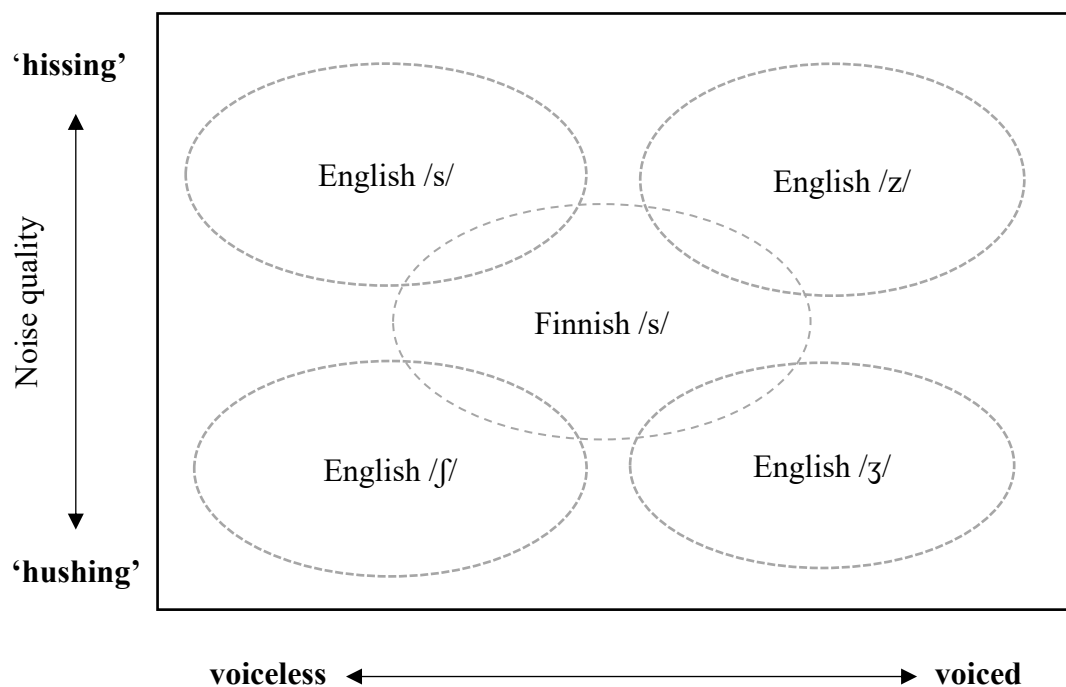
Figure 1 The distribution of the Finnish and English sibilants (Lehtonen et al. 1977, 145)

2.2 Intonation as the suprasegmental feature

When there is speech there is also intonation since intonation occurs when vocal folds vibrate in the process of speech production, which is a natural characteristic of the speech production process. The rise and fall of the pitch of the voice in spoken language is the most basic description of intonation (Wells 2006). It is very difficult to be able to say anything in any language without some kind of intonation. It is evident that there are many opinions as to what the most convenient definition of intonation is. Ladd (1980, 6) defines intonation as "The use

of suprasegmental phonetic features (pitch) to convey post lexical or sentence-level pragmatic meanings in a linguistically structured way". Coulthard (1992, 36), however, identifies intonation with prosody and includes loudness, length, speed and voice quality to it. Even though the definitions of intonation vary, pitch seems to be the familiar item that is present in all definitions. Cruttenden (1986, 9) for example, states that "intonation involves the occurrence of recurring pitch patterns, each of which is used with a set of relatively consistent meaning, either on single words or on groups of words of varying length.".

Describing intonation and its systems is difficult because, in human language, intonation is concurrently one of the most universal and one of the most language-specific feature (Hirst 1998). What makes intonation universal is that every language has intonation in it and that many of the linguistic and paralinguistic features of intonation (the vocal effects that can be employed when speaking) are shared by languages that are of totally different origins (Hirst 1998, 1). Even though there are many universal features to intonation, there are also many specific features in people's intonation, and they are dependent on the language, the dialect and even the mood, style and the attitude of the speaker (Hirst 1998, 2). Ohala and Gilbert (1981), for example, have shown in their research that speakers are capable of distinguishing languages on the basis on their prosody alone. They studied English, Japanese and Cantonese because they represent three distinct prosodic types: languages that use stress, accent and tone. They played recordings taken from conversations in all three languages which were then electronically processed so that only the intonation remained. The listeners could correctly identify 56.4% of the recordings (Ohala & Gilbert 1981, 124–129). Consequently, intonation is an important part of language and according to Chun (2002, 1), it seems to be very easily if not automatically acquired by children in their L1 as well as in their L2. For adults, however, it has been proven to be difficult if not even impossible to master in their L2 even though they can maintain and retain intonation in their L1.

According to Botinis et al. (2001), intonation is the combination of tonal features in larger structural units. The units are associated with the acoustic parameter of voice fundamental frequency or F_0 and its distinctive variations in the speech process. They also state that F_0 and *pitch* are terms that are often used interchangeably in literature despite their differences in acoustic and perceptual definitions (Botinis et al. 2001, 264). Pitch as it is, is referred to as the varying levels or heights of the sounds produced in speech (Chun 2002).

Tone is a prosodic characteristic that refers to the pitch changes made to affect the meaning of words and phrases (e.g. high level, mid-level, low level, rising or falling). Languages like Thai use tone lexically, meaning that a word changes its meaning depending on

the tone which is used to say it. English is not a tonal language, but it does use tone for intonation (Chun 2002, 4). As Wells explains it:

> In fact, the intonation system of English constitutes the most important and complex part of English prosody. By combining different pitch levels (= unchanging pitch heights) and contours (= sequences of levels, changing pitch shapes) we express a range of intonational meanings: breaking the utterance into chunks, perhaps distinguishing between clause types (such as statement vs. question), focusing on some parts of the utterance and not on others, indicating which part of our message is background information and which is foreground, signalling our attitude to what we are saying (Wells 2006, 5).

Wells (2006) describes the three types of decisions the speakers of English face when they speak: tonality, tonicity and tone. First, *tonality* is the way the speaker breaks his material up into chunks and the chunks are called intonation phrases. However, a speaker can say utterances as single intonation phrases or cut them up into several intonation phrases. Second, *tonicity* is used to accent some words that the speaker wants to highlight in order to make sure the listener's focus is on the important words of the conveyed meaning. Lastly, *tone* is the decision that a speaker makes about what kind of pitch movement will be used. The basic choices are between fall, rise and fall-rise and they tell the hearer about what is possibly coming next. In general, a fall usually means that the information is complete, and fall-rise tends to mean that there is more to come from someone in the discussion (Wells 2006, 6–10).

Since the passage that was put together for the upper secondary school students to read for the purposes of this study was fairly heavy on lists, it is important to briefly explain the list intonation of both English and Finnish. As mentioned before, non-finality is expressed in English intonation by not using falling pitch which means that using higher pitch leaves matters somewhat open to the listener. On the other hand, to indicate that the sentence is complete, the speaker uses a falling pitch. Non-fall intonation is used to indicate non-final fall-rise or rise in pitch and the distinction between the definite fall and the open non-fall is very clear in the intonation of lists (Wells 2006, 75). For example, a waitress could say the same sentence, "would you like to have orange juice or water", in two ways. If she uses falling intonation in the word "water", it indicates that those two are the options to choose from but if she uses an open non-fall pitch for the word "water", it means that there might be more options to choose from (ibid.). There is also another way to use intonation in lists as the speaker can leave the list open simply by not giving each item its own intonation pattern and placing the tonic syllable

(the most stressed syllable) in the last item (e.g. saying "one, two, three, four \five ") (Wells 2006, 76).

Compared to English intonation, the intonation of Finnish is different in many ways. Finnish intonation has been described by several authors to be "flat" and "monotonous" (Suomi et al. 2008, 115). The most common pitch pattern (non-emphatic and non-affective) in a Finnish utterance seems to be the first syllable being uttered somewhere above or at the middle of the speaker's own voice range and the last syllable is uttered at the very low pitch, meaning the utterance is prosodically a descending f0 curve (Iivonen 1998, 320). The pattern described above is the basic pattern and it is common to both statements and questions hence, a final rise is fairly rare in Finnish. In English, as mentioned above, the final rise for the expression of interrogativity exists whereas in Finnish it does not exist. However, according to Iivonen (1998), in oral reading, a creaky voice often occurs in the utterance-final position hence, the declination is no longer so evident. Still, it has been claimed that typical Finnish intonation is relatively low, does not have variation range and the pitch intervals are small (Hakulinen 1979, 33).

2.3 Problematic Features of English Pronunciation for Finnish Learners

Language transfer, also known as cross-linguistic influence, most usually involve differences between the source language (mother tongue) and the target language which is the language the learner is seeking to acquire (Ellis 2015, 118). Language transfer can have either positive or negative effects. Positive transfer happens when the learner can apply L1 language knowledge correctly to the target language. Negative transfer, on the other hand, implies that the learner has not been able to apply L1 language knowledge correctly when using the target language which then results in errors in the target language (Ellis 2015, 120). According to Ellis, transfer is most clearly present in pronunciation. For example, when French people speak English, it is most likely that they sound French (Ellis, 2015, 119). Ringbom (2007, 54) states that all the studies that have compared and examined Finnish-speaking and Swedish-speaking learners of English have the same outcome: Swedish speakers have an advantage in learning English over Finnish learners. The reason for these kinds of results is that Swedish and English are more similar in many ways compared to Finnish and English and Swedish learners can rely on their L1 for essential facilitation of learning.

2.3.1 Problems in the Segmental Features

Based on Finnish-English cross-linguistic studies (e.g. Wiik 1965, Lehtonen et al. 1977, Morris-Wilson 1992), sibilants, affricates, dental fricatives and the tense-lax opposition of vowels are the most difficult sounds for Finnish learners of English and they are due to the phonological distance of the two languages (Tergujeff 2013, 22).

According to Morris-Wilson (2004, 67–68), the phonemes /s/ and /z/ are difficult for Finnish speakers of English because the Finnish are not able to find the correct quality of the sibilant sounds. The problems for Finnish learners are both physical and relational as the phoneme /z/ is absent and the phoneme /s/ carries a heavier functional load in Finnish than in English (Sajavaara & Dufva 2001, 244). The Finnish /s/ is subjected to a wide range of allophonic variation and it is also post-alveolar and pronounced with a less grooved tongue than the English /s/.

Finnish learners also face problems with the phoneme /ʃ/ but the problems are the opposite of the problems faced with /s/. Finnish learners of English often place their tongue forward in a way that the pronunciation becomes ambiguous between the phonemes /s/ and /ʃ/ (Morris-Wilson 2004, 71). Coming back to Sajavaara and Dufva's (2001) distinction between physical and relational problems, the distinction between /s/ and /ʃ/ is a physical problem resulting from the lack of /ʃ/ in Finnish. Morris-Wilson (2004) reports that at times, Finnish speakers fail to separate the alveolar fricatives /s/ and /z/ and the post-alveolar fricatives /ʃ/ and /ʒ/. This is evident since Finnish does not have a voiced-voiceless opposition and the distinction causes difficulties mostly in word-final position. According to Hänninen (1979, 146), these problems derive from the fact that learners do not pay enough attention to the duration of the preceding sound. For example, Finns tend to exaggerate voicing and ignore the lengthening of the preceding vowel when producing /z/ (Lehtonen et al. 1977, 146). According to Lauttamus (1981), the distinction in duration between the voiced and voiceless sibilants produces difficulties for Finnish learners since they tend to neglect the difference in duration in each position by producing too short English sibilants. If Finnish learners lengthened their English /s/ in all positions, they could make the necessary distinction between the English /s/ and /z/ thus, more attention should be paid to /s/ in intervocalic position and after a labial vowel (Lauttamus 1981, 352).

After explaining the difficulties, it can be noted that the problems that Finnish learners of English have in their production are mostly due to negative transfer and two things affect that. First, as mentioned before, Finnish has only one sibilant phoneme, whereas English has four and the Finnish sibilant is not identical with any of the English sibilants. Secondly, the

phoneme grapheme relationships are different in the two languages. In Finnish, one sound typically corresponds with one letter, whereas in English one sound can be symbolised with more than one grapheme (e.g. /ʃ/ can be represented by *sh, ch, chs, s, ss, -ti-, -si-, -sci-, -ci- and -ce-* in spelling) (Gimson & Cruttenden 2001, 188). The amount of variation possibilities with English sibilants is a lot more restricted compared to Finnish sibilants and if the sound has moved too far from the generally accepted sound, it leads to confusion between all the sibilant sounds (Morris-Wilson 2004, 64).

There are several studies on Finnish learners of English that examine the acquisition of English sibilant phonemes (see Tommola (1975), Moisio & Valento (1976) Paananen (1998) and Peacock (2002)). All of the studies' results indicated that Finnish learners of English have problems with the production of sibilants and for example Peacock (2002) found that training during a course had at least some effect on the development of the learner's pronunciation. Studying first-year university students with more advanced skills can give a good data for studying upper secondary school students since they are mostly about the same age and if advanced learners have some certain problems, they most probably also appear with upper secondary school students as well. Lintunen (2004) studied 34 advanced learners of English who were first-year students of English in a Finnish university. The pronunciation of the subjects was tested before, during and after the course of Spoken English. The aim of the course was to practice English pronunciation, intonation and phonemic transcription. The results from the study show that the sibilants and affricates are problematic for Finns to master, even for the more advanced learners and he found that the most difficult sound group was the sibilants. The most difficult phonemes to pronounce were the sibilants /ʒ/, /z/, the affricates /dʒ/**,** /θ/ /tʃ/ and the sibilant /ʃ/ (Lintunen 2004, 164). Consequently, every sibilant and affricate, except for /s/ (voiceless alveolar), was among the six most difficult sounds. Having said that, Lintunen (2004, 222) found some improvement in the pronunciation during the course and development was shown in both tests. In addition, the subjects who were the best transcribers were able to improve their pronunciation the most.

After looking at the studies conducted on the matter, it can be concluded that segmental difficulties have been studied quite extensively and that the major problems in the pronunciation of Finnish learners of English are the same. Sibilants were mentioned amongst the most difficult phonemes in all the studies conducted on segmental difficulties that Finnish learners of English face. In the next section the problems in the suprasegmental features will be introduced more closely.

2.3.2 Problems in the Suprasegmental Features

As mentioned before, the Finnish learners of English pronunciation skills have been studied less at the suprasegmental level than at the segmental level. However, the mastery of suprasegmental features, such as intonation, is by no means irrelevant or less crucial for intelligible or clear and natural pronunciation.

According to Wells (2006, 2), English intonation is problematic in the sense that native speakers do not understand that a learner can make errors in intonation, whereas they know that errors in segmental features do happen. Since almost any intonation pattern is possible in English and naturally, a learner can use any of them, the problem is that the patterns have different meanings. Hence, the native listener can interpret the message in a wrong way without the learner knowing that. Morris-Wilson (1992, 189) suggests that the problems that Finnish learners of English face might be more on the suprasegmental level rather than on the segmental level. The difference of English being stress-timed and Finnish being syllable-timed makes learning the English stress and rhythm very difficult for Finnish learners of English. Morris-Wilson has even compared speaking English with a Finnish rhythm to "trying to dance waltz to the music of tango" (Morris-Wilson 1992, 190). Niemi (1984, 190) indicates that word stress in Finnish is physically weaker than that of English, and it is less melodic. Paananen-Porkka (2007) too, has argued that Finnish learners of English use fewer weak forms, and tend to make very narrow distinctions in fundamental frequency (f0) between stressed and unstressed syllables. According to Hirvonen (1970, 76–79), Finnish learners of English face problems with using intonation to distinguish general questions from particular questions and imperatives as well as producing rising contours.

Toivanen (1999) compared the use of intonation between two groups of Finnish learners of English at university level. One group consisted of nine advanced learners of English who had already taken courses on pronunciation and a separate course on intonation, and the other group consisted of 18 learners of English who had just begun their studies at university. The results show that the group who had taken the courses of intonation and pronunciation were found to produce English intonation considerably better than the other group (according to the rules of the target language). The most notable difference between the groups was in the use of the rising intonation pattern. The advanced students used this pattern more frequently whereas the first-year students favoured the use of falling intonation. The rising intonation was failed when the first-year students intended to sound polite, for example, they used the falling intonation in friendly requests, which made them appear rude (Toivanen 1999, 129–136). These

results indicate that proper teaching of intonation at school is needed, especially to teach learners to sound polite when needed.

3 Teaching Pronunciation

In this section, the current paradigms in the field of pronunciation teaching will be presented. The first section deals with the pronunciation instruction in education and the changes that pronunciation instruction has been through during recent years. In addition, English teaching in Finland will be introduced to give a wider picture of what is actually taught during English lessons, what regulates and what sort of guidelines are given for the content of teaching.

3.1 Pronunciation Instruction in Education

When teaching pronunciation, the teacher has to deal with three questions: choosing the model of target pronunciation, setting the goal at an appropriate level and determining the principles for teaching. The principles could be things such as ways of correcting errors or deciding in which order to teach features (Gimson & Cruttenden 2001, 296–297). Teaching materials in pronunciation teaching these days mostly follow the model of Received Pronunciation (RP) and General American (GA) even though the vast majority of native speakers do not speak these varieties (Levis 2005, 371–372). The features and structures can vary widely between different varieties of English meaning that it can be difficult for the L2 learners to learn to understand other widely spoken varieties of English. However, *English as a lingua franca (ELF)* is the variety of English that is used between non-native speakers of English and it is an important aspect since roughly only 25% of users of English in the world are native speakers of the language (Crystal 2003). If there is a lot of variation in the different dialects of English, the variation of ELF is a lot wider due to the extensive range of people using it and it has to be taken into consideration in English L2 teaching. Consequently, L2 learners' spoken language comprehension can be affected negatively by only preferring the prestige models in L2 teaching. A valid guideline would be to speak with a certain pronunciation model and understand many of the varieties (Gimson & Cruttenden 2001, 297). One of the main questions hence is, whether the goal for pronunciation instruction is the learners' native proficiency, comprehensible speech, or something between these two options.

The *nativeness* and the *intelligibility principle* are the two competing paradigms in the research and instruction of L2 pronunciation (Levis 2005, 370–71). Until the 1960s the nativeness principle was the one which dominated L2 pronunciation research and instruction,

because sounding native was considered desirable and a notable achievement. Since the L2 varieties began to arouse scholarly interest in the 1970's and after research consistently showed that most of the teachers and learners cannot attain a perfect native-like pronunciation, another principle started to stand out. The intelligibility principle focuses on delivering a message successfully, meaning that the most important thing for the learner is to be understood (ibid.). The principle acknowledges that communication does not depend on the accentedness even if it was very strong (ibid.).

Tergujeff (2014, 8) argues for intelligibility to be the goal instead of nativeness. She claims that the focus is more on the segmental features rather than the suprasegmental features regarding pronunciation instruction in Finnish comprehensive schools and upper secondary schools. Tergujeff (ibid.) also points out that suprasegmentals are often neglected altogether in foreign language teaching, especially because they are absent in schoolbooks. According to Tergujeff's (2012) research, however, global English is used by some teachers as they report using global English in their teaching in addition to the prestige pronunciation models of British and American English. These days, speaking with a foreign accent is regarded more acceptable in international contexts, especially when the speakers are using English as a lingua franca since the language is not a native language to anyone involved in the conversation (Tergujeff 2014).

Pronunciation instruction also makes a distinction between *bottom-up* and *top-down* models. In a bottom-up model, teaching starts with single phonemes and proceeds gradually to larger units (Lintunen 2014, 183). Top-down model, in contrast, starts teaching with the so-called global features, for example, intonation, from which it proceeds to smaller units over time (ibid.). Because the teaching of suprasegmental features has been proven to benefit English learners' comprehensibility compared to teaching segmental features, Lintunen (2014) recommends the top-down approach for communicative instruction. Derwing et al. (1998) for example, showed that explicit teaching that focuses on suprasegmentals more than on teaching segmentals leads to development in spontaneous L2 speech. In recent years intonation has slowly been gaining recognition as an important part of language competence and proficiency hence, it has gradually been integrated into teaching as well (Chun 2002, 1). Still, as mentioned previously, emphasizing either feature over the other is problematic since all segmental and suprasegmental features depend on and effect each other, and on the other hand, not all suprasegmental features are as important or even as learnable (Levis 2016, 432–433).

Levis (2005) claims that the intuition and ideology of L2 teachers heavily influence the decision they make about the approach they adopt for teaching pronunciation. Some teachers might choose to minimize or even leave pronunciation instruction out altogether from their

lessons whereas some teachers try to find a way to incorporate pronunciation teaching in their classrooms. Still, having noted that, teachers who have a positive attitude and want to teach pronunciation find it hard since there is no such thing as an agreed system of what to teach and how to do it. In other words, teachers are often not properly trained to teach pronunciation (Derwing & Munro 2015).

To be able to study the students' pronunciation development, it is important to know how English teaching is regulated and which guidelines are given for the content of English teaching in Finland. The next section will shed light into English teaching in Finland during all different stages of education. It is important to know which parts of language teaching are emphasized during the basic education phase, what guides the teaching during upper secondary school and what is the role of pronunciation instruction during all those stages.

3.2 English teaching in Finland

During the nine years of compulsory basic education in Finland, it is obligatory to study at least one foreign language of one's choice as well as the second national language which is either Finnish or Swedish depending on the mother tongue of the student. The Finnish educational system offers a lot of opportunities to study foreign languages. Therefore, Finnish/Swedish and English are not the only languages that students are able to study but English is the most studied foreign language in Finnish schools. In 2017, 98.0% of upper secondary school graduates had studied English as their first foreign language (OSF 2017). Children in basic education begin their English studies in the lower grades which is mostly in grade three. However, the Finnish National Agency for Education has decided that by the year 2020, all schools will start teaching a foreign language in the first grade. For most children the first foreign language that they start studying will be English (Finnish National Agency for Education 2015). The second national language usually starts from the sixth grade, which means that most study English a lot longer than the obligatory second national language.

The national core curricula regulate teaching and give guidelines for the content of teaching. For language studies, oral communication is emphasized at first but towards the end of basic education, written practice gradually increases (Finnish National Agency for Education 2015). Even though oral skills are emphasized during the first years of studying English, pronunciation is almost completely dropped out from the objectives of the core curricula. Spoken language is not tested at any stage of English studies, however, in 2009 upper secondary schools in Finland were obliged to start offering their students a national elective course in

English which focuses on oral skills in particular. It is important to remember that oral skills teaching is more than just teaching pronunciation, it also includes teaching communication skills and other important aspects needed in the oral skills of the target language. The students will be able to get a separate diploma of the test results attached to their matriculation examination after the national test that is held at the end of the English oral skills course (Finnish National Agency for Education 2015).

Regardless of the absence of pronunciation objectives from the core curricula, there is a language proficiency scale of the curricula that is used for assessing the learners and it includes detailed descriptions of the requisite pronunciation skills. The scale that is used is the Finnish version of the Common European Framework of Reference for Languages (CEFR 2001). The goal for a student at the end of basic education is the level A2.2 and the criteria include "pronunciation is intelligible, even if a foreign accent is evident and mispronunciations occur" and "speech is sometimes fluent, but different types of breaks are very evident". The goal level for an upper secondary school student of English is B2.1 and it includes, for example, these following criteria: "pronunciation and intonation are clear and natural" and "can produce stretches of speech with fairly even rhythm and few longer pauses" (Finnish National Agency of Education 2015, 246). The criteria are quite ambitious and require a lot of effort both from the teacher and the students.

In short, matriculation examination is the ultimate goal of upper secondary education and the central aim of teaching is to prepare students for this high-stakes test. And as mentioned before, English is the most studied foreign language in Finnish schools, therefore many students take the English test in the matriculation examination. The English test consist of two parts: a listening comprehension and a written part. The written part is divided into three sections: reading comprehension, vocabulary and grammar, and written production. Oral production and interaction, therefore, are not tested in the matriculation examination directly but there have been some intonation recognition exercises as well as some written tasks on communicative exercises (e.g. "what would X say next" type of tasks). However, the process to start oral examination as a part of English matriculation examinations is underway and according to the Finnish Ministry of Education and Culture (2017a, 53), the first oral tests could be arranged in 2022 at the earliest.

Not having oral tests in the English matriculation examinations might have a *washback effect*[1] on the status of oral skills in English teaching and textbooks in upper secondary schools.

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[1] *Washback effect* is the phenomenon in which the test determines what is being taught and learned in classrooms (Alderson & Wall 1993).

Upper secondary school students aim high and want to achieve as good grades as possible in the matriculation examination since it is a high-stakes test because it gives general eligibility for higher education institutions. That is why reading comprehension, vocabulary and grammar as well as writing and listening are emphasized the most in teaching whereas speaking and pronunciation are not practiced as much. For example, in a study by Pietilä (1999) students had enough practice in writing, vocabulary and grammar whereas speaking and pronunciation would have needed more attention in upper secondary school. Having an oral test included in the English matriculation examination would make teaching oral skills and pronunciation significantly more important since it would affect the student's final grades.

4 The Present Study

The purpose of this section is to present the research design of the present study. The aims of the study will be discussed first and then the participants of the study will be introduced in detail after which the data and the methods of the study will be discussed.

As mentioned before, the goal level for an upper secondary school student of English is B2.1 which includes the criterion of clear and natural pronunciation and intonation hence, it is important to find out whether the only English spoken course can develop those skills mentioned in the criteria at all. Even though the English matriculation examination is a high stakes test, it should be kept in mind that students need to attain good enough pronunciation skills for their future. Since English is used to cover so many topics from the language of science to the language international relations; from the language of tourism to the language of international business and popular culture as well as being the most used language in all existing media, it is important that the teaching of English, including oral skills, prepare students to be able to handle all that. As mentioned in the previous sections, comprehensibility and intelligibility are the most important aspects for an L2 learner to learn thus, proper training of segmental and suprasegmental features is necessary.

Since the Finnish matriculation examinations might be changing in a few years as the aim is to start testing the English spoken skills of the students, it is important to know whether one course of only training spoken skills does any change in the development of pronunciation. Studies on the teaching of pronunciation have indicated that teaching pronunciation in Finland, in particular, still focuses mostly on the segmental features and that even advanced learners struggle with the difficult segmental and suprasegmental features (Tergujeff 2014, Lintunen 2004). A balanced approach means that the need for both segmental and suprasegmental

training is recognized (Lane 2010, 8) and the teaching of English pronunciation needs to focus more on the broader approach that emphasizes suprasegmentals rather than on the narrow approach that focuses on segmentals (Morley 1991).

The present study aimed to find out whether a seven-week spoken course in upper secondary school is enough for students to develop their pronunciation skills. In order to find out whether there is any development in the segmental and/or suprasegmental features in the pronunciation of the learners', sibilants and intonation were studied closely. In other words, the study aimed at answering the following questions:

1) How does an English spoken course in upper secondary school influence the pronunciation of sibilants of Finnish learners of English according to English teacher ratings?

2) How does an English spoken course in upper secondary school influence the intonation of Finnish learners of English according to English teacher ratings?

The hypothesis related to the first research question was that there will not be significant development on a group level, but that there will be development in the sibilants on an individual level. According to Lintunen (2004, 149), the sounds /z/ and /ʒ/ were found to be two of the most problematic sounds for Finnish learners and the sound /ʃ/ was among the those that often cause problems. Tergujeff (2013) states in her study that teachers seem to be aware of their student's problems in regard to segmental features in their pronunciation. In her study, she found that sibilant and affricate sounds were trained the most thus, they appeared constantly in teacher corrections, ear training, phonemic script and when pronunciation issues were pointed out (Tergujeff 2013, 606). In a later study, Tergujeff's (2015) results indicate that textbooks influence pronunciation teaching heavily thus, teaching topics that are absent from the textbooks do not occur, making teaching pronunciation heavily dependent on textbooks. The book used in this particular spoken English course (ENA8) (Finnish National Agency for Education 2015) is: *Profiles 8* and it has a separate section for teaching sibilants and the teacher of the course mentioned that they did obey the course book to quite a large extent hence, it can be predicted that segmental features such as sibilants have been taught separately to the students whose recordings were used for the purposes of this study.

The hypothesis set in relation to the second research question was that there will not be significant differences in the ratings of the students' intonation and that the scores for intonation will be lower than the other features in the pre- and post-recordings. This hypothesis was based

on previous research, as Tergujeff (2013) found that the teaching of pronunciation in Finnish schools offers very little instruction on suprasegmental features of speech and that training in this field mainly deals with listening for word stress. Intonation, in particular, is considered difficult to learn and according to Tergujeff's (2013, 48) research, there is a lack of explicit training in the intonation of English in Finnish schools. That is why it will be extremely difficult for most learners to achieve the goal of the national core curriculum when it comes to learning English intonation. It also has to be noted in regard of the hypothesis that Finnish EFL textbooks do not usually include enough explicit teaching materials on intonation, rhythm, and connected speech unlike it is recommended in the teaching literature for pronunciation (e.g. Morley 1991) (Tergujeff 2013, 40).

In short, the students will, to some extent, pay more attention to the accuracy of the sibilants than to intonation in the post-recordings due to the possible teaching of segmentals and the possible lack of teaching suprasegmentals. In addition, the evaluators know as to which features, they should be paying attention to thus, they most probably will rate the overall pronunciation accordingly. As the text was the same for both pre- and post-recordings there might be some other changes in the speech rate as the students are already familiar with the text on the second round but that most probably will not affect the intonation ratings. However, it might affect the evaluators' opinion on the possible development of the overall pronunciation development, and it might add some other features, such as fluency and speech rate, to the evaluators' explanations.

4.1 Participants

The research design of the present study included two groups: 20 upper secondary school students as learners of English and 25 Finnish teachers of English as evaluators. To be able to rate the recordings as accurately as possible, the evaluator needs to know the terms such as intonation and sibilant well enough. For that reason, non-native English teacher evaluators were chosen since their English teaching education in Finland would have provided them with the needed skills. According to Brown's (1995) and Kim's (2009) research comparing native and non-native teacher's evaluations on oral skills, there were no significant differences found in the ratings and they were internally consistent. However, both researchers found some differences in the way native and non-native raters perceived the criteria and for that reason, only Finnish teachers of English were used as evaluators to maintain consistency in the ratings.

4.1.1 English learners

The learners of English were selected by opportunity sampling since they fit the criteria of being Finnish learners of English and they were available at the time. The pronunciation recordings were obtained from a speech corpus collected by the English Department of the University of Turku. 39 upper secondary school students of English that recorded their speech samples during an English lesson had consented on a separate form to have their productions used in research. To protect the confidentiality of the participants, their names were removed from the data and each student was given a code (for example, M8: M = male, 8 = running student number). The students recorded the same text in two separate sessions: the pre-recordings were recorded at the start of the spoken course and the post-recordings were recorded at the end the spoken course (about seven weeks apart). Thus, there were 78 recordings in total. The recording will be discussed in more detail in section 4.2.1.

Out of 39 students (78 recordings), 20 students (40 recordings) were randomly selected to fit the scale of this study. Out of the 20 students, 10 (50%) were male and 10 (50%) were female students between the ages 17–18. All of the students had studied seven to eight courses of English from the upper secondary school curriculum. During upper secondary school, *A-level*[2] English learners are expected to achieve level B2.1 in all four basic skills of language proficiency: reading, writing, listening and speaking (Finnish National Agency of Education 2015, 246). In addition, all of the students' L1 is Finnish and none of them speak any other languages at home neither have any of the students lived in another country for more than two months.

4.1.2 Finnish teachers of English as evaluators

The English teachers were recruited as evaluators through different Facebook and email groups consisting of Finnish teachers of English. There were no other specific qualifications required other than finished English teacher pedagogical studies to be able to evaluate the recordings. Non-native English teachers were used as evaluators since they might show stricter evaluation tendencies than native speakers would, possibly because they are more aware of these studied factors having had to learn the particular foreign language themselves (Tominaga 2011). Learners at the university level in Finland that study English as their major or minor subject

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[2] A-level English learners start to study the language in grades 1–6 of basic education. According to Official Statistic of Finland (OFS 2017), 98.0% of upper secondary school students study English as an A-level language.

have to study at least some phonetics. Next, the background of the evaluators will be illustrated based on their questionnaire responses.

Table 2 Age and gender distribution of the evaluators

Age	Female	Male	Total
24–29	16	1	17
30–35	3	0	3
36–41	1	1	2
42–50	2	0	2
51–60	0	1	1
Total	**22**	**3**	**25**

Table 2 shows the age and gender distribution of the participants. Twenty-two females (88%) and three males (22%) completed the questionnaire. The average age was 31.5 (range 24–58, median 28, mode 28), the majority of the participants (N=17) being between 25 and 30 years. All the participants live in Finland and speak Finnish as their mother tongue. All participants reported having finished their teacher pedagogical studies as required between the years 1991 and 2019. Fourteen (56%) participants have finished their MA degree whereas eleven (44%) participants have not, but since the English teacher pedagogical studies have been finished, the unfinished MA degrees do not affect the raters' assessment capabilities.

The participants were asked, for how long they have been teaching English (Figure 2). Thirteen (52%) of twenty-five responded having taught English for a "less than a year to 1 year", nine (36%) responded having taught English for 2 to 5 years, one (4%) for "over 10 years" and two (8%) for "over 20 years". Eleven of the English teachers reported having taught English for 7–9 graders (secondary school), eight teachers reported having taught English in upper secondary school, three teachers reported having taught English for 1–6 graders (primary school), one reported having taught English at a primary school and 10 responded "other" to the question. One teacher reported having taught all of the above grades. More than half of the teachers had taught English for a year or less which might be due to them still finishing their studies or having only taught as substitute English teachers. All the grades were covered and as for the "other", it could mean teaching adults or working in some other institutions.
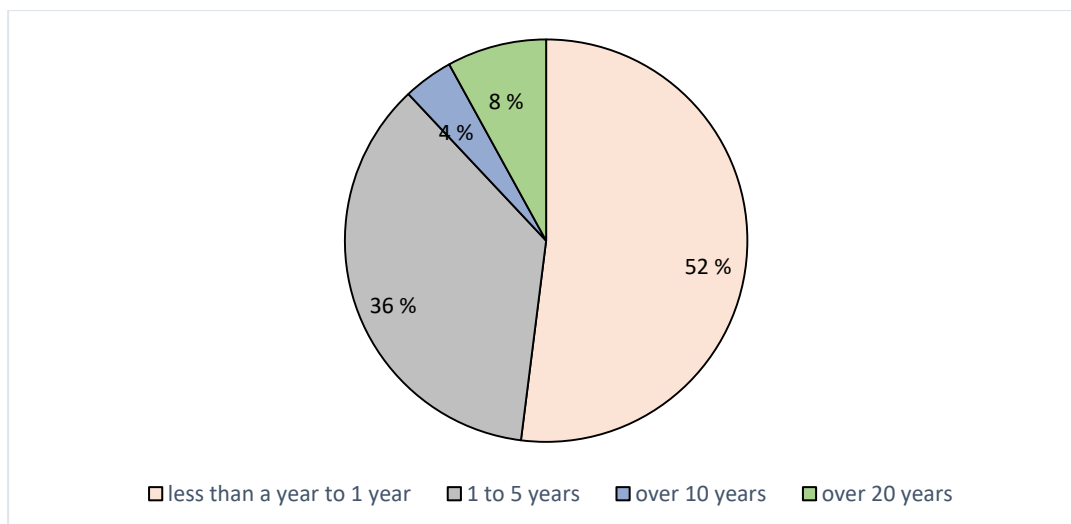
Figure 2 English teacher experience distribution

4.2 Data Collection

The data presented in this study have been compiled in two ways: the recorded audio samples were collected in 2014 by the English Department of the University of Turku before and after the spoken English course in the upper secondary school core curriculum. The ratings were collected through an online questionnaire which was distributed via email and social media platforms. The evaluators were given clear instructions after they had filled the background information page of the questionnaire. The detailed instructions consisted of a short reminder of the definitions of the sibilant sounds and intonation (see appendix 2) and a page of specific instructions (see appendix 3) for answering the rating questions.

4.2.1 Recordings

The data used in this study were collected in 2014, as mentioned above, for the purposes of a larger project by the English Department of the University of Turku, however, this particular data has not been studied yet in any way. The data collection process consisted of a read-aloud task that was carried out before and after the national spoken English course (ENA8) (Finnish National Agency for Education 2015). Both the productions were recorded in the same language laboratory where each student was recorded individually with a digital audio recorder.

The text that the students read (see appendix 1) was an article that had been slightly modified to make it more challenging to pronounce and to have all English vowel and consonant sounds included. For the purposes of this study, only a paragraph of the recorded text was chosen because the whole text would have been too long for the evaluators to listen to and

evaluate. An audio software was used for cropping the recordings to the length of approximately 20 seconds. The audio is still long enough for the evaluators to be able to rate the suprasegmental feature of intonation. It was also made sure, that the paragraph would include all the sibilants in different positions. Derwing et al. (2009) states that short audio samples serve pronunciation evaluation better than longer recordings because short recordings mean that the duration of the experiment will also be shorter. A long examination can cause fatigue to the listening participants and because there were a lot of recordings to listen to, the duration had to be taken into account. It was also important for the evaluator to remember all the parts of the recording to be able to evaluate them as correctly as possible.

The paragraph included all sibilant sounds, 40 in total. Almost all sibilants were tested in all positions (Table 3). The voiced palate-alveolar /ʒ/, however, was only tested word-medially since it is a fairly rare sound in English words and it mostly occurs in the medial position. Also, the initial position of the voiced alveolar sibilant /z/ was missing from that paragraph, but otherwise both the alveolar sibilants were tested the most amongst all sibilants. The alveolar sibilants /s/ and /z/ have a high functional load and frequency since they occur, for example, in the third person of the present tense of verbs and in the plural forms of nouns.

Table 3 The occurrence of the sibilants in the recordings

	Initial	Medial	Final	Total
/s/	7	8	4	19
/z/	0	3	11	14
/ʃ/	2	2	2	6
/ʒ/	0	1	0	1
Total	**9**	**14**	**17**	**40**

4.2.2 Evaluator questionnaire

The evaluator questionnaire was formed with a web survey tool (SurveyMonkey) and it included a background information page, a short reminder of the definitions of the sibilant sounds and intonation (see appendix 2), a page of specific instructions (see appendix 3) for answering the rating questions as well as 20 items that all included two recordings (A&B) and two sets of same five questions on each page. The detailed instructions were conducted to make the evaluators pay attention to the following details: use headphones to avoid any distraction, answer all the questions, take breaks if needed to be able to stay consistent and to listen to the

audio samples as many times as needed but it was advisable to answer the questions at the same time as listening.

A 0–100 continuous slider scale was used to answer the questions in the questionnaire. The reasons for choosing a continuous scale instead of, for example, a 7-point Likert scale was that the need of labelling was avoided altogether, and according to several recent researches the use of continuous scale is beneficial. Voutilainen et al. (2016) report that it is 28% quicker to complete answering a continuous scale than to complete a 5-point Likert scale questionnaire and according to Wall et al. (2017) a continuous slider scale presents higher inter-rater reliability compared with a 7-point Likert scale. In addition, Chyung et al. (2018) found the continuous scales allowing respondents to make more precise decisions on their input. They also report that it helps increase the possibility of having normally distributed data meaning it allows the use of a wide range of statistical procedures (Chyung et al. 2018).

Each new page that consisted of two recordings (A & B) started with the instructions (see Table 4): "0= The pronunciation of the sound was inaccurate every time – 100 = the pronunciation of the sound is accurate every time." There were separate questions and slider-scales for each of the four sibilant sounds /s. z. ʃ, ʒ/, for example: "On a scale from 0 to 100, how accurately does the speaker pronounce the sound /s/ in the audio sample?". For the intonation the instruction was: "0 = Speech is very monotonous and there is very little variation in the pitch – 100 = intonation patterns are used very well and there is a lot of variation in the pitch." And the question itself for intonation was: "on a scale from 0 to 100, how do you perceive the intonation of the speaker in the audio sample?". The last question on each page was a multiple-choice question: "Consider the audio samples as a whole. You heard the audio samples in pairs (A and B). Choose the one you felt had better pronunciation all together ("A was better" or "B was better"). If you felt they did not differ at all, choose "no difference"". For the purposes of the questionnaire, some of the pre- and post-recordings were randomly mixed up so that it would not be possible for the evaluators to predict as to which recording is the pre- and which is the post-recording.

Table 4 Example questions and instructions from the raters' questionnaire

	The example question	The scale instructions
Questions for segmental features /s. z. ʃ, ʒ/	On a scale from 0 to 100, how accurately does the speaker pronounce the sound /s/ in the audio sample?	0= The pronunciation of the sound was inaccurate every time – 100 = the pronunciation of the sound is accurate every time.
Questions for the suprasegmental feature Intonation	on a scale from 0 to 100, how do you perceive the intonation of the speaker in the audio sample?	0 = Speech is very monotonous and there is very little variation in the pitch – 100 = intonation patterns are used very well and there is a lot of variation in the pitch.
The last question of each page in the questionnaire.	Consider the audio samples as a whole. You heard the audio samples in pairs (A and B). Choose the one you felt had better pronunciation all together ("A was better" or "B was better"). If you felt they did not differ at all, choose "no difference"	

It was important to avoid rater fatigue by keeping the length of the questionnaire within 30 minutes (Dörnyei 2007, 110). A native-speaker utterance was not added to avoid the evaluators from comparing the utterances to a certain spoken model. The questionnaire was piloted in case for malfunctions and missing or unclear items and no changes were needed. Piloting also showed that 30 minutes was enough to complete the questionnaire.

4.2.3 Distribution and analysis of the questionnaire

The online questionnaire was created on SurveyMonkey, a web survey platform. A link to the questionnaire was shared directly with people who fit the participant criteria as well as on social media platforms and email groups. Several people shared the link further to reach appropriate participants. Facebook was the main platform since it has several, fairly large groups that only

include Finnish teachers of English. This type of distribution reached as many teachers of different ages as possible. A link was also shared via email to students in the University of Turku who have most probably finished their pedagogical studies.

By this method, 25 responses were collected from Finnish teachers of English. Statistical analyses, which consisted of basic descriptive and inferential statistics and Paired samples t-tests were conducted on SPSS 25 for Mac and Microsoft Excel. The Paired samples *t-test* is used to indicate whether the results are significant and therefore generalizable to the population (Dörnyei 2007, 210). The mean values of each group were calculated before and after the course to get the differences in the mean values after which the standard deviation was calculated from those differences. The paired samples t-test was performed, and the statistical significance was determined by looking at the *p-value.* The cut-off value for determining statistical significance, in this study, is the value of .05 which means that the lower the p-value, the more significant and generalizable the test results are. For additional insight, some of the open-ended questions will be presented at the end of the results section. In the open-ended questions, the evaluators were asked to give some explanations to why they thought the other audio sample had overall better pronunciation than the other. The answers were coded into categories of intonation, individual sounds and fluency since all the open-ended answers fell in one of those three categories.

5 Results

This section will provide the findings from the quantitative analyses. First, the statistical analysis of the questionnaire responses will be presented, and second, the ratings of the segmental and suprasegmental features will be analysed in more detail. Lastly, some open-ended questions from the questionnaires will be presented to give more information about the evaluators and their opinions of the pronunciation of the learners.

The audio samples from twenty Finnish learners of English in upper secondary school were rated by 25 Finnish teachers of English and the purpose of this section is to report the results of the study as a means of determining the impact of the spoken English course on enhancing the upper secondary school students' pronunciation skills. The findings comprise a set of descriptive statistics and inferential analyses of the variables.

When looking at the results on all features, in average, the students increased the mean values in their voiceless sibilant /s/ and intonation and decreased the mean values in voiced sibilants /z/ and /ʒ/ as well as the voiceless sibilant /ʃ/. The combination of those values made

the overall proficiency mean scores differ slightly between pre- and post-recordings and the difference is positive (+0.33) (see Figure 3). However, after testing it statistically with the Paired samples test (Table 5), none of the changes were significant (p > 0.05). Figure 3 below summarises the mean values of each rated aspect: the voiceless sibilant /s/ received the highest mean score in both pre- and post-recordings, voiceless sibilant /ʃ/ got the second highest mean values from pre- and post-recordings, then intonation, and voiced sibilants /z/ and /ʒ/ the lowest mean values in both pre- and post-recordings.

Table 5 Differences between pre-and post-recording aspects according to the ratings

| | | Paired Differences | | | | | | | |
| | | | | | 95% Confidence Interval of the Difference | | | | |
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2–tailed)
Sound /ʒ/	Pre-recordings – Post-recordings	1.422	6.550	1.465	−1.643	4.487	.971	19	.344
Sound /ʃ/	Pre-recordings – Post-recordings	.630	6.419	1.435	−2.375	3.634	.439	19	.666
Sound /z/	Pre-recordings – Post-recordings	1.466	10.059	2.249	−3.242	6.174	.652	19	.522
Sound /s/	Pre-recordings – Post-recordings	−3.006	8.208	1.835	−6.847	.835	−1.638	19	.118
Intonation	Pre-recordings – Post-recordings	−2.058	7.028	1.572	−5.347	1.231	−1.310	19	.206
Overall proficiency mean	Pre-recordings – Post-recordings	−.339	3.360	.751	−1.911	1.233	−.451	19	.657
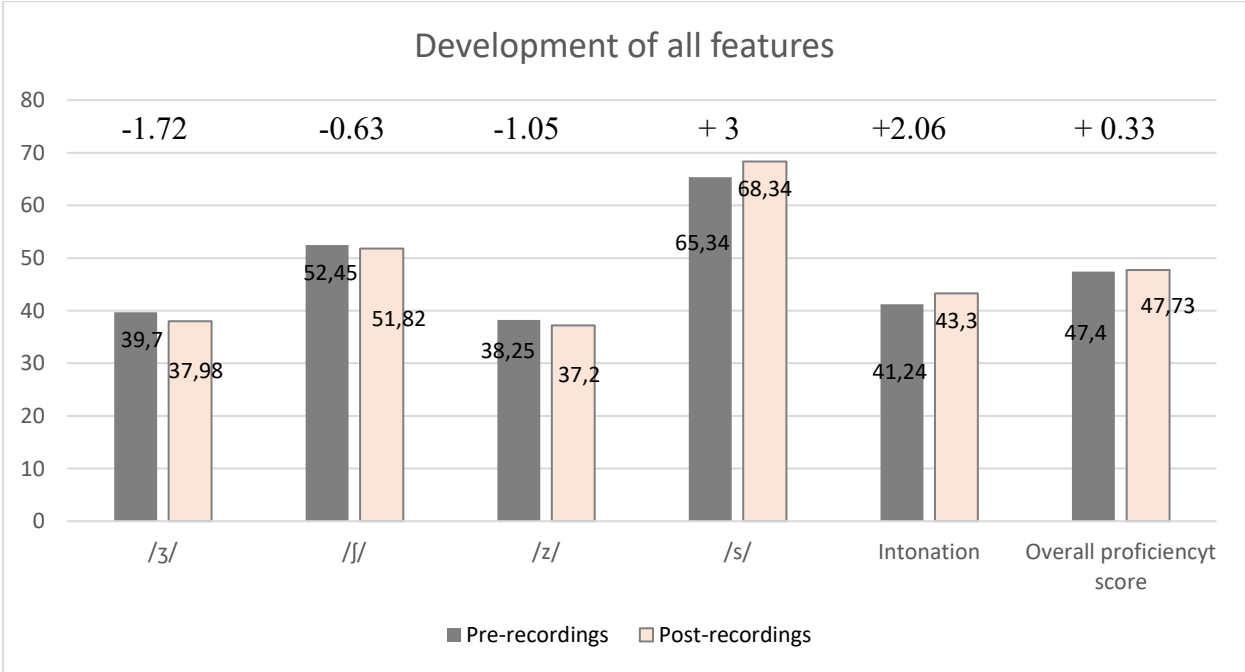
Figure 3 Pre- and post-recording means of all features

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The sound /s/ got the highest mean scores in both, pre-recordings (65.34) and post-recordings (68.34). Also, the difference (+3) was the highest positive difference amongst all the tested features. To investigate whether there was a significant statistical difference between the pre- and post-recordings, a Paired sample t-test was used. Table 5 above displays the results of the test, which indicated that the p-value of .118 > 0.05 showed no significant difference between the mean scores of the pre- and post-recordings. This means that the spoken English course did not have a significant effect on the development of the sibilant sound /s/. The second highest pre- (52.45) and post-recording (51.82) mean scores were given to the sound /ʃ/ by the evaluators. As presented in Figure 3, there was a slight decrease in the mean score between the pre- and post-recordings and the p-value of .666 > 0.05 (Table 5) means that the difference is not statistically significant.

The third highest mean scores were given to intonation in both, the pre- (41.24) and post-recordings (43.3). There was a slight improvement in the mean scores after the spoken English course. To investigate whether there was a significant statistical difference between the pre- and post-recordings, a Paired sample t-test was used. Table 5 displays the results of the test, which indicate that the p-value .206 > 0.05 showed no significant difference between the mean scores of the pre- and post-recordings. This means that the spoken English course did not have a significant effect on the development of intonation either.

The production of voiced sibilants /ʒ/ and /z/, were rated very similarly and they had the lowest mean scores of all the rated features. The sibilant /ʒ/ (39.7) was rated slightly higher in the pre-recordings compared to /z/ (38.25) and almost the same in the post-recordings (37.98 for /ʒ/ and 37.2 for /z/). These sounds both decreased slightly in mean values after the spoken English course, but the differences were not statistically significant for either the /ʒ/ which had the p-value of .344 > 0.05 or the /z/ which had the p-value of .522 > 0.05. The sound /ʒ/ got the second lowest mean in the pre-recordings which means that this sound was a difficult sound for the learners. However, the fact that this sound was only tested once in one position lowers the rating scores since there was only one chance to get this fairly rare and difficult sound right and it affected the ratings. Sound /z/ got the lowest mean in the pre- and the post-recordings which means that this sound is a difficult sound for Finnish learners.

As seen from the bar chart (Figure 3) the level of the skills before the course was not high in the first place, especially for the voiced sibilants and intonation. Since the differences were very little, not significant and did not show any improvement at the group level, it is suitable to look at the differences at individual level.
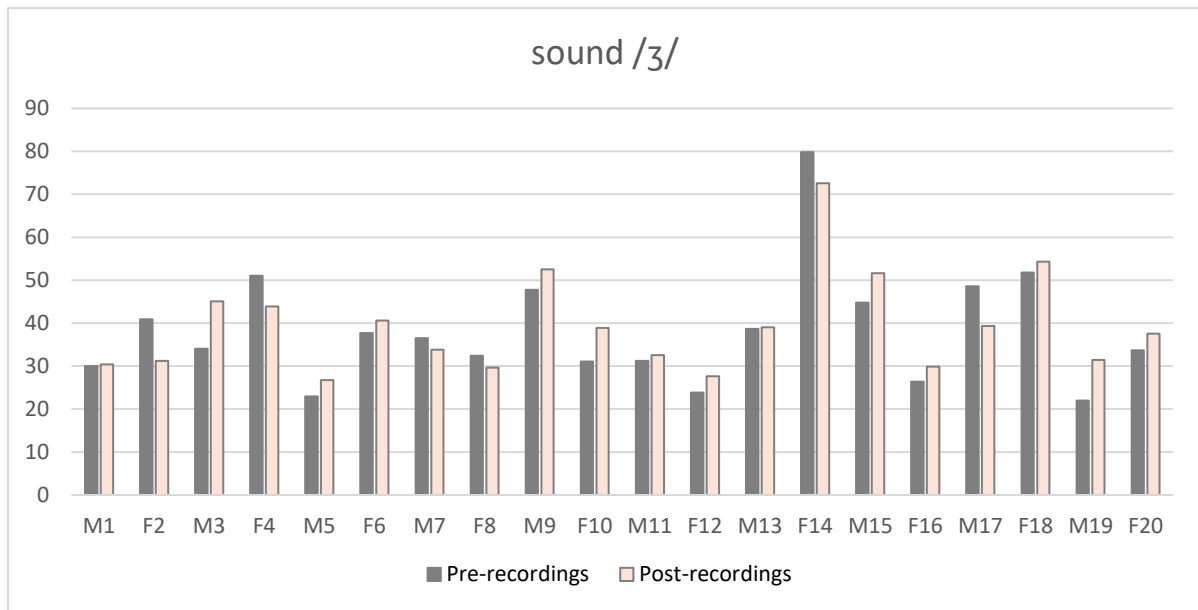
5.1 Individual development

Table 6 presents the numbers and percentages of the students who improved their skills after the spoken English course. On the individual level, all features, excluding the voiceless sibilant /ʃ/, were improved by most of the students. Most improvement, on individual level, occurred in intonation, /s/ and /ʒ/ (70% of the students in all three features). No improvement includes all students who kept the same mean or got lower ratings during the course. When pre- and post-recording sibilant sounds and intonation are viewed in bar charts (Figures 4–8), it is clear that some learners demonstrated changes after the spoken English course. There were inconsistencies as some of the students have, in one hand, improved on some of the features and, on the other hand, got lower in some features. Most of the means between pre- and post-recordings of the students show very little difference which means that the differences were not significant and that showed in the significance scores at the group level.

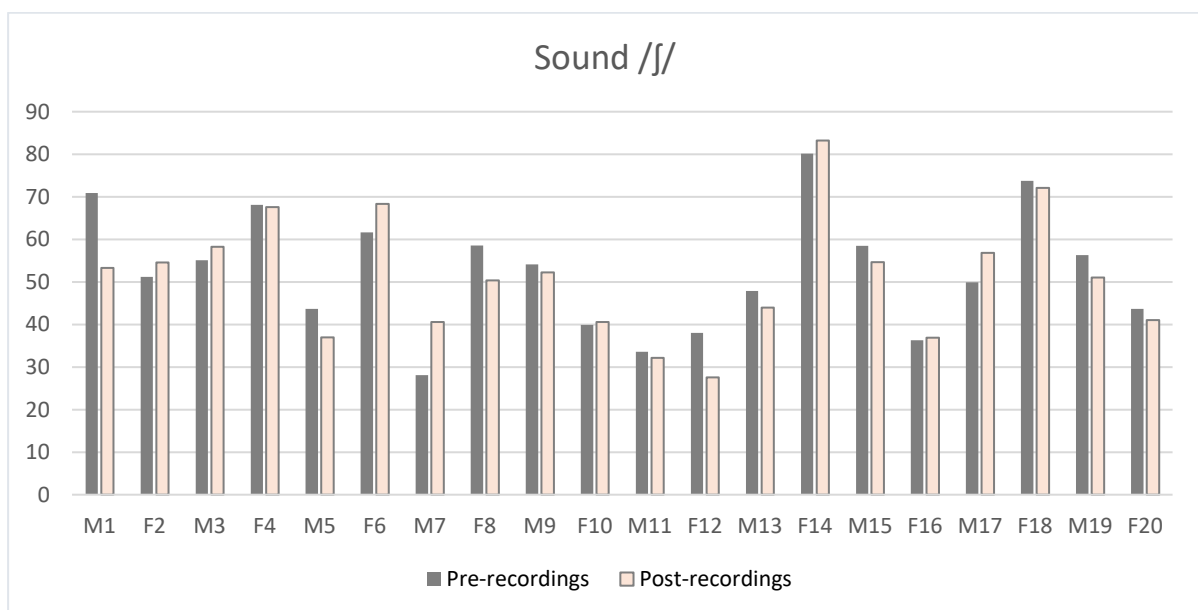**Table 6** The division between improvement and non-improvement in each feature

	Improvement	No improvement
/ʒ/ (N=20)	14 (70%)	6 (30%)
/ʃ/ (N=20)	9 (45%)	11 (55%)
/z/ (N=20)	12 (60%)	8 (40%)
/s/ (N=20)	14 (70%)	6 (30%)
Intonation (N=20)	14 (70%)	6 (30%)

Looking at the bar chart of the sound /ʒ/ (Figure 4), 14 students increased, and six students decreased their mean scores between the pre- and the post-recordings. It means that more than half of the students were able to develop their pronunciation skills during the course. The overall skill level was fairly low (39.7) to start with and there were no major improvements in the means of the students. However, as seen from the bar chart (Figure 4), the changes in means that got lower ratings are larger than the improved ratings, which made the post-recording mean value lower (37.98) than the pre-recording mean value.
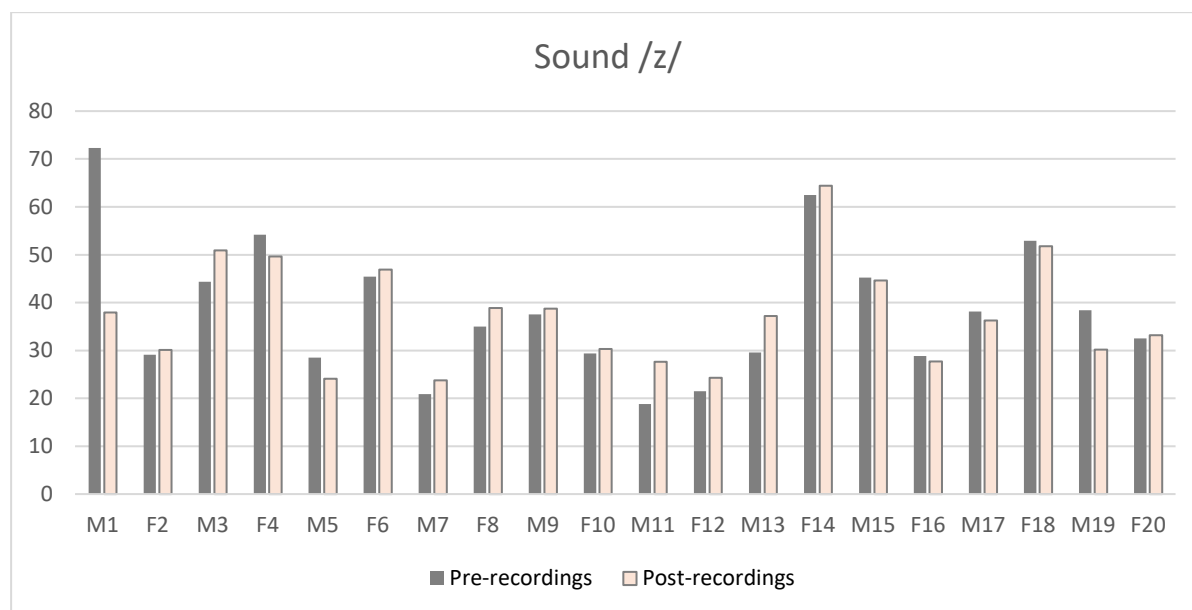
Figure 4 Sound /ʒ/ pre- and post-recording means by each learner

As seen in the bar chart of sound /ʃ/ (Figure 5), nine students increased, and 11 students decreased their mean values between their pre- and post-recordings. That means that more than half of the students decreased their mean values. The overall proficiency mean (52.45) was the second highest out of all the sibilants. Student M1 showed most significant difference by getting considerably lower rating scores in the post-recordings and M7 showed most improvement after the course. There were no major differences in the mean values and that is why at a group level the sound /ʃ/ showed the least difference (-0.63) (see Figure 3).
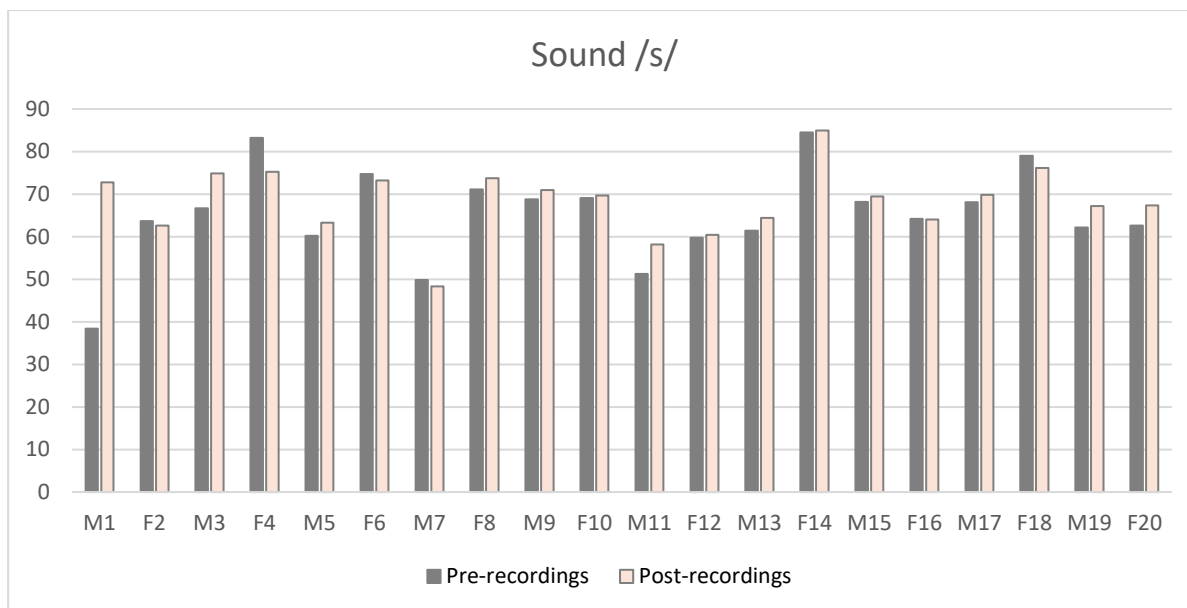

Figure 5 Sound /ʃ/ pre- and post-recording means by each learner

The bar chart of /z/ below (Figure 6) shows that, 12 students increased, and eight students decreased their mean values between their pre- and post-recordings meaning that more than half of the students were able to get a slightly higher mean scores in post-recordings. The most significant difference, which also is the reason that sound /z/ did not show positive change, was the decrease in M1's mean value from 72.28 to 37.69. All in all, the sound /z/ was rated the lowest to start with and no major or significant changes occurred in the post-recordings.
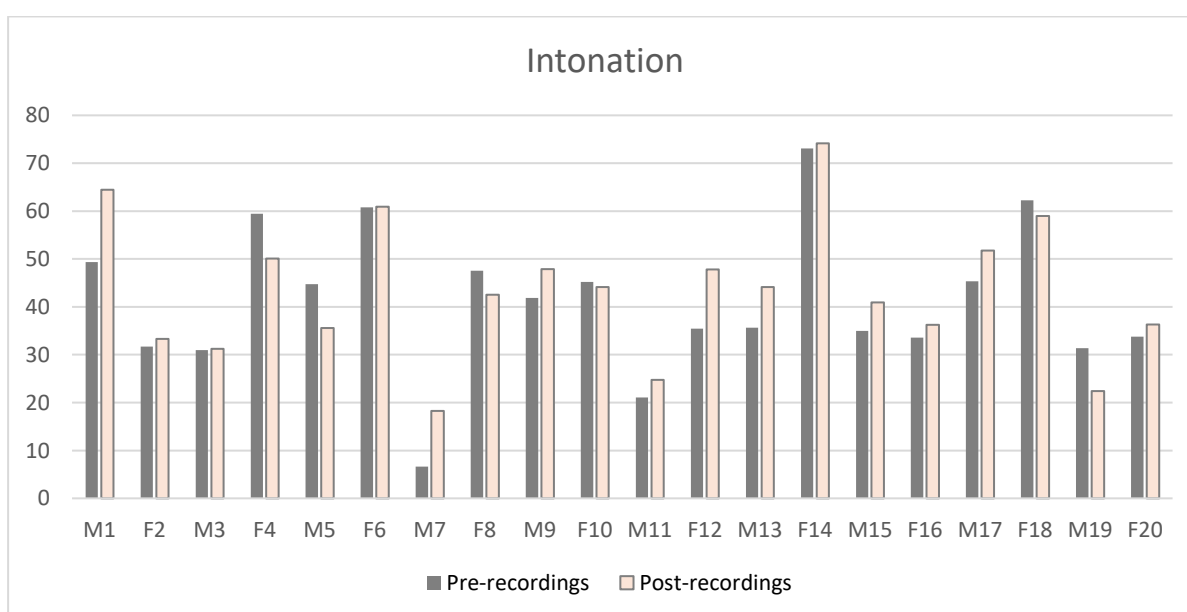

Figure 6 Sound /z/ pre- and post-recording means by each learner

Looking at the bar chart of the sibilant /s/ (Figure 7), 14 students increased, and six students decreased their mean values between the pre- and the post-tests. However, the differences between the pre- and post-recordings were also the smallest but that can be explained by the already high ability to pronounce the sound right. Sound /s/ got the highest difference rate of +3 compared to all the other features. That can be due to the student M1, since he was able to develop his skills quite significantly.

Figure 7 Sound /s/ pre- and post-recording means by each learner

In intonation (Figure 8), 14 students increased, and six students decreased their mean values between the pre- and the post-recordings meaning that more than half of the students were able to develop their intonation slightly during the spoken English course. In intonation the mean values between pre- and post-recordings differed more with several students. M1, M7 and F12 showed significant improvement whereas F4 and M5 showed decrease in the mean scores after the course. The major increases in the ratings of M1, M7 and F12 could be due to the text being familiar during the second recording hence, the student might have had better speech rate or more confidence in reading the text.

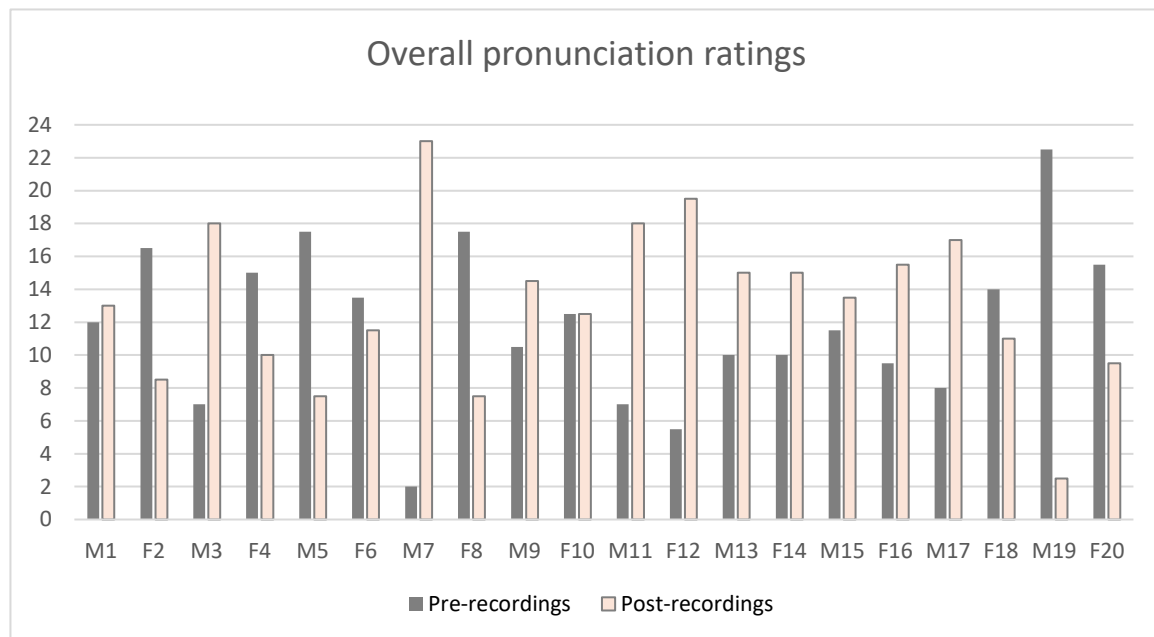**Figure 8** Intonation pre- and post-recording means by each learner

Looking at the individual differences, some of the students clearly present example cases that present the consistency at the individual level. F14 got the best mean values in all of the features and was able to improve in all features except in the sound /ʒ/. The differences between the means, however, were very little which means that her skills stayed pretty much the same after the course in all the features. F4, M9, M15 and F18 were also amongst the higher rated students through all the features. F4 decreased the mean values in her post-recordings in all of the features. M9 improved in all the features except for the sibilant /ʃ/ and here again, the changes were very little. M15 had very consistent mean values in all of the features and both pre- and post-recordings, however, intonation did improve more comparing to the other features. F18 showed improvement in all of the features except for the sound /ʒ/ and again, the differences are very small to make any strict assumptions about the development.

Most inconsistencies showed M1, who got very low mean values for /ʒ/ in both recordings, for sound /ʃ/ M1 got fairly high ratings in the pre-recording (70.92) but got considerably lower ratings in the post-recording (53.32). M1 also got the highest rating scores out of all students in the pre-recordings in sound /z/ (72.28) but then got considerably lower rating scores from the post-recordings (37.96). However, with the sound /s/, M1 got the lowest ratings in the pre-recordings (38.4) and showed most improvement with the mean value of (78.4) in the post-recordings. In intonation M1 also showed most improvement out of all students. M7 was continuously rated quite low and especially in intonation where he got the pre-recording score of 6.6, which was the lowest score out of all students. However, he made an improvement in intonation as well as in the sound /ʃ/.

Mostly the ratings were consistent and the students who had high pre-recording scores also had fairly high post-recording scores and the students who were able to improve their rating scores did that in most of the features and the students who decreased their scores did so in most of the features. Some students showed more inconsistencies than others regarding their own developments and declines.

5.2 Overall pronunciation ratings

In the questionnaire, after each students' recordings, there was a task for the evaluator to choose which of the recordings (A or B) they felt had better overall pronunciation (the pre- and post-recordings were in random A and B order). The evaluator could also choose "no difference" and they were able to give clarifications as to why they chose the particular recording to be better. In this section, the ratings of overall pronunciation skills and the answers to the open-ended questions will be presented.

Figure 9 Overall pronunciation pre- and post-recording means by each learner

The evaluations were transformed to numerical forms by the following formula 1= better, 0 = decreased and 0.5 = no difference. Figure 9 above presents the means of each students' overall pronunciation ratings. Out of the 20 students, 11 were rated to have better overall pronunciation in their post-recordings, eight students decreased their ratings for their post-recordings and one student had no difference in her ratings. The mean value of all the pre-recordings (11.88) was a little lower than the mean value of the post-recordings (13.13) and to investigate whether there was a significant statistical difference between the pre- and post-recordings, a Paired sample t-test was used. Table 7 displays the results of the test, which indicate that the p-value .570 > 0.05 showed no significant difference between the mean scores of the pre- and post-recordings.

Table 7 Differences between pre-and post-recording aspects according to the ratings

		Paired Differences							
					95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pair 1	Pre_recordings – Post_recordings	−1.25000	9.66205	2.16050	−5.77198	3.27198	−.579	19	.570

The results for the overall pronunciation ratings were somewhat random when compared to the ratings of the individual features above (Figures 4–8). The students who had significant differences in the overall ratings did not have significant differences in the ratings of sibilants and intonation. Therefore, it is difficult to draw conclusions about why, for example, student M7 and F12 (see Figure 9) got so much better ratings on their overall pronunciation when only compared to the ratings of individual features. To examine some of the reasons as to why some of the students were clearly rated to have developed and why some of the students clearly got lower scores after the course, some of the open-ended answers will be looked at next.

The evaluators were asked to give a brief explanation after choosing which of the two recordings sounded better. After choosing A or B recording to be better, there was an open-ended question to fill and if the evaluators answered, "no difference", they did not write any explanations. The reasons were very similar in all cases where the difference was significant between the two recordings. It has to be noted that the evaluators clearly only took the sibilants and intonation into account when deciding between the recordings and rarely other features were mentioned in the open-ended answers. However, fluency was mentioned few times especially in particular cases. As seen from Figure 9, M7 and M19 are the two most extreme cases in this particular data concerning the overall pronunciation ratings. M7 got the score of 21 in his post-test being better and four "no difference" points. Intonation was mentioned to be better in 17 of the answers and individual sounds were mentioned to be rated higher in seven answers. M19 had the lowest outcome after the course regarding his ratings, 20 evaluators rated his pre-recordings better and five marked that there was no difference between the recordings. M19 had more divided answers as to why the evaluators chose the pre-recording to be better. Here fluency was mentioned in three answers, individual sounds were mentioned in six answers and intonation and pace, in particular, were mentioned seven times each. According to the evaluators, the disturbingly fast pace of the post-recording made them choose the pre-recording to be better.

M3, M11 and F12 also developed their overall pronunciation according to the overall ratings. M3 was rated to have better pronunciation in the post-recording by 13 evaluators and the reasons were very even compared to other students' ratings and reasons. Intonation, fluency and individual sounds were all mentioned four times in the open-ended answers. 13 out of 25 rated M11 to have better pronunciation in the post-recordings and the reasons were more spread out compared to other students. Here fluency was mentioned the most, in seven answers, and individual sounds were mentioned five times and better intonation only four times. F12 was rated to have better pronunciation in the post-recordings 16 times and better intonation was mentioned 11 time whereas individual sounds were mentioned three times and fluency twice.

There was a question for the evaluators in the background information page that: 'which of the following do you perceive to be more important for successful and comprehensible pronunciation?' and the options were "intonation", "individual sounds" and "other" with an clarification option. After seeing the results of the overall pronunciations and the reasons the evaluators gave to their ratings, it is surprising to see how many of the raters answered that they thought that individual sounds were more important for successful pronunciation alltogether (Figure 10). More than half (N= 16) (64%) of the evaluators answered that individual sounds are more important, seven answered intonation to be more important and two evaluators gave the answer "other" and clarified that they thought both of the features were equally important.
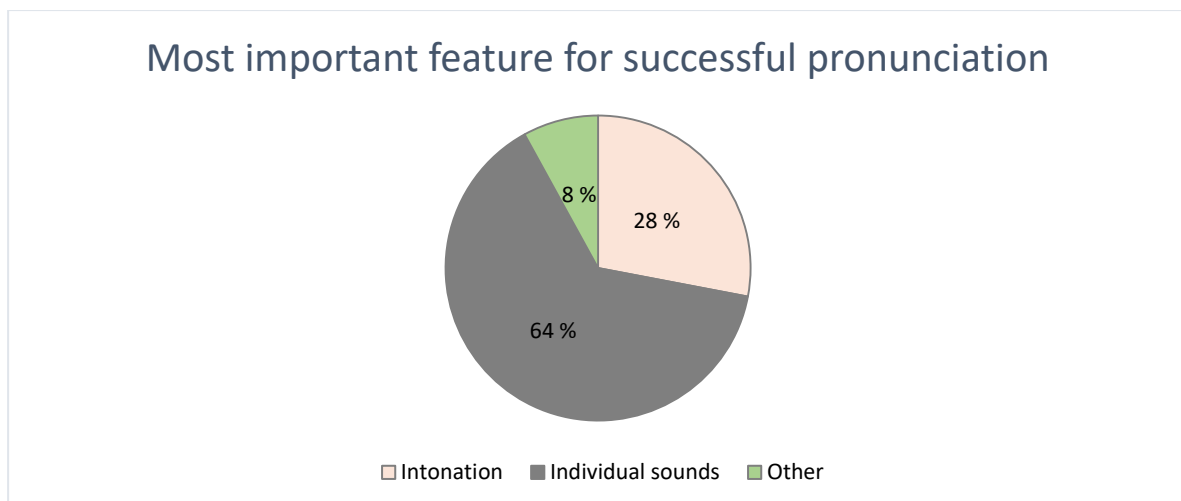
Figure 10 Evaluators' opinions on the most important aspect for successful pronunciation

6. Discussion

In this section, the results of the present study are discussed in detail and interpreted from a wider viewpoint. The two research questions introduced in Section 4 will be answered and their fulfilment will be examined, and the results will be connected to second language learning and pronunciation teaching. In addition, the reliability and validity of the present study are evaluated, and suggestions for further research are provided.

6.1 Interpretation of the results

The first research question asked whether an English spoken course in upper secondary school influence the pronunciation of sibilants of Finnish learners of English according to English teacher ratings. The results of the quantitative analysis showed that, in average, the students increased the mean values in their voiceless sibilant /s/ and decreased the mean values in the voiced sibilants /z/, /ʒ/ and the voiceless sibilant /ʃ/. The number of students, who improved their pronunciation regarding the sound /s/ was 14 and six students got lower scores. 12 students were able to improve their pronunciation regarding the sound /z/ and eight students lowered their scores; however, the improvements were very little and there was a major decrease with one student which made the overall proficiency score lower in the post-recordings. It was almost the same for the sound /ʒ/ since 14 out of 20 students were able to develop their pronunciation in the post-recordings but the differences were very small, and the decrease values were larger hence, the overall value was lower in the post-recordings. Nine students out of 20 were able to improve their sound /ʃ/ and 11 decreased their mean values in the post-recordings which meant that the overall score was lower in the post-recordings.

The hypothesis related to the first research question was that there will not be significant development on a group level, but that there will be development in the sibilants on an individual level. Based on the results, the hypothesis was mostly correct, however, the individual differences were not as significant as anticipated since the differences in the pre- and post-recordings were very small. The findings from this study show very similar results to the studies conducted previously (see Tommola (1975), Moisio & Valento (1976) Paananen (1998) and Peacock (2002)). As mentioned in previous sections, segmental difficulties for Finnish learners of English have been studied quite extensively and almost all studies indicate that sibilants are amongst the most difficult sounds for Finnish learners of English. Lintunen (2004) reports in the results of his study that the most difficult sibilant sounds are the voiced sibilants

/ʒ/ and /z/ and then the voiceless sibilant /ʃ/ and that these sibilants are all among the six most difficult sounds for Finnish learners of English. The voiceless /s/ did not prove to be so difficult in Lintunen's (2004, 164) study. The same order of difficulty in the sibilants was found in the present study and the sound /s/ was the highest rated sibilant in both of the recordings which show similar results to Lintunen's (2004) study. It can be noted that because Finnish teachers of English were used as evaluators, it could have affected the ratings of sibilant /s/ since the quality of it, is familiar to Finnish speakers. However, Lintunen (2004) was able to see improvement after pronunciation instruction in his study whereas the present study did not show significant development in the pronunciation of the students' sibilants. This difference in the results can be explained by the fact that the spoken English course in upper secondary school does not include much explicit training in either segmental or suprasegmental features whereas the oral skills course in university does. In addition, the students who participated in this study did not know for what they were tested, and the spoken English course in upper secondary school is more of a course that teaches communicative skills. It is very much up to the teacher whether explicit instruction on pronunciation will be given and the course book does offer only some training.

The second research question asked whether an English spoken course in upper secondary school influences the intonation of Finnish learners of English according to English teacher ratings. The results of the quantitative analysis showed that, in average, the students increased the mean values in intonation by +2.06 (see Figure 3) and 14 out of 20 students were able to develop their intonation after the spoken English course and six students got lower scores in their post-recordings. The intonation scores were fairly low to start with and the results were not statistically significant (.206 > 0.05).

The hypothesis set in relation to the second research question, was that there will not be significant differences in the ratings of the students' intonation and that the scores for intonation will be lower than the other features in the pre- and post-recordings. The hypothesis was based on previous research by Tergujeff (2013, 48) who found that the teaching of pronunciation in Finnish schools offers very little instruction on suprasegmental features of speech and that especially intonation, is considered difficult to learn because there is very little explicit training of English intonation in Finnish schools. Based on the results, the hypothesis was mostly correct, since even though there was some improvement in the mean values, they were not statistically significant. There were some positive individual developments as seen in Figure 8 but mostly the changes are very small. The mean value of intonation was the third lowest out of all features that were studied which means that intonation is difficult for Finnish learners of

English. The study by Toivanen (1999) showed that students did develop their intonation after receiving instruction, and that again indicates that the oral skills course in upper secondary school does not give explicit training in intonation either hence, the students are not able to develop their intonation skills during the course.

When looking at the overall pronunciation ratings where the evaluators could choose between the recordings which they felt had better overall pronunciation, the results showed more variation at an individual level whereas on a group level there was no significant difference as the p-value was .570 > 0.05. Half of the students (N=10) were rated higher in their post-recording, nine were rated lower in their post-recording and one student was rated to have no change at all in her pronunciation. To see what the evaluators thought were the most important factors that made one of the recordings better than the other, some open-ended answers were looked at. As mentioned in previous sections, suprasegmental features are sometimes difficult to separate from each other and even segmental and suprasegmental features are hard to separate since they are very closely related and affect each other (Toivanen 1999). Even though the evaluators knew what was being studied and mostly did rate according to the precise segmental and suprasegmental features, they still did mention fluency in their explanations fairly often. When gathering the open-ended answers, it was evident that "better intonation" was mentioned the most when compared to answers that mentioned individual sounds. The results were slightly surprising since the evaluators answered in the background information page that most of them thought (64%) that individual sounds are more important for successful pronunciation. This indicates that both, segmental and suprasegmental features are important for successful pronunciation and that they are hard to separate from each other, as mentioned previously.

6.2 Educational implications

Bringing up problems that deal with the learning of L2 pronunciation was one of the main motivations for the present study therefore, the results can be analysed from the perspective of pronunciation instruction. The main question of the present study is, whether the seven-week oral skills course had any positive impact on the pronunciation skills of upper secondary school students, sibilants and intonation in particular. It was surprising to see such low ratings especially in the segmental features and such poor results for the development of any of the features during an oral skills course that has been especially designed to teach better pronunciation and better oral skills in general.

Thomson and Derwing (2015) reviewed pronunciation efficacy and found that the effect of instruction in varying results can be due to, for example, assessment procedures, individual differences and goals as well as the duration of the course. As mentioned in previous sections, there is not much information whether sibilants and intonation were taught on this particular spoken English course and how segmental and suprasegmental features have been treated in the instructions in general. The duration and the training methods that are used during previous courses, and the spoken English course particularly, should be critically evaluated to be able to reach the goals that, for example, CEFR has set.

Lintunen (2004, 227) stated as an implication to his study, that not enough emphasis is put to pronunciation teaching in schools and all learners, including advanced learners, suffer from gaps in their abilities and knowledge. Even though the oral skills course might focus more on teaching communicative skills to the students, it is important that segmental and suprasegmental features are also taken into account since comprehensibility and intelligibility are highly affected by those features hence, they also affect the communication skills.

The communicative goal of pronunciation instruction at schools should be supported because English, in particular, is taught for students for them to be able to communicate with native as well as non-native English speakers. The most important thing is for the learner to be understood by native and non-native English speakers and sounding foreign is not the problem. However, as mentioned in previous sections, English is used in so many formal and informal instances and most of the students will be facing them later during their lives and it is important for them to be able to sound intelligible. To be able to sound intelligible and not cause confusion with the native or non-native listener, the students need to be able to use target-like intonation as well as master the more difficult sounds. As mentioned in the introduction, intonation in particular, conveys a lot of features: interest and attitudes, emotions and doubt, it signals emphasis, helps in grammatical identification of spoken language and it gives different kinds of clues in communication (e.g. turn-taking) (Rogerson-Revell 2011, 192). Hence, Poor intonation can cause misinterpretations, resentment and disrupt communication.

To conclude the implications of the present study, it can be said that one course on oral skills is not enough to develop students' overall pronunciation skills to the level that the CEFR has set for the upper secondary school students. In addition, the course is not enough for the students to learn to produce proper English sounds to be intelligible as well as use proper target-like intonation. The next sections will provide some suggestions for further research and suggestions of how the set goals could be reached and how students could learn and improve their English segmental and suprasegmental features through their English studies.

6.3 Evaluation of the present study and suggestions for further research

The reliability and the validity of a study should be considered when the results are being discussed. All the important aspects of scientific research have been attempted to take into account during the whole process, from choosing the right references to read and use to the analysis of the data. The methodology of the present study was designed based on previous studies on the development of segmental and suprasegmental features in L2 pronunciation. A carefully designed methodology was put together by combining elements from multiple studies (e.g. Munro and Derwing 2015, Lintunen 2004 and Tergujeff 2013). Although the results of this study show similar tendencies to those found in previous studies, the study also has its limitations.

There are few issues that could, to some extent, compromise the reliability and validity of this study. The rating sessions were done independently without any supervision and the lack of control of the rating situations decreases the value of the results. In order to be able to confirm that all the raters followed the instruction, the rating sessions would have had to be organised in person. It has to be noted that the audio samples were quite long thus, rater fatigue might have influenced the evaluation process to some extent.

Another limitation is the insufficient background information about the teaching of pronunciation during the course and whether individual sounds, such as sibilants have been taught at all or if any specific exercises have been conducted regarding intonation. Another limitation was that the sibilants were not all tested equally in all positions. For example, the phoneme /ʒ/ was only tested once, in one position and the phoneme /s/ was tested 19 times in several positions which means that the evaluators did not have an even ground for rating both of the sounds equally. In addition, the student sample was rather small, and they were all from the same school and took the same oral skills classes hence, the results cannot be generalised to apply to all upper secondary school students in Finland.

Further research is, without a doubt, needed in order to improve language teaching, and teaching pronunciation in particular. Future studies would benefit from incorporating larger samples and investigating the impact of pronunciation instruction in lower grades (elementary and secondary schools). Different types of data collection such as interviews with teachers and observation on pronunciation instruction in classes would give more information on the matter. This field would benefit from studies conducted on younger learners of English so that the teaching of pronunciation could be started earlier if the results indicated that pronunciation would improve significantly with proper and implicit training. There are not many studies that

incorporate the teaching and learning of both segmental and suprasegmental features in Finnish schools. Testing how different kinds of explicit training methods and teaching of pronunciation affect the oral skills of students of different ages would bring a lot of important information to this field which keeps growing and becoming increasingly important all the time.

7. Conclusion

The present study aimed to reveal the influence of a seven-week English oral skills course on the pronunciation of segmental and suprasegmental features of upper secondary school students. Sibilants and intonation were chosen as the segmental and suprasegmental features that were being evaluated. Listener ratings were used to see whether there was any development on a group or individual level in the English pronunciation of the students. The results show that on average, the students improved their voiceless sibilant /s/ and intonation, but other sibilants were rated lower. The results indicate that there were no significant differences in the pre- and post-recordings in any of the segmental or suprasegmental features. The overall proficiency scores showed that more than half (N=11) were able to get higher mean values in the post-recordings, meaning they developed their overall pronunciation. However, none of the results were statistically significant. The students who had significant differences in the overall ratings did not have significant differences in the ratings of sibilants and intonation. Therefore, it is difficult to draw conclusions about why some students got so much better ratings on their overall pronunciation compared to the ratings of the other features. Still, since most of the changes are very marginal, therefore, they cannot be used as evidence for or against the impact of the course for pronunciation development.

Several interpretations of the results were discussed in the present thesis. The very little changes between the pre- and post-recordings were most clearly due to the duration of the course on spoken English (seven-weeks) that does not explicitly concentrate on pronunciation teaching but more on communicative skills. On one hand, the students were not aware for what they were tested and on the other hand, the evaluators were strict with their evaluations regarding the segmental and suprasegmental features and that could have an effect on the poor results in both pre- and post-recordings.

The effects of pronunciation teaching on both segmental and suprasegmental features have not been studied widely in Finland and the present study contributes to the research in that field. To be able to find out to what extent explicit pronunciation training should be incorporated in teaching and from which grades, it is important to do more research on the

matter. Educating and giving more tools to teachers is important as well as finding the proper ways to explicitly teach pronunciation for students of different ages. As the present study revealed, meeting the criteria that CEFR has set, is very difficult and according to the ratings the students are not quite near that criteria of having clear and natural intonation and pronunciation. As mentioned previously, comprehensibility and intelligibility are the most important aspects for an L2 learner to learn thus, proper training of segmental and suprasegmental features is necessary to be able to properly communicate with both native and non-native speakers of English.

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Appendices

Appendix 1 pre- and post-recording text

Escaping to the countryside is usually about more than just taking a well-deserved holiday, it's about maintaining work-life balance, tuning into nature, rest and restoration.

"Finns go to the cottage to relax, sauna, swim, and spend quality time with relatives or friends," says Faith Archer, a British-Finnish yoga instructor raised in Oxford who moved to Finland 23 years ago when she was 18.

"Some go fishing and others go with friends to drink and have a good time, but mostly Finns want to get away from busy city life to relax," she says.

Appendix 2 Questionnaire instructions

Instructions

On the next pages you will find twenty Upper Secondary School students' audio samples for you to listen to twice (audio A and audio B). Listen to each short audio recording carefully and concentrate on the intonation, the pronunciation of certain sounds explained below as well as marking which one of the audio samples you think is better in overall pronunciation skills.

Intonation is the rise and fall of pitch in voice. Intonation plays a major role in how a speaker expresses meaning. Intonation is used to structure the messages and to focus attention on particular parts. In the recordings, concentrate on the intonation of the lists (rising and falling intonation), whether the breaks are in right places and whether the speech samples sound structured and rhythmic.

Concentrate on the pronunciation of the sibilants (/ʒ/ /ʃ/ /z/ /s/) and mark down your opinion of the accuracy of the production of those particular sounds in each sample.

Lastly, from each audio sample pair, choose whether either sounded better in the pronunciation as a whole or whether you did not find any difference in the recordings. If you did find differences, please write down shortly what the differences were in your opinion.

Here you can check the sibilant sounds before you start listening to the audio samples. You can hear all of the sounds in the recordings, some of them multiple times and some just once.

/ʒ/ as in the word u**s**ually (you can hear it once at the very beginning of the audio sample)
/ʃ/ as in the word Briti**sh**-Finni**sh**
/z/ as in the word well-de**s**erved
/s/ as in the word ju**s**t

detailed instructions

Please read the detailed instructions carefully first.

To be able to finish the questionnaire effectively, please consider the following:

- Completing the survey takes about 30 minutes.
- The use of headphones is required when listening to the samples to avoid any distraction.
- All questions need to be answered to be able to proceed.
- Take as much time as you need and remember to take breaks when ever you feel like it to be able to stay consistent.
- You can listen to the audio samples as many times as you want.
- It is advisable to start the audio (opens up to another tab) and answer the questions as you are listening.

Appendix 3 Questionnaire

Q1 Age

Q2 Gender

Q3 Country

Q4 Your mother tongue(s)

Q5 Have you completed your English teacher pedagogic studies?

Q6 Year of completing your English teacher pedagogic studies?

Q7 Have you received your MA degree?

Q8 Have you lived abroad for a longer period?

Where?

For how long?

Q9 For which level(s) are you teaching English at the moment?

Q10 Approximately, for how long have you taught English?

Q11 Do you think teaching pronunciation is important?

Q12 Which of the following do you perceive to be more important for successful and comprehensible pronunciation?

Q13 On a scale from 0 to 100, how accurately does the speaker pronounce the sound /ʒ/ in the audio sample?

Q14 On a scale from 0 to 100, how accurately does the speaker pronounce the sound /ʃ/ in the audio sample?

Q15 On a scale from 0 to 100, how accurately does the speaker pronounce the sound /s/ in the audio sample?

Q16 On a scale from 0 to 100, how accurately does the speaker pronounce the sound /z/ in the audio sample?

Q17 On a scale from 0 to 100, how do you perceive the intonation of the speaker in the audio sample?0 = Speech is very monotonous and there is very little variation in the pitch - 100 = Intonation patterns are used very well and there is a lot of variation in the pitch

Q18 On a scale from 0 to 100, how accurately does the speaker pronounce the sound /ʒ/ in the audio sample?

Q19 On a scale from 0 to 100, how accurately does the speaker pronounce the sound /ʃ/ in the audio sample?

Q20 On a scale from 0 to 100, how accurately does the speaker pronounce the sound /z/ in the audio sample?

Q21 On a scale from 0 to 100, how accurately does the speaker pronounce the sound /s/ in the audio sample?

Q22 On a scale from 0 to 100, how do you perceive the intonation of the speaker in the audio sample?0 = Speech is very monotonous and there is very little variation in the pitch - 100 = Intonation patterns are used very well and there is a lot of variation in the pitch

Q23 Consider the audio samples as a whole. You heard the audio samples in pairs (A and B). Choose the one you felt had better pronunciation all together. If you felt that they did not differ at all, choose "no difference"

Q24 If you chose either A or B, write shortly why you felt it was better? (write a hyphen if you answered "no difference" to the previous question)

Finnish summary

Johdanto ja teoriatausta

Tämä pro gradu -tutkielma käsitteli englannin kielen segmentaalisten ja suprasegmentaalisten piirteiden kehitystä lukiolaisten englannin kielen oppijoiden puheessa. Sibilantteja käytettiin tutkimaan segmentaalisia piirteitä ja intonaatiota käytettiin tutkimaan suprasegmentaalisia piirteitä. Tutkimuksen tavoitteena oli selvittää, muuttuvatko sibilantit tai intonaatio puhekurssin tuloksena, kun kurssia ennen ja sen jälkeen äänitettyjä tuotoksia arvioivat suomalaiset englannin kielen opettajat.

Ihmisen puhe koostuu sekä segmentaalisista että suprasegmentaalisista piirteistä (Miller 1978, 175). Segmentaaliset piirteet ovat puheäänteiden kvalitatiivisia osia, kuten vokaalit ja konsonantit, joita esiintyy erilaisissa järjestyksissä. Suprasegmentaaliset piirteet ovat yhteisnimitys mm. intonaatiolle, rytmille, kestolle ja painotukselle. Vuosien mittaan puheen tuottamisen ja ymmärtämisen tutkimuksissa on keskitytty segmentaalisten piirteiden tutkimukseen enemmän, mutta viime vuosien aikana on alettu tutkia myös yhä enemmän suprasegmentaalisia piirteitä. Selitän tässä luvussa sibilanttien sekä intonaation eron englannin ja suomen kielessä, kerron ääntämisen opetuksesta sekä vielä erikseen englannin opetuksesta Suomessa.

Sibilantit valikoituivat tämän tutkimuksen kohteeksi siksi, että monissa tutkimuksissa, joissa on tutkittu suomalaisia englannin oppijoita, on todettu nimenomaan sibilanttien olevan vaikeimpien äänteiden joukossa. Englannin kielessä on yhdeksän frikatiivia /f v θ ð s z ʃ ʒ/ ja /h/. Frikatiivit ovat äänteitä, joissa ilma virtaa suusta ulos niin, että syntyy selvästi kuuluva friktio (hankausääni) ja sibilanteissa friktio on vahvempaa (Morris-Wilson 2004, 52). Yhdeksästä frikatiivista neljä ovat sibilantteja: soinniton alveolaarinen sibilantti /s/, soinnillinen alveolaarinen sibilantti /z/, soinniton palatoalveolaarinen sibilantti /ʃ/ ja soinnillinen palatoalveolaarinen sibilantti /ʒ/. Alveolaariset sibilantit ovat tärkeitä englannin kielessä, koska ne merkitsevät omistusta, monikkoa ja yksikön kolmannen preesensiä verbeissä (Pennington, 1996, 51). Koska englannin kielessä sibilantit esiintyvät usein ja koska alveolaariset sibilantit on jaettu kahteen eri foneemiin, on hyvin tärkeää opetella äänteet hyvin, jotta merkitykset pysyisivät samana. Suomen kielessä frikatiiveja on kaksi /s/ ja /h/, joista sibilantteja on vain /s/. Suomen kielessä äänne /ʃ/ on allofoni ja sitä esiintyy suurimmaksi osaksi vain lainasanoissa, kuten shamppoo (Laaksonen & Lieko 2003, 15). Suomen /s/ on kuitenkin erilainen verrattuna englannin foneemiin /s/ ja sen huomaa foneemin pituudesta ja artikulaation sijainnista.

Sanotaan, että suomen foneemi /s/ ei ole yhtä "terävä" kuin englannin /s/ ja suomen kielessä soinnitonta /s/ voidaan käyttää laajemmalla kentällä, koska sanojen merkitys ei muutu sibilantin laadun myötä (Suomi et al. 2008, 27). Kuten mainittu aiemmin, sekä sibilanttien samankaltaisuus että erilaisuus aiheuttavat hankaluuksia kielen oppijoille.

On mahdotonta voida sanoa mitään millään kielellä ilman jonkinlaista intonaatiota. Intonaatiota on määritelty monin eri tavoin, mutta yleinen määritelmä on, että se käsittää puheen sävelkulun ja puheen äänen eri tasot (Wells 2006). Hirst (1998, 1) toteaa, että intonaation määrittäminen on hankalaa myös siksi, että se on yksi universaaleimmista sekä yksi kielispesifimmeistä piirteistä kaikissa kielissä. Intonaatio on tärkeä osa englannin kieltä, jossa eri sävelkorkeuksia vaihdellaan niin, että intonaatio voi muuttaa lausumien merkityksiä. Intonaatiota käytetään englannin kielessä lauseiden pilkkomiseen, eri lausetyyppien erotteluun sekä painotukseen eli siihen, mikä lausumissa on tärkeää sekä asenteen ilmaisuun lausumaa kohtaan (Wells 2006, 5). Suomen ja englannin kielten intonaatiot eroavat toisistaan monella tapaa ja suomen kielen intonaatiota on kuvailtu monotoniseksi ja tasaiseksi (Suomi et al. 2008, 115). Suomen kielisessä lausumassa yleisin sävelkorkeuskaava kulkee niin, että ensimmäinen tavu lausutaan hieman korkeammalta ja viimeinen tavu lausutaan hyvin matalalla sävelkorkeudella (Iivonen 1998, 320). Englannin kielessä sävelkorkeuden nousu lauseen lopussa on yleistä mm. kysymyslauseissa, mutta suomen kielessä tätä ei esiinny. Toisin sanoen, suomen kielen intonaatio on melko matalaa eikä se vaihtele korkeuksien välillä (Hakulinen 1979, 33).

Useiden suomen ja englannin kielten välillä tehtyjen siirtovaikutustutkimusten perusteella (esim. Wiik 1965, Lehtonen et al. 1977, Morris-Wilson 1992) on todettu, että vaikeimmat äänteet suomalaisille oppijoille ovat sibilantit, affrikaatat, dentaalifrikatiivit sekä vokaalien tiukka (tense) ja rento (lax) erottelu. Morris-Wilsonin (2004, 67–68) mukaan sibilantit /s/ ja /z/ ovat suomenkielisille vaikeita, koska äänteiden oikean laadun löytäminen on vaikeaa. Suomen kielessä sibilantteja voi käyttää huomattavasti laajemmin, jolloin eri sibilantit ovat /s/:n allofoneja ja niitä voi käyttää vapaassa vaihtelussa ilman, että merkitys muuttuu. Esimerkiksi /ʃ/ on suomen kielessä allofoni (esim. sanassa shamppoo), fyysisistä syistä kaikki eivät kuitenkaan osaa tätä allofonia lausua, jolloin käytetään foneemia /s/, joka ei muuta merkitystä. Useissa tutkimuksissa on tutkittu suomalaisten englannin kielen oppijoiden sibilanttien omaksumista ja tuottoa (esim. Tommola (1975), Moisio & Valento (1976) Paananen (1998) and Peacock (2002)). Kaikissa tutkimuksissa todettiin, että suomenkielisillä on vaikeuksia tuottaa sibilantteja oikein englannin kielessä. Esimerkiksi Lintunen (2004) tutki 34 yliopiston englannin pääaineopiskelijan ääntämistä ennen ja jälkeen puhekurssin, jonka tarkoituksena oli

harjoitella ääntämistä, intonaatiota ja transkriptiota. Tutkimustulokset osoittivat, että sibilantit sekä affrikaatat olivat vaikeimpia taitaa jopa kaikista edistyneimmille opiskelijoille ja nimenomaan sibilantit olivat kaikista vaikeimpia äänteitä. Kaikki sibilantit olivat kuuden vaikeimman äänteen joukossa /s/ -sibilanttia lukuun ottamatta. Kaikista hankalimmaksi osoittautuivat soinnilliset sibilantit /ʒ/ ja /z/ ja kuudenneksi hankalin oli soinniton sibilantti /ʃ/ (Lintunen 2004, 222). Vaikka sibilantit olivat hankalia edistyneemmillekin opiskelijoille, Lintusen tutkimustuloksissa kävi ilmi, että kurssin aikana oli tapahtunut positiivista muutosta ja ääntäminen oli kehittynyt.

Kuten jo aiemmin mainittu, suomenkielisten englannin kielen ääntämistä suprasegmentaalisella tasolla on tutkittu aika paljon vähemmän kuin segmentaalisella tasolla. Wells (2006, 2) toteaa, että natiivien englannin kielen puhujien on vaikea ymmärtää, että kielen oppija, ei-natiivipuhuja, voi tehdä virheitä intonaatiossa, kun taas äännevirheet huomataan helposti. Ongelma onkin siinä, että mitä tahansa intonaatiovariaatioita voi käyttää missä vain ja koska vain, mutta koska ne voivat muokata ja muuttaa merkityksiä kokonaan, voi natiivi kuulija ymmärtää puhujan täysin väärin ilman, että puhuja edes ymmärtää tehneensä virhettä (ibid.). Toivanen (1999) tutki yliopisto-opiskelijoiden intonaation omaksumista kahden ryhmän avulla. Yhdessä ryhmässä oli yhdeksän edistynyttä kielen opiskelijaa, jotka olivat käyneet erikseen intonaatiokurssin ja toisessa ryhmässä oli 18 ensimmäisen vuoden englannin kielen opiskelijaa, jotka olivat vasta aloittaneet opintonsa. Tulokset osoittavat, että ryhmä, joka oli opiskellut intonaatiota erikseen, oli huomattavasti taitavampi kuin toinen ryhmä, joka ei ollut vielä saanut opetusta. Suurin ero oli nousevan intonaation käytössä, kun edistyneemmät opiskelijat käyttivät sitä huomattavasti puheessaan enemmän kuin aloittelevat opiskelijat, jotka käyttivät enemmän laskevaa intonaatiota (ibid.). Nämä tutkimustulokset puhuvat sen puolesta, että yksittäisten äänteiden lisäksi myös intonaation opettamiseen tulisi keskittyä enemmän.

Koska tutkimus käsittelee ääntämisen piirteitä kielen oppimisen näkökulmasta, on tärkeä ottaa muutama seikka ääntämisen opettamisesta huomioon. Tergujeff (2014, 8) pitää ymmärrettävyyttä tärkeimpänä tavoitteena ja hän esittää, että ääntämisen opetus Suomessa keskittyy enimmäkseen segmentaalisten piirteiden opettamiseen suprasegmentaalisten piirteiden sijaan. Tergujeffin (ibid.) mukaan suprasegmentaalisten piirteiden opettaminen on hylätty kokonaan, koska sitä ei esiinny myöskään oppikirjoissa. Kuitenkin on pidettävä mielessä, että kumpaakaan piirrettä ei voi painottaa yksin, koska segmentaaliset ja suprasegmentaaliset piirteet riippuvat ja vaikuttavat toisiinsa (Levis 2016, 432–433). Suomalaisissa lukioissa englannin kielen opetusta ohjaavat ylioppilaskokeet ja koska

ylioppilaskokeissa ei vielä ole suullista osiota, keskitytään eksplisiittiseen ääntämisen opetukseen yleisesti melko vähän.

Tämän teoreettisen viitekehyksen pohjalta tutkimuksen keskiöön nousivat seuraavat kaksi tutkimuskysymystä: Ensimmäisenä tutkin, onko havaittavissa kehitystä lukio-opiskelijoiden sibilanttien tuotossa englannin puhekurssin aikana. Hypoteesini oli, että yksilötasolla kehitystä saattaa ilmetä, mutta tilastollisesti merkittäviä tuloksia ei tulla näkemään ryhmän tasolla. Toiseksi tutkin, onko havaittavissa kehitystä lukio-opiskelijoiden intonaation käytössä englannin puhekurssin aikana. Tähän hypoteesini oli, että merkittäviä eroja ei tule näkymään intonaation arvioinneissa. Hypoteesini perustuivat aiempiin tutkimuksiin ja oletukseen siitä, että puhekurssilla ei ole ollut eksplisiittistä ääntämisen opetusta.

Aineisto ja menetelmät

Tutkimukseni hyödynsi määrällisiä menetelmiä, joista kerron tässä osiossa tarkemmin. Koehenkilöinä tutkimuksessa oli kaksi eri ryhmää: 20 sattumanvaraisesti valittua toisen vuoden lukiolaista sekä 25 arvioijaa, jotka olivat suomalaisia englannin kielen opettajia. Kaikki koehenkilöt osallistuivat tutkimukseen anonyymisti. Lukiolaisten määrää karsittiin suuresta joukosta siksi, että arviointitehtävästä ei tulisi liian pitkä, jotta arvioijat pystyvät keskittymään koko arviointitehtävään tasaisesti. Kyselyä jaettiin erilaisissa sosiaalisen median kanavissa, kuten Facebook, ja sähköpostilla ryhmille, joista löytyisi profiiliin sopivia osallistujia.

Aineistona tutkimuksessa käytettiin äänitteitä, jotka oli tuotettu ennen ja jälkeen lukion englannin kielen suullisen kurssin sekä arvioijille suunnatun kyselyn vastauksia. Opiskelijat lukivat saman tekstin molemmilla kerroilla eivätkä opiskelijat tienneet, mitä tuotoksilla tultaisiin mittaamaan. Sähköinen kyselylomake suunniteltiin varta vasten tätä tutkimusta varten. Arvioijat vastasivat ensin taustatietokysymyksiin ja kuuntelivat sitten 40 äänitettä, joita he arvioivat liukuvalla 0-100 pisteen asteikolla. Sibilanttien ääntämistä, intonaatiota sekä yleistä ääntämistaitoa arvioitiin kyselyn ohjeiden mukaisesti.

Tutkimus eteni seuraavanlaisesti: ensin valittiin sattumanvaraisesti 20 opiskelijaa ja heidän tuotoksistaan lyhennettiin sopivan pituinen näyte kohdasta, jossa kaikki äänteet esiintyvät ja intonaatiota on mahdollista havaita. Äänitteet liitettiin kyselylomakkeeseen, joka luotiin SurveyMonkey -ohjelman avulla ja jota jaettiin sosiaalisessa mediassa ja sähköpostitse. Kun kyselyyn oli saatu riittävän paljon vastauksia, analysoitiin vastaukset tilastollisesti SPSS- ja Microsoft Excel - ohjelmien avulla. Arvioijien avoimet kommentit otettiin huomioon tuloksia tulkitessa. Jokaisen opiskelijan saamat pisteet laskettiin erikseen jokaisen tutkittavan äänteen

ja intonaation osalta keskiarvoiksi ja näiden perusteella laskettiin merkitsevyysarvot. Jokaisesta äänteestä ja intonaatiosta laskettiin keskiarvot ennen ja jälkeen puhekurssin, jonka jälkeen laskettiin keskihajonta keskiarvojen eroista. SPSS:llä suoritettiin t-testi, josta saatiin tilastollinen merkitsevyysero, eli p-arvo. Ero tulkittiin tilastollisesti merkitseväksi, kun sen todennäköisyys esiintyä sattumalta oli pienempi kuin 0,05 (5 %).

Tutkimustulokset ja johtopäätökset

Tilastollisen analyysin perusteella osalla opiskelijoista tapahtui positiivista ja osalla negatiivista kehitystä ja osalla tilanne pysyi samana kurssin jälkeen. Tilastollisesti opiskelijat paransivat ääntämystään äänteessä /s/ sekä intonaatiossa, mutta äänteissä /z/, /ʒ/ ja /ʃ/ tapahtui negatiivinen muutos ja keskiarvot laskivat kurssin jälkeen. Näiden yhteenlaskettu keskiarvo näytti, että yleisesti parannusta on hieman, mutta tilastollisesti muutokset eivät olleet merkittäviä missään edellä mainituissa tapauksissa. Korkein keskiarvo oli foneemilla /s/ sekä ennen (65.34) että jälkeen (68.34) kurssin, jolloin muutos oli +3, mutta p-testin perusteella tulos ei ole merkittävä tuloksella .118>0.05, tarkoittaen sitä, että puhekurssilla ei ollut merkitystä pieneen kehitykseen. Toiseksi korkeimman keskiarvon sai äänne /ʃ/. Ennen (52.45) kurssia ja kurssin jälkeen (51.82) keskiarvojen erotus oli -0.63. Kolmanneksi korkeimmat keskiarvot sai intonaatio (ennen 41.24, jälkeen 43.3) ja pieni kehitys (+2.06) oli havaittavissa. Soinnilliset sibilantit /ʒ/ ja /z/ saivat matalimmat keskiarvot (/ʒ/ 39.7 ja 37.98) (/z/ 38.25 ja 37.2) ja kummankin tulos huononi kurssin jälkeen. Tämän tutkimuksen tulokset korreloivat aiempien tutkimusten kanssa, sillä myös näiden tulosten perusteella vaikeimpia äänteitä suomenkielisille englannin oppijoille ovat soinnilliset sibilantit. Yksilötasolla eroja oli havaittavissa, mutta arvioinnit olivat johdonmukaisia, sillä korkeammin arvioidut opiskelijat saivat jokaisesta äänteestä korkeammat arviot, kun taas heikommat opiskelijat saivat kaikista osioista heikompia tuloksia. Vaihtelua oli siinä, missä piirteissä tuli kehitystä ja missä, ei eikä kukaan opiskelijoista parantanut jokaisessa piirteessä. Muutama opiskelija osoitti suuria vaihteluita molempiin suuntiin, mutta ne eivät vaikuttaneet merkittävästi tuloksiin.

Arvioijat arvioivat myös opiskelijoiden yleistä ääntämistä päättämällä äänitteiden perusteella kumpi äänitteistä (ennen vai jälkeen kurssin) oli heidän mielestään yleisesti parempi. Arviot muutettiin numeerisiin muotoihin (1=parempi, 0=huonompi, 0.5=ei eroa) ja näin laskettiin keskiarvot jokaiselle opiskelijalle. 11 opiskelijaa paransi keskiarvoaan kurssin jälkeen, kahdeksan opiskelijaa huononsi tulostaan ja yksi piti keskiarvot täysin samana. Tilastollisesti merkittävää eroa ei ollut ennen ja jälkeen kurssin arviointien. Arvioijilta

pyydettiin avoimissa kysymyksissä kertomaan syitä sille, miksi he valitsivat toisen äänitteen paremmaksi kuin toisen. Arvioijat tiesivät hyvin mitä oltiin arvioimassa, joten heidän vastauksissaan ilmeni suurimmaksi osaksi juuri intonaatioon ja yksittäisiin äänteisiin liittyviä kommentteja. Mutta koska suprasegmentaalisia piirteitä on usein vaikea erottaa toisistaan, näkyi kommenteissa paljon myös sujuvuuteen liittyviä asioita.

Tutkimuksen merkitystä pohdittiin ääntämisen opetuksen kannalta ja selvää on, että kurssin tarkoitus ei ole huonontaa opiskelijoiden ääntämisen taitoja. Kurssin kommunikatiivinen painopiste ja ääntämisen eksplisiittisen opetuksen niukkuus vaikuttivat todennäköisesti tuloksiin sekä totta kai se, etteivät opiskelijat tienneet mitä äänityksistä mitataan, eivätkä näin ollen kiinnittäneet tiettyihin piirteisiin huomiota.

Tutkimuksen reliabiliteettia ja validiteettia on syytä tarkastella kriittisesti. Kaikissa tutkimuksen vaiheissa on pyritty ottamaan nämä asiat kuitenkin huomioon aina lähteiden valinnasta metodologisiin kysymyksiin sekä analysointiin. Tutkimus olisi hyötynyt laajemmista taustatiedoista kurssilla opetetuista ja käytetyistä harjoitteista, ja ne tiedot helpottaisivat tämän tutkimuksen analysointia. Myöskin lisäämällä äänteitä esiintymään useammissa paikoissa tasaisemmin, saataisiin varmempaa tutkimustietoa jokaisen äänteen suhteen erikseen. Nyt esimerkiksi sibilantti /ʒ/ esiintyi vain kerran ja vain yhdessä ympäristössä, jolloin kyseisen äänteen arviointi on vaikeampaa ja tuloksia ei voi täysin verrata muihin äänteisiin, joita oli arvioitavana huomattavasti enemmän. Aiheen tutkimusta edistäisi tutkimukset nuoremmille kielen oppijoille ja sillä tavoin, että eksplisiittisen ääntämisen opetuksen vaikutuksia tutkittaisiin sekä nuoremmilla että vanhemmilla oppilailla ja opiskelijoilla. Sekä segmentaalisia että suprasegmentaalisia piirteitä tulisi tutkia enemmän yhdessä sekä niiden vaikutuksia toisiinsa.

Lopuksi

Tämän pro gradu -tutkielman tavoitteena oli tutkia, kehittyvätkö opiskelijat sibilanttien ja intonaation ääntämisessä puhekurssin aikana. Tulosten perusteella yksilöllisiä eroja oli havaittavissa ja opiskelijoiden oma taso oli nähtävissä arvioiden perusteella. Osa opiskelijoista kehittyi joissain tutkituissa osa-alueissa, ja osa sai huonompia arvioita kurssin jälkeen äänitettyihin tuotoksiin. Yleisesti merkittäviä eroja ei ollut ryhmätasolla, vaikka yleinen ääntämisen taso, sibilantti /s/ ja intonaatio saivat hieman korkeammat arvot ryhmätasolla jälkimmäisissä äänitteissä. Lopuksi, tutkimustulosten perusteella sekä segmentaalisia että suprasegmentaalisia piirteitä kannattaa opettaa, sillä ne vaikuttavat molemmat ääntämisen

tasoon ja vaativat eksplisiittistä opetusta. Tämän tutkimuksen tuloksiin on kuitenkin suhtauduttava varovaisuudella, sillä muutamat tekijät, kuten puhekurssin sisältö sekä testattujen äänteiden esiintyvyyden määrä ovat saattaneet osaltaan vaikuttaa tutkimuksen lopputulokseen. Englannin kielen ääntämisen oppimisessa ja opettamisessa tullaan tulevaisuudessa toivottavasti keskittymään nuorempien oppilaiden tutkimiseen ja eksplisiittisen ääntämisen opetuksen vaikutukseen nuoremmilla oppilailla.