

UNIVERSITY OF JYVÄSKYLÄ

HILL OR HELL?

**Identification of English vowels by Finnish schoolchildren
knowing no English**

**A Pro Gradu Thesis in English
by**

Elina Tergujeff

**Department of Languages
2007**

HUMANISTINEN TIEDEKUNTA
KIELTEN LAITOS

Elina Tergujeff

HILL OR HELL? Identification of English vowels by Finnish schoolchildren
knowing no English

Pro Gradu -tutkielma

Englannin kieli

Syyskuu 2007

74 sivua + 2 liitettä

Tutkimuksessa selvitetään, kuinka suomalaiset lapset tunnistavat englannin kielen vokaaleja. Tutkimus pohjautuu Kalevi Wiikin vuoden 1965 tutkimukseen. Tutkimus pyrkii vastaamaan seuraaviin kysymyksiin: 1) Kuinka suomalaiset kielenpuhujat, jotka eivät osaa englantia, tunnistavat englannin kielen vokaaleja? 2) Eroaako vokaalien tunnistaminen vuodesta 1965? 3) Kuinka vokaalien tunnistaminen eroaa vuodesta 1965? Vastauksien saamiseksi järjestettiin kuuntelutesti suomea äidinkielenään puhuville lapsille, jotka eivät olleet aloittaneet englannin opiskelua. He kuuluivat yksitavuisia englannin kielen sanoja syntyperäisten puhujien ääntäminä, ja heidän tehtävänä oli kirjoittaa sanat aivan kuin ne olisivat suomea.

Tutkimusmateriaalista analysoitiin eri vokaalifoneemien ja vokaalien keston tunnistamista. Tuloksia verrattiin osin Wiikin vuoden 1965 tutkimuksen tuloksiin. Suurimmat erot ovat vokaalien kestojen tunnistamisessa, joka on selvästi parempaa vuonna 2004 kuin 1965. Vokaalifoneemienkin tunnistamisessa havaitaan kehitystä: oppilaat selvästi erottivat englannin kielen foneemeja suomalaisista eivätkä siksi tulkinneet foneemia yksioikoisesti suomen kielessä lähinnä olevaksi. Näyttää siltä, että englannin kielen läsnäolo suomalaisessa yhteiskunnassa on vaikuttanut suomalaisten "kielikorvaan". Englannin kielen fonologinen järjestelmä onkin tullut tutuksi suomalaisille, mikä voi olla varteenotettava voimavara kielenopetuksessa.

Asiasanat: English vowels, Finnish vowels, phonology, speech perception, speech production.

CONTENTS

1 INTRODUCTION.....	8
2 THEORETICAL FRAMEWORK.....	11
2.1 Phoneme, phone and allophone.....	12
2.2 Relationship between speech perception and speech production ...	12
2.3 Finnish and English vowels.....	17
2.3.1 Finnish vowels	18
2.3.2 English vowels	20
2.3.3 Comparison of Finnish and English vowels.....	21
2.4 Basis of the study: Wiik (1965)	24
3 METHOD.....	27
3.2 Participants	27
3.3 Materials.....	27
3.4 Procedure	29
3.5 Data analysis.....	29
3.6 Differences in the set up of the present study and the study by Wiik	30

4 RESULTS.....	33
4.1 Identification of English monophthongs	33
4.1.1 [ɪ ₁] and [ɪ ₂].....	34
4.1.2 [e ₁] and [e ₂].....	35
4.1.3 [æ ₁] and [æ ₂].....	37
4.1.4 [ɜ]	38
4.1.5 [u]	38
4.1.6 [ʊ]	39
4.1.7 [o]	40
4.1.8 [ɔ].....	40
4.1.9 [ɑ].....	41
4.1.10 [ʌ].....	42
4.1.11 Identification of English vowels as single or double.....	42
4.2 Identification of English diphthongs.....	44
4.2.1 [ʊə].....	45
4.2.2 [əʊ].....	47
4.2.3 [ɪə]	48
4.2.4 [ʌʊ].....	49
4.2.5 [eə]	51
4.2.6 [ʌɪ]	53
4.2.7 [ɔɪ].....	54
4.2.8 [ʌʊə]	55

4.3 Identification of English monophthongs by Finnish listeners	
in 1965 and in 2004	56
4.3.1 Quality.....	57
4.3.2 Quantity	59
5 DISCUSSION	60
6 CONCLUSION	69
BIBLIOGRAPHY.....	70
APPENDICES.....	75
Appendix 1: Sample answer.....	75
Appendix 2: Phonetic notation in Wiik (1965) and	
Hughes et al. (2005).....	76

LIST OF TABLES

Table 1. Identification of English [ɪ₁] by Finnish listeners

Table 2. Identification of English [ɪ₂] by Finnish listeners

Table 3. Identification of English [e₁] by Finnish listeners

Table 4. Identification of English [e₂] by Finnish listeners

Table 5. Identification of English [æ₁] by Finnish listeners

Table 6. Identification of English [æ₂] by Finnish listeners

Table 7. Identification of English [ɜ] by Finnish listeners

Table 8. Identification of English [u] by Finnish listeners

Table 9. Identification of English [ʊ] by Finnish listeners

Table 10. Identification of English [o] by Finnish listeners

Table 11. Identification of English [ɔ] by Finnish listeners

Table 12. Identification of English [ɑ] by Finnish listeners

Table 13. Identification of English [ʌ] by Finnish listeners

Table 14. Identification of English vowels as single and double by Finnish listeners

Table 15. Identification of English [ʊə] by Finnish listeners

Table 16. Identification of English word final [ʊə] by Finnish listeners

Table 17. Identification of English word medial [ʊə] by Finnish listeners

Table 18. Identification of English [əʊ] by Finnish listeners

Table 19. Identification of English word medial [əʊ] by Finnish listeners

Table 20. Identification of English word final [ɪə] by Finnish listeners

Table 21. Identification of English word medial [ɪə] by Finnish listeners

Table 22. Identification of English word medial [ʌʊ] by Finnish listeners

Table 23. Identification of English word final [ʌʊ] by Finnish listeners

Table 24. Identification of English word final [eə] by Finnish listeners

Table 25. Identification of English word final [eə] by Finnish listeners

Table 26. Identification of English word medial [eə] by Finnish listeners

Table 27. Identification of English [ʌɪ] by Finnish listeners

Table 28. Identification of English [ʌɪ] immediately before [ʈ] by Finnish
listeners

Table 29. Identification of English [ɔɪ] by Finnish listeners

Table 30. Identification of English [ɔɪ] immediately before [ʈ] by Finnish
listeners

Table 31. Identification of English [ʌʊə] by Finnish listeners

1 INTRODUCTION

Each language has its own sound system consisting of sounds typical to that language. Differences in sound systems cause problems in learning to perceive and pronounce a foreign language: learners lack knowledge of the phonological differences between their mother tongue and the target language. Therefore they have great difficulties in perceiving the foreign sounds, and also in learning to produce them. These problems are also met by Finnish learners of English. Finns have trouble with learning English pronunciation; even high officials at the international level can have a poor delivery. Unfortunately, this can lead to misunderstandings and other difficulties in communication but also misjudgements about their foreign language skills as a whole. In Finland, English teaching begins in the elementary school when the pupils are still young, usually 9–12 years depending on the school and the pupils' language choices. This offers a good opportunity for pupils to gain good perceptive skills and to acquire a native-like pronunciation, but still it appears that pupils do not often reach that level.

A pioneering study on the phonological differences between Finnish and English was conducted by Kalevi Wiik in 1965. Wiik's aim was practical: he wanted to find out how native speakers of Finnish could best learn British English pronunciation. As a method he used a combination of phonemics and acoustic phonetics making a full vowel phoneme inventory of both languages. He also compared the vowel systems of Finnish and English to one another. As a part of his study Wiik conducted a wide-ranging listening test with Finnish

schoolchildren as participants in order to study the effects of the differences in Finnish and English. The analysis focused on the perception and identification of English vowels and vowel lengths (more about Wiik's study in 2.4).

The present study was inspired by Wiik. My main interest is on how native speakers of Finnish perceive and identify RP English vowels in 2004. In addition, I look into the possible changes in vowel perception during the past 40 years. Differences in the identification in 1965 and 2004 are probable, because there have been changes in the pronunciation during that time. My research questions are:

- 1. How do L1 Finnish speakers knowing no English identify RP English vowels?*
- 2. Is the identification of RP English vowels by Finnish listeners different in 2004 than in 1965?*
- 3. How does the identification of RP English vowels by Finnish listeners in 2004 differ from 1965?*

The method of the present study is a listening test which was used by Wiik "to check the validity of the acoustic measurements" (1965: 37). However, this study does not include acoustic measurements, which Wiik and many others within phonetics rely on. To answer my research questions, I conducted a listening test similar to Wiik's and compared the identification of monophthongs, i.e. simple vowels, in these two studies. My listening test was

more concise compared to Wiik's test (see 3.6 for the differences). Though the main focus in my study is on vowel perception, implications to pronunciation and language learning are made and discussed throughout the thesis.

My study touches on phonology, psychology and foreign language acquisition. The theoretical framework of the study consisting of four main components is presented in chapter two. The third chapter presents the method of the study: participants, materials, procedure and data analysis. In addition, I point out the differences in the set up of my study and the study by Wiik. The results of my study are presented in chapter four, which is followed by a discussion in chapter five and a conclusion in chapter six.

The thesis contains phonetic writing. Knowledge of the phonetic alphabet is not, however, required from the reader, because I offer example words. The commonly used International Phonetic Alphabet (IPA) is used in this research report.

2 THEORETICAL FRAMEWORK

The theoretical framework of my study consists of four main components, which are introduced in this chapter. The first component is the defining of three phonetic concepts essential in my study: phoneme, phone and allophone.

To explain why a listening test gives valuable information related to foreign language learning not only in terms of perception but also of pronunciation, I shall provide a short overview of the relationship between perception and production of speech as the second component of the theoretical framework. Theorists are unanimous about the existence of such a correlation (Diehl et al. 2004, Leather 2003), but there are different theories about how perception and production correlate with each other.

As the third component of the chapter I present the Finnish and English vowel systems. This provides an understanding of the differences between the two languages in regards to vowel sounds, and can explain the difficulties that Finnish learners meet in identifying and producing English vowels. In addition to describing the two vowel systems, I compare them to each other as well. The comparison is partly based on Wiik's (1965) acoustic measurements.

The fourth component is Kalevi Wiik's research on Finnish and English vowels in 1965, which inspired my study, and, thus, provides the basis of my work.

2.1 Phoneme, phone and allophone

Phonology is the description of the systems and patterns of speech sounds in a language. The smallest meaning-distinguishing sound unit is called a phoneme. Phonemes are abstract units and do not concern actual physical articulation. There are many different versions of phonemes. They are called phones, and are realisations of phonemes in speech. A set of phones which are all versions of a particular phoneme are called allophones of that phoneme. Slashes are used to indicate phonemes, e.g. /i/, and phones appear in square brackets, e.g. [i]. (Yule 1996: 54–55.)

2.2 Relationship between speech perception and speech production

In speech perception research the focus has traditionally been on perceptual categorisation of speech sounds, i.e. on explaining how people place speech sounds in phonetic categories. Most studies concentrate on exploring the boundaries between these categories. There is also research on the categories' internal organisation and the hypothetical ideal exemplars of vowels, which is based on listeners' differentiation between "good" and "less good" exemplars that they hear in listening tests. How perceptual and productive learning interrelate remains a question for investigation. (Leather 2003: 25.)

There are several theories about speech perception; the most important are introduced by Diehl et al. (2004). For the implications to language acquisition the present study has, it is important to consider how the interaction between

speech perception and speech production is presented in different theories. According to Diehl et al. (2004: 167) and Leather (2003: 26) there is no remarkable disagreement among the theorists on the existence of such a correlation; the disagreement is on how the correlation works. There are four main ways of seeing the matter.

One way of understanding the relationship between speech perception and speech production is that perception follows production. Both the motor theory (MT) and the direct realist theory (DRT) of speech perception consider the objects of speech perception to be articulatory rather than acoustic events (Diehl et al. 2004: 152), which implies that perception follows production. Simply put, one perceives sounds as one pronounces them. Within these two theories this argument is based on a close relationship between speech perception and speech production: “talkers produce gestures and listeners receive them”, as stated by Diehl et al. (2004: 167). Therefore the regularities of speech production should correlate with listeners’ perception, Diehl et al. continue.

Not all agree with this theory. The opponents include e.g. Wolfe et al. (2003), who have studied the importance of identification training of speech. They do not approve of the notion that perception would follow production, and claim the opposite. Similar claims have been made on the basis of studies focusing on Japanese learners of English. L1 Japanese speakers are a learner group who generally have great difficulties in both identifying and producing the /r/-/l/ contrast in English due to negative L1 transfer. In various studies the

participants have been divided into two groups. One group has participated in a pre-test and a post-test, and in addition received identification training in between. The other group, serving as a control group, has only participated in the pre-test and the post-test. By this method, several researchers have gained positive results of identification training and its effects on production skills as well (Akahane-Yamada et al. 1996; Bradlow et al. 1997, 1999; McCandliss et al. 2002).

Recently, Lambacher et al. (2005) have tested the effects of identification training on the identification and production of vowels – again with Japanese learners of English performing as participants. The results are similar to the previous ones: development in identification skills results in better pronunciation. All these studies concentrating on Japanese learners of English imply that production follows perception in the acquisition of foreign language phonology. Evidence of the positive effects is so strong that identification training should be considered a part of pronunciation teaching, developed keeping the new aim in mind, and used in EFL teaching more extensively in Finland as well as other countries. Being able to identify speech sounds precisely is a valuable skill as such, and a necessary one in understanding spoken language, but research shows that pronunciation skills benefit from skills in identification.

A third viewpoint on the interaction of speech perception and speech production is that the correlation works both ways simultaneously. The general approach (GA) to speech perception offers two accounts of the relationship

between perception and production of speech: production follows perception and perception follows production (Diehl et al. 2004: 169). Leather's (2003: 26) view is similar, thus he stresses that it is not helpful to consider production "simply a mirror image of perception", arguing his statement by referring to studies where production has been proven to affect perception.

In a larger scale, McQueen et al. (2006: 102) state that a trend of a general change in pronunciation across a language community must be underpinned by a change in the individual's perceptual model, i.e. the speaker alters his pronunciation as a result of input within the community. Here McQueen et al. (2006) refer to the alterations that are noticed in Queen of England's speech in her annual Christmas broadcasts studied by Harrington et al. (2000a, 2000b, 2005).

A fourth way of looking at the relationship between perception and production of speech is advocated e.g. by Llisterri (1995). After reviewing research on the issue, he has come to the conclusion that it is not possible to infer perception abilities from production skills or the other way around. Llisterri supports his view by referring to several aspects that may affect the interaction between perception and production, e.g. the influence of L1 and the stage of L2 acquisition. In addition, he claims there are methodological problems in the study field.

Wiik (1965) believes that production follows perception. Thus, he argues that mispronunciations of English vowels follow perception. For example in regards to the English [ɪ₁], as in the word *hit*, Wiik states that errors in identification are reflected in pronunciation. He explains the argument by saying that Finnish speakers are likely to pronounce [i] or [e], the closest vowels in Finnish, instead of [ɪ₁], because these were the vowels that were perceived in his listening test. (Wiik 1965: 63.)

Reijo Lamminmäki (1978) has studied factors influencing the discrimination and identification process of English vowels, consonants, junctures, and sentence stress by Finnish comprehensive school pupils and the relevance of these processes for the testing of pronunciation. In his study, Lamminmäki found some connections between skills in perception and production. According to him, the connection depended on what kind of processes these skills presupposed. He states that “the strong correlation between the identification and production test may be due to the fact that both tests presupposed some cognitive and interactive skills” (1978: 117). Lamminmäki finds it impossible to say if the reception is a precondition for the pronunciation or the other way around, but he continues that “the awareness of all the factors influencing the understanding and production of a message is necessary for a foreign language learner” (1978: 118).

A similar position to the one held by Wiik is adopted in the present study: it would help learners to produce English vowels, if they also were able to identify them and discriminate them from the vowels of their native tongue. Despite the

various opinions on the direction of the correlation between perception and production of speech, I see the correlation as an opportunity; a possible tool that may help students of English in their pronunciation learning. I also find that studying learners' perception gives valuable information that can be made use of in pronunciation teaching.

2.3 Finnish and English vowels

Finnish and English sound systems differ from one another significantly, which complicates the Finnish learners' task to learn English. In the subsections 2.3.1–2.3.3 I introduce the vowel systems of Finnish and English, and compare them to one another. It is important to have an understanding of the differences between the two systems when analysing the results of the listening test.

I introduce the English vowel system here as it is presented by Hughes et al. (2005) in their chapter on British English Received Pronunciation (RP). I chose their description as a basis for my introduction because my pronouncers are speakers of that variety. I chose RP speakers to perform as pronouncers in my study in order to follow Wiik (1965), who used RP speakers in his recordings for the listening test. However, it would be misleading and untruthful to present RP vowels as “the English vowels” considering the great variety in the English language. It is merely one (little spoken) variety of spoken English. Nevertheless, my base is in Hughes et al. (2005). I find it important to mention and

emphasize this, because authors differ in their analyses of vowel sounds and several transcribing systems are currently in use (Brinton 2000: 34).

Vowels are described in terms of the position of the tongue (front, central and back vowels) and the roundedness of the lips (rounded vs. unrounded vowels). In addition, vowels can be classified according to the distance of the tongue from the hard palate (close, close-mid, open-mid and open vowels). This classification of vowel sounds in the so-called vowel space is presented in Figure 1.

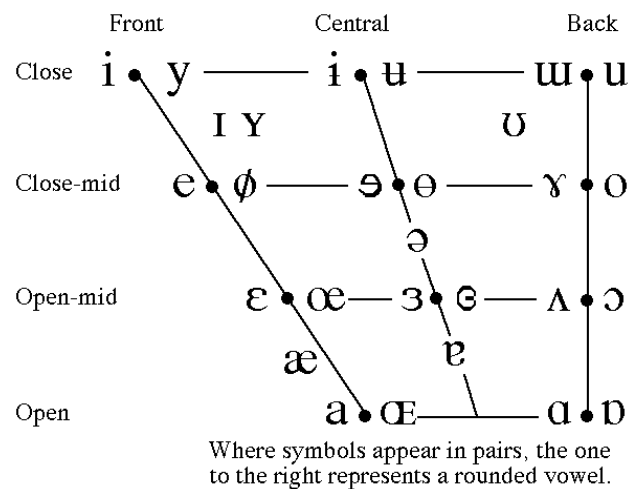


Figure 1. Vowel positioning in the vowel space (International Phonetic Association 2005)

2.3.1 Finnish vowels

Finnish has eight monophthongs and eighteen diphthongs. The vowels are divided into front and back vowels. The front vowels are /i, e, y, æ, ø/, of which /y, ø/ are rounded, and /i, e, æ/ are unrounded. The vowels /a, o, u/ are back vowels, /u, ø/ being rounded and /a/ unrounded. The vowels /i, y, u/ are

closed, /e, ø, o/ semi-closed and /æ, a/ open vowels. In Finnish all phonemes have two quantities: short and long, i.e. they occur as single and double. Sound quantity is a meaning-distinguishing feature for both consonants and vowels, e.g. *mato* [mato] 'worm' – *matto* [matːo] 'carpet', *tuli* [tuli] 'fire' – *tuuli* [tuːli] 'wind'. (Hakulinen et al. 2004: 37–42, Suomi et al. 2006.)

Vowels adjust to each others' quality within a word in Finnish language. This vowel harmony rule is a phenomenon which supports word cohesion. According to this phonotactic restriction, front vowels and back vowels do not occur in the same word. Therefore, vowels in declension suffixes and other suffixes follow the vowel quality of the word's body, e.g. *tuhma* 'naughty' – *tuhmassa* (inessive case) – *tuhmuus* 'naughtyness', and *tyhmä* 'stupid' – *tyhmässä* (inessive case) – *tyhmyys* 'stupidity'. Phonemes /i, e/ are neutral in this respect and can occur in words with front vowels and back vowels. Some loanwords and slang expressions break the vowel harmony rule, e.g. *hyasintti* 'hyasinth', *molekyyli* 'molecule' and *olympialaiset* 'the Olympics'. (Hakulinen et al. 2004: 49–50.) Though the rule is broken in written language, many Finns have trouble pronouncing the words that break the rule.

The quantity of a diphthong is the same as that of a double monophthong. The eighteen diphthongs of Finnish are of three basic types. Most diphthongs have a closed latter component. These diphthongs are /ei, øi, æi, oi, ai, ey, øy, æy, eu, ou, au/. Diphthongs with both components closed are /yi, ui, iy, iu/, and diphthongs /ie, yø, uo/ have an open latter component. (Hakulinen et al. 2004: 52.)

2.3.2 English vowels

According to Hughes et al. (2005) RP English has twelve monophthongs and eight diphthongs. The front vowels are /i:, ɪ, ε, a/, as in *bee, pit, pet, pat*, of which /i:/ and /ɪ/ are closed, /ε/ is semi-closed and /a/ is open. All the front vowels are unrounded. The central vowels are /ʊ:, ʊ, ə, ɜ:, ʌ/, as in *boot, put, the, bird, putt*, of which /u:/, /ʊ/ and /ə/ in a non-final position are closed. Phonemes /ɜ:/ and /ə/ in a word-final position are semi-closed vowels, and /ʌ/ is open. Of the central vowels /u:/ and /ʊ/ are rounded, while the others are unrounded. The remaining vowels /ɔ:, ɒ, ɑ:/, as in *board, pot, bard*, are back vowels, of which /ɔ:/ is semi-closed and /ɒ/ and /ɑ:/ are open. The o-vowels are rounded, but /ɑ:/ is unrounded.

The eight RP English diphthongs are classified as centring (having the schwa /ə/ as the second element) vs. closing (first component being more open than the second). The centring diphthongs are /ɪə, εə, ʊə/, e.g. *beer, bear, poor*, and the closing diphthongs are /eɪ, aɪ, ɔɪ, əʊ, aʊ/, e.g. *bay, buy, boy, boat, bout*. When a diphthong is followed by the schwa /ə/, a triphthong, i.e. a three-component vowel, is formed. This is possible for closing diphthongs only. The three-component vowels are always called triphthongs, though in several cases one of the three components is in the following syllable, e.g. *higher*. A genuine triphthong would be e.g. *hour*, in which all the three components are within a single syllable.

In addition to the monophthongs, diphthongs and triphthongs, there are two semi-vowels in English: the approximants /w/ and /j/. They are vowel-like, but

treated as consonants because of their function. Unlike vowels, semi-vowels do not function as syllable nuclei (Hughes et al. 2005).

2.3.3 Comparison of Finnish and English vowels

In the amount of vowel phonemes Finnish is richer than English. The difference is caused by diphthongs, as English actually has more monophthongs than Finnish – twelve against eight. While English only has eight diphthongs, Finnish has eighteen. This raises the question: How come there are so many diphthongs in Finnish, even though there are so few monophthongs? It is true that the monophthongs are few, but it is explained by the fact that all the monophthongs can occur as single or double. However, the short and long vowels are not considered as different phonemes, because they do not differ in quality. English short and long vowels do differ in quality as well as in quantity, and are therefore considered as distinct vowel phonemes, e.g. /ɪ/ and /i/.

In the English vowel system two allophones of the phonemes /ɪ/, /e/ and /æ/ are considered. The allophones marked [ɪ₂], [e₂] and [æ₂] are produced in speech when the phonemes occur in a position immediately before the dark l /ɫ/, e.g. in words *hill*, *sell* and *Hal*. They are distinguished from the allophones [ɪ₁], [e₁] and [æ₁] that occur in positions followed by a phoneme other than /ɫ/, e.g. in words *hit*, *set* and *hat*. English [ɪ₁] approaches the e-like vowels and therefore differs from Finnish [i]. The centre of English [ɪ₁] lies close to the phoneme boundary between Finnish /i/ and /e/, which was confirmed by Wiik's listening test: English [ɪ₁] was sometimes identified as /i/ and sometimes as

/e/. English [ɪ₂] differs more from Finnish [i] than English [ɪ₁] does. The centre of English [ɪ₂] is within the phoneme area of Finnish /ø/ close to the boundary against Finnish /y/. However, English [ɪ₂] is not a rounded vowel like /ø/ and /y/ in Finnish. (Wiik 1965: 63–64.)

English [e₁] is described as being closest to that of Finnish /e/, but being closer to æ-like vowels than the Finnish /e/. English [e₂] differs considerably from Finnish /e/. It lies within the phoneme area of Finnish /æ/ close to the phoneme boundary against /ø/. (Wiik 1965: 66.) According to Morris–Wilson (1981: 137), Finnish /e/ is practically identical to English /e/. However, he considers only the phoneme /e/; not the two different allophones.

The centre of English [æ₁] is within the phoneme area of Finnish single and double /æ/ departing from their centres towards the phoneme boundary against Finnish /a/. The centre of English [æ₂] is within the phoneme area of Finnish /a/ and therefore often identified as /a/. The closest Finnish equivalent for English /ɜ/ is /ø/, but the articulatory differences between Finnish [ø] (and [øː]) and English [ɜ] are great: Finnish [ø] and [øː] are rounded front vowels; English [ɜ] is a slightly rounded central vowel. (Wiik 1965: 66.)

The English [u] differs from Finnish u-like vowels in the direction of y-like vowels. Wiik describes the English [ʊ] as a Finnish u-like vowel “with o-like (and sometimes ø-like) colouring”. The centre of English [o] is within the phoneme area of Finnish single and double /o/ and therefore Wiik expects no

identification or production mistakes in connection with this phoneme. Wiik makes a similar statement about Finnish [ɑ:] and English [ɑ], and Finnish [ɑ] and English [ʌ]. English [ɔ] differs from Finnish /o/ in that it is closer to the a-like vowels. (Wiik 1965: 68–78.)

Finnish learners of English face a difficult task if they want to acquire a native-like pronunciation of English, because there is a set of vowel phonemes in English which do not occur in Finnish. However, the foreign phoneme qualities lie close to familiar Finnish ones. This may help some learners but confuse others.

A further difficulty for Finnish learners of English lies in the different spelling systems of the languages. Whereas Finnish has close to phonetic spelling, the English spelling is very irregular, and homographs, i.e. word pairs that have identical spelling but different pronunciations and different meanings, like *bow*, *live* and *lead*, puzzle EFL learners and affects both their perception and production. Also, the same letter combination is pronounced in several different ways (cf. group, thought, could, double, tourist and journey), so it is no wonder that learners have trouble acquiring both written and spoken form of English words. (Wells 1996.)

Phonetic transcription a useful and an important tool, which can be used in solving the learning problems caused by the phonological differences. In general, it can be used in teaching and learning both perception and pronunciation of a foreign language. Phonetic transcription describes

phonemes by using the International Phonetic Alphabet (IPA), which is unambiguous and systematic unlike the orthography of English.

I find introducing the Phonetic Alphabet to the students a key element in learning English phoneme qualities and in learning to distinguish those qualities from the Finnish ones. When learners are introduced to the world of phonemes, they will be able to look beyond the often misleading orthography. They will no more mix up written and spoken language, but consider them separate: written language consists of written letters which form words on paper, while spoken language consists of phonemes which form words in the speech organs, and are perceived by the listeners.

2.4 Basis of the study: Wiik (1965)

Kalevi Wiik is a phonetician who has made an important contribution to the study of phonological differences between Finnish and English. His dissertation *Finnish and English Vowels* (1965) contains a full vowel phoneme inventory of the two languages and a comparison of their vowel systems. Wiik's aim was practical: he wanted to find out how native speakers of Finnish could best learn British English pronunciation. As a method he used a combination of phonemics and acoustic phonetics. He also conducted a wide-ranging listening test with Finnish schoolchildren as participants in order to study the effects of the differences in Finnish and English. The study focused on the perception and identification of English vowels and vowel lengths.

Wiik made a vowel phoneme inventory on both Finnish and English using utterances pronounced by five Finnish and five English test pronouncers (Wiik 1965: 32–33). All the pronouncers used their native language only. The test words occurred both in isolation and in a sentence frame, e.g. “Mitä sana --- tarkoittaa?” / “What does the word --- mean?”. The data was analysed using acoustic measurements, and the total number of spectrograms (audio spectrum analysis) made was about 4 000 (Wiik 1965: 33).

Wiik arranged a listening test to check the validity of the acoustic measurements. The participants in the listening tests were 28–35 Finnish school children at the age of 11–12 who knew no English. The children transcribed the English utterances they heard as if they were Finnish words, i.e. using Finnish spelling. As Finnish orthography is almost 100 % phonemic, the participants’ answers show how native Finnish speakers are likely to identify English sounds in terms of Finnish phonemes. (Wiik 1965: 37.) With his study, Wiik established the differences in the vowel systems of Finnish and RP British English, and identified the problem areas for Finnish learners of English (see Wiik 1965: 145–151). Wiik also discusses learning problems which are caused by certain differences between the native language and the target language, and gives concrete advice to learners (1965: 15–31).

Similar studies have been conducted after Wiik, but they have differed in aim or method (e.g. Richardson 1992, Lamminmäki 1978) or the languages studied have been different. Several studies have focused on Japanese learners of

English, as discussed in section 2.2 on the relationship between speech perception and speech production.

3 METHOD

In order to explore how L1 Finnish speakers identify RP English vowels in the beginning of the 21st century and to identify possible differences in vowel identification with Wiik (1965), a listening test for native Finnish speakers was arranged. The test was similar to Kalevi Wiik's (1965) test in many ways, but it was more concise. This chapter provides a detailed description of the aim, participants, materials, procedure and data analysis. The differences in the set up of the present study and the study by Wiik (1965) are described in section 3.6.

3.2 Participants

The participants in the listening test were 28 L1 Finnish-speaking pupils in the age of 7–8 attending the second grade in a Finnish elementary school in the town of Orivesi. None of the participants had studied any English. All the pupils in the second grade in this particular school participated in the listening test. The pupils were from two parallel classes, which took part in the listening test separately.

3.3 Materials

The material of the study consists of 38 single monosyllabic English words pronounced and digitally recorded by two native speakers of British English,

who are referred to as pronouncers in the study. The participants heard the set of words twice, i.e. each of the 28 participants heard 76 words. Both pronouncers were teachers at the Department of Languages at the University of Jyväskylä. One was male, referred to as A, and the other female, referred to as B. Both pronouncers were in their late 50s, they had lived several years in Finland, and both had an RP accent. Pronouncer B's accent was more traditional and conservative than pronouncer A's; this shows clearly e.g. in the pronunciation of the test word *moor* (A: [mɔː], B: [mʊə]).

The following test words were chosen for the listening test from Wiik's example words (1965: 64–122).

1. hit	11. sot	21. had	31. note
2. moon	12. bird	22. cure	32. bear
3. use	13. Hal	23. no	33. bile
4. hill	14. lust	24. beer	34. moors
5. set	15. seat	25. hour	35. boy
6. put	16. hid	26. cows	36. now
7. sought	17. ham	27. buy	37. bears
8. sell	18. seed	28. beers	38. boil
9. hat	19. him	29. moor	
10. last	20. seen	30. hare	

The words were recorded at the University of Jyväskylä by using a Recording Sony Portable Minidisc Recorder MZ-R700 and a Sony Stereo ECM-DS70P

Microphone. After the recording the data was edited and transferred to a CD which was used in the listening test.

3.4 Procedure

The listening test was conducted in March 2004 on the premises of the participants' school. The test took place in an ordinary classroom, and a portable CD player was used. A language lab or headphones were not available. The teacher of the class was present at the time of the testing. The pupils' task was to write down the words they heard as if they were Finnish words. They were told to use their normal Finnish spelling. Before the listening test, a few words were played to the participants without asking them to write anything down, so that the participants would know what to expect. In the actual listening test the CD was paused after each word in order to make sure that the participants had time write down the words without a hurry. In addition, the pupils were notified before each word so that they were ready for the next word.

3.5 Data analysis

The data analysis focuses on the pupils' identification of RP English vowels. The main focus is on the quality of vowels, but both qualitative and quantitative analysis of the results is carried out to calculate the relative frequencies of the identifications given by the Finnish pupils. The results are presented in chapter 4 followed by examples and further discussion. The tables show how the

listeners identified the vowels produced by the two pronouncers. Finally, I compare the results of monophthong identification in my study and in Wiik's study from 1965.

3.6 Differences in the set up of the present study and the study by Wiik

For the lack of resources it was not possible for me to repeat Wiik's study precisely, and therefore the following differences in the method should be considered. First of all, there is a difference in the age of the participants compared to Wiik's study. Wiik's listeners were schoolchildren at the age of eleven to twelve, whereas the present study had pupils who were seven to eight years old. This change to the research design was necessary in order to test children who had not participated in English teaching. In present-day Finnish school system pupils usually begin to study their first foreign language in the third grade, i.e. at the age of eight or nine. In most cases the first foreign language studied is English, and it is very rare for schools to offer an alternative. This was the situation in the school where I conducted my study, and that forced me to make the decision to lower the age of the participants.

The difference in age made probably no difference in the perception and identification of vowels, but it may have caused a difference in how well the pupils were able to concentrate on their performance and in writing their answers. Pupils attending the second grade can normally read and write fluently, but for some there is a lot to practise even when it comes to these

basic skills. Nevertheless, the pupils managed the test well: there was no disturbance, and hardly any words in the listening test were unidentified by the pupils. The participants' writing was also clear enough for me to decipher without any trouble (see Appendix 1 for a sample answer).

The second difference to Wiik's study is that the present study is more concise. The number of test words was smaller in the present study and the words occurred in the test only twice. In addition, Wiik had five native English speakers in his study, who pronounced the test words on tape. The present study had only two. Wiik's recordings for the listening test were not available, and since there have been changes in RP pronunciation during the time between the two tests, and since there are individual differences in people's pronunciation in general, one cannot assume that the pronunciation model in my study was identical to the model that Wiik used.

Thirdly, in the comparison between my results and the results by Wiik, it is not possible to compare the results concerning diphthong identification. Wiik tested many of the diphthongs with several words, because he was making a finer analysis which concentrated on smaller segments of the diphthongs. I do not aim at such a specific analysis; I am interested in diphthong identification as such. Thus, the comparative perspective is restricted to the identification of monophthongs and their quantity. Because of his more specific diphthong analysis, Wiik used words like *moor* and *moors*, in which the same diphthongs occurs in different positions. Though a fine analysis like that is not made in the present study, the same test words were used in the listening test.

Here I would also like to motivate some of my typological choices. The English phoneme /ɛ/ is marked /e/ in Wiik (1965) and in the present the study as well. The English vowel sound in question was transcribed /e/ in the International Phonetic Alphabet at the time of Wiik's study. I also wish to point out that older and more conservative RP speakers continue to pronounce /a/ as the fronted [æ], which was the case with both Wiik's pronouncers and mine. That is why English [æ] occurs in the listening test instead of English [a]. Wiik (1965) transcribes the o-vowels differently than Hughes et al. (2005), and I follow Wiik's model in my study. Therefore, the short English o-vowel is referred to as /ɔ/ and the long one as /o/. A complete representation of the transcribing differences between Wiik and Hughes et al. is provided in Appendix 2. Vowel length in these cases is not indicated by using the diacritic : in this study. This is due to the fact that different characters are used for short and long vowels, e.g. /ɔ/ and /o/. Therefore, there is no possibility of misunderstanding, though the diacritic is omitted.

4 RESULTS

This chapter presents the results of the listening test. There is a short discussion on the identification of each RP English vowel allophone included in the study followed by the results in a table form. The identifications are presented separately according to whether it was pronouncer A (male) or B (female) who pronounced the test word. This is because of their individual differences in pronunciation. In addition, the identification of RP English vowels as single or double is analysed. In the tables, the identification rates are given in percentages. Cases where only one participant has identified the vowel in a certain way, are placed under “Others” in the tables. If a vowel is not identified by the participant at all, it is presented under “?”. Finally, the results of monophthong identification in the present study are compared with Wiik’s (1965) results.

4.1 Identification of English monophthongs

The following sections present how Finnish listeners identify English monophthongs. Identification of English diphthongs is discussed in section 4.2. Sections 4.1.1–4.1.10 concentrate on qualitative identification (Tables 1–13), while section 4.1.11 shows the results of quantitative identification (Table 14).

4.1.1 [ɪ₁] and [ɪ₂]

In his comparison Wiik (1965) considers two allophones of phonemes /ɪ/, /e/ and /æ/. The allophones marked [ɪ₂], [e₂] and [æ₂] are produced in speech when the phonemes occur in a position immediately before the dark l /ɫ/, and the allophones [ɪ₁], [e₁] and [æ₁] occur in positions followed by a phoneme other than /ɫ/. I also consider these allophones separately in my analysis.

According to Wiik (1965: 63), English [ɪ₁] is near the phoneme boundary between Finnish /i/ and /e/ and therefore sometimes identified by Finnish listeners as /i/ and sometimes as /e/. Against this background it is surprising that none of the participants in the present study identified English [ɪ₁] as Finnish /i/. It was identified as /e/ by 98 % of the participants as Table 1 shows. The test word used was *hit*. Typical spellings used by the participants were ‘het’, ‘hets’, ‘hed’ and ‘heps’.

Table 1. Identification of English [ɪ₁] by Finnish listeners, test word *hit*.

Pronounced by	Identified as	
	/e/	/ei/
A	100 %	-
B	96 %	4 %
Average	98 %	2 %

None of the participants identified English [ɪ₂] as Finnish /i/. However, this English allophone was more often identified as a diphthong, which is caused by the influence of the dark l /ɫ/ (l-vocalization). Still, 84 % of the participants

identified English [I₂] as Finnish /e/. The results are shown in Table 2. The test word was *hill*, and its typical spelling was ‘hel’. In the identification results of English [I₁] and [I₂] it had practically no significance whether the test words were pronounced by A or B.

Table 2. Identification of English [I₂] by Finnish listeners, test word *hill*.

Pronounced by	Identified as			
	/e/	/eu/	/ea/	Others
A	82 %	11 %	4 %	-
B	86 %	4 %	4 %	8 %
Average	84 %	8 %	4 %	4 %

4.1.2 [e₁] and [e₂]

The pronunciation of English [e₁] and [e₂] in the test words *set* and *se//* varied between the two pronouncers in my recording. The individual difference in pronunciation was also perceived by the participants. Pronouncer A’s [e₁] in *set* was perceived as Finnish /e/ by 96 % of the listeners, whereas only 46 % of the listeners perceived the vowel as Finnish /e/ when the word was pronounced by pronouncer B. Pronouncer B’s [e₁] was identified as Finnish [æ] by 54 % of the pupils. Typical ways of spelling the test word *set* pronounced by A were ‘set’ and ‘seks’. B’s pronunciation of the same word was most frequently spelled ‘säd’, ‘set’ and ‘sed’. Table 3 presents the identification of English [e₁].

Table 3. Identification of English [e₁] by Finnish listeners, test word *set*.

Pronounced by	Identified as		
	/e/	/æ/	Others
A	96 %	-	4 %
B	46 %	54 %	-
Average	71 %	27 %	2 %

The influence of /t/ is clearly seen in the participants' identification of the vowel in the test word *sell*: 36 % identified the English [e₂] as a diphthong of some kind, e.g. as /au/. However, the most popular way of identifying English [e₂] was Finnish /e/, suggested by 38 % of the pupils. Pronouncer B's [e₂] was identified as Finnish /æ/ by 40 % of the participants, whereas no one suggested /æ/ for pronouncer A's [e₂]. The test word was most often spelled 'sel' if it was pronounced by A and 'säl' if pronounced by B. The results are shown in Table 4.

Table 4. Identification of English [e₂] by Finnish listeners, test word *sell*.

Pronounced by	Identified as									
	/e/	/æ/	/ø/	/o/	/æy/	/au/	/ou/	/eu/	/æo/	/æu/
A	64 %	-	4 %	4 %	-	7 %	11 %	4 %	-	-
B	11 %	40 %	-	-	18 %	7 %	-	4 %	7 %	7 %
Average	38 %	20 %	2 %	2 %	9 %	7 %	6 %	4 %	4 %	4 %

4.1.3 [æ₁] and [æ₂]

English [æ₁] was identified somewhat unanimously as Finnish /æ/ but [æ₂] caused more difficulties for the listeners. It got twelve different suggestions, of which ten were diphthongs or even a cluster of three vowels. However, 54 % of the participants did identify it as Finnish /æ/. Test words used were *hat* and *Hal*. Typical ways of spelling *hat* were ‘hät’, ‘häk’, ‘häd’ and häds’. *Hal* was spelled ‘häl’ and ‘hal’ to name but the two most popular suggestions. Tables 5 and 6 present the identification of English [æ₁] and [æ₂].

Table 5. Identification of English [æ₁] by Finnish listeners, test word *hat*.

Pronounced by	Identified as		
	/æ/	/a/	?
A	100 %	-	-
B	82 %	11 %	7 %
Average	91 %	6 %	4 %

Table 6. Identification of English [æ₂] by Finnish listeners test word *Hal*.

Pronounced by	Identified as							
	/æ/	/a/	/æu/	/æe/	/ao/	/au/	Others	?
A	71 %	11 %	4 %	4 %	-	-	4 %	7 %
B	36 %	11 %	11 %	4 %	7 %	14 %	18 %	-
Average	54 %	11 %	8 %	4 %	4 %	7 %	11 %	4 %

4.1.4 [ɜ]

The participants were unanimous on how they identified the English [ɜ] produced by the two pronouncers. It made no difference whether the test word *bird* was pronounced by pronouncer A or B. The results are shown in Table 7. The vowel was most frequently identified as Finnish /ø/, which was suggested by 81 % of the participants. The second most popular suggestion was Finnish /æ/ (11 %). The test word was spelled e.g. 'pööd', 'ööd' and 'bääd'.

Table 7. Identification of English [ɜ] by Finnish listeners, test word *bird*.

Pronounced by	Identified as				
	/ø/	/æ/	/o/	/u/	?
A	79 %	11 %	4 %	-	7 %
B	82 %	11 %	4 %	4 %	-
Average	81 %	11 %	4 %	2 %	4 %

4.1.5 [u]

The participants were fairly united on the identification of English [u], as Table 8 shows. It was identified as Finnish /u/ by 72 % of the participants. Finnish /o/ was suggested by 13 % of the pupils, whereas 9 % of the pupils perceived the vowel as the diphthong /ou/. The most common suggestions for the spelling of the test word *moon* were 'muun' and 'lun'.

Table 8. Identification of English [u] by Finnish listeners, test word *moon*.

Pronounced by	Identified as				
	/u/	/o/	/y/	/ou/	/uo/
A	57 %	14 %	4 %	18 %	4 %
B	86 %	11 %	-	-	4 %
Average	72 %	13 %	2 %	9 %	4 %

4.1.6 [ʊ]

English short u-vowel [ʊ] was identified as Finnish /o/ by 50 % of the participants, and as Finnish /u/ by 49 % of the participants. The pupils' ways of spelling the test word *put* were various, and each way of spelling was suggested by only one or two participants. Examples of the pupils' answers are 'put', 'phut', 'hut', 'huds', 'phot', 'hod' and 'bod'. Table 9 shows the results.

Table 9. Identification of English [ʊ] by Finnish listeners, test word *put*.

Pronounced by	Identified as		
	/u/	/o/	/a/
A	54 %	46 %	-
B	43 %	54 %	4 %
Average	49 %	50 %	2 %

4.1.7 [o]

The listeners were quite united on the identification of English [o]: 97 % of the pupils perceived the vowel as Finnish /o/. Only 4 % of the participants suggested some other phoneme, and this variation in the identification only occurred in the case of pronouncer B. Table 10 shows the results. The test word was *sought* of which ‘soot’, ‘sook’ and ‘sood’ were typical spellings used by the participants.

Table 10. Identification of English [o] by Finnish listeners, test word *sought*.

Pronounced by	Identified as		
	/o/	/ou/	/eo/
A	100 %	-	-
B	93 %	4 %	4 %
Average	97 %	2 %	2 %

4.1.8 [ɔ]

All participants identified English [ɔ] as Finnish /o/ if the test word *sot* was pronounced by pronouncer A. In B’s pronunciation of the test word 75 % of the listeners identified the vowel as Finnish /o/, 22 % as Finnish /a/ and 4 % as Finnish /u/. Typical spellings were ‘sot’, ‘sok’ and ‘sod’. The results are shown in Table 11.

Table 11. Identification of English [ɔ] by Finnish listeners, test word *sot*.

Pronounced by	Identified as		
	/o/	/a/	Others
A	100 %	-	-
B	75 %	22 %	4 %
Average	88 %	11 %	2 %

4.1.9 [a]

English [a] was identified by the listeners as Finnish /a/, /o/ or /æ/. The most common suggestion was Finnish /a/ with the identification percentage of 79. Finnish /o/ was suggested by 18 % of the listeners. Each identification of English [a] as Finnish /o/ were from A's pronunciation (35 %). B's pronunciation was identified as /æ/ by 4 % of the listeners. The results are shown in Table 12. Typical spellings of the test word *last* were 'laast', 'laasd' and 'last'.

Table 12. Identification of English [a] by Finnish listeners, test word *last*.

Pronounced by	Identified as			
	/a/	/o/	/æ/	?
A	61 %	35 %	-	4 %
B	96 %	-	4 %	-
Average	79 %	18 %	2 %	2 %

4.1.10 [ʌ]

English [ʌ] was identified by 95 % of the participants as Finnish /a/. Other ways of perceiving the vowel were few, as it is shown in Table 13. The test word used in the listening test was *lust*, and it was often spelled ‘last’ or ‘lasd’ by the participants.

Table 13. Identification of English [ʌ] by Finnish listeners, test word *lust*.

Pronounced by	Identified as			
	/a/	/o/	/e/	?
A	96 %	4 %	-	-
B	93 %	-	4 %	4 %
Average	95 %	2 %	2 %	2 %

4.1.11 Identification of English vowels as single or double

This section addresses the participants’ identification of vowel lengths. The listening test contained words with short, neutral and long vowels, according to the vowel length measurements by Wiik. In Finnish, all the vowels can occur as short or long, i.e. single or double, whereas each English vowel has a certain length. For example, English [ɪ₁] is always short; [æ₁] is neutral, and [i] is a long vowel (Wiik 1965: 122). Wiik assumed that the perception of the preceding vowels was influenced by the voicedness or voicelessness of the following consonant. I included the above-mentioned vowels in my listening test in the following three contexts according to Wiik’s model.

1) before a voiceless consonant: *hit, hat, seat*

2) before a neutral consonant: *him, ham, seen*

3) before a voiced consonant: *hid, had, seed*

The short vowel [ɪ₁] was identified as single by a very high percentage of the listeners in all the contexts. Before a voiceless consonant (test word *hit*) 98 % of the participants identified the vowel as single. Before a neutral consonant in test word *him* it was perceived as single by 99 % of the participants. A full 100 % of the listeners identified the vowel as single before a voiced consonant in test word *hid*.

The neutral English vowel [æ₁] was identified as single more often than the short [ɪ₁]: all listeners identified it as single before both a voiceless consonant in the test word *hat* and a neutral consonant in the test word *ham*. Before a voiced consonant in the test word *had* it was perceived as single by 96 % of the participants.

The long vowel [i] was hard for the listeners to identify as long if it occurred before a voiceless consonant. Only 20 % of the participants identified English [i] as double in the test word *seat*. In the two other contexts a majority of listeners identified the vowel as double. In test word *seen*, where the context of the vowel is before a neutral consonant, the percentage was 86. Before a voiced

consonant in *seed* the vowel was identified as double by 98 % of the listeners. The identification of English vowels as single or double are presented in Table 14.

Table 14. Identification of English vowels as single and double by Finnish listeners.

Environment of vowel	Length of vowel	Example word	Vowel identified as	
			single	double
before voiceless C	short	<i>hit</i>	98 %	2 %
	neutral	<i>hat</i>	100 %	-
	long	<i>seat</i>	80 %	20 %
before neutral C	short	<i>him</i>	99 %	1 %
	neutral	<i>ham</i>	100 %	-
	long	<i>seen</i>	14 %	86 %
before voiced C	short	<i>hid</i>	100 %	-
	neutral	<i>had</i>	96 %	4 %
	long	<i>seed</i>	2 %	98 %

4.2 The identification of English diphthongs

This chapter presents the results of identifying English diphthongs in the form of discussion and tables (Tables 15–31) in a similar way as the identification of English monophthongs is presented in 4.1. To follow Wiik's model, some of the diphthongs are tested in several positions (see 3.6).

4.2.1 [ʊə]

The identification of English [ʊə] in the test word *cure* varied according to who the word was pronounced by. The results are shown in Table 15. Pronouncer A's production of [ʊə] was clearly easier for the participants to identify, while pronouncer B's pronunciation of *cure* caused trouble to several participants: 14 % of them were not able to identify the word pronounced by B at all. The most common suggestion for English [ʊə] in *cure* pronounced by A was /jɔ:/ with a percentage of 32. A typical way to spell the test word *cure* pronounced by pronouncer A was 'kjoo'. No one identified pronouncer B's version of the test word as /jɔ:/. Pronouncer B's [ʊə] was perceived in various ways, such as /ie/ 'kier', /i/ 'kir' and /iø/ 'hiör'.

The word *moor* has two fundamentally different ways of pronunciation, of which one includes the diphthong [ʊə] studied in the present study. This particular pronunciation is merging to a long /o/ and disappearing from British English. Because pronouncer A did not use the conservative pronunciation, identification of his utterance is not considered in this study. Pronouncer B's production of the test word *moor* included the diphthong [ʊə] in a word final position, and it was perceived as /uo/ by 71 % of the participants. In addition, the diphthong was identified by 14% of the listeners as /uø/. Frequent spellings were 'muor' and 'muö'. The results are presented in Table 16.

Also for the test word *moors* only pronouncer B's accent included the wanted diphthong, and therefore the results for pronouncer A are not included in the study. For pronouncer B the diphthong [ʊə] in *moors* (word medial) was

identified as /uo/ by the majority of the participants (54 %). Another frequent identification of the diphthong was /u/ (18 %). Table 17 presents the results. Most often the test word was spelled ‘muors’.

Table 15. Identification of English [ʊə] by Finnish listeners, test word *cure*.

Pronounced by	Identified as								
	/joː/	/iø/	/io/	/ioː/	/ie/	/jø/	/i/	Others	?
A	32 %	11 %	11 %	7 %	4 %	–	4 %	29 %	4 %
B	–	7 %	4 %	–	7 %	7 %	7 %	54 %	14 %
Average	16 %	9 %	7 %	4 %	5 %	4 %	5 %	41 %	9 %

Table 16. Identification of English word final [ʊə] by Finnish listeners, test word *moor*.

Pronounced by	Identified as			
	/uo/	/oø/	?	Others
B	71 %	14 %	4 %	11 %

Table 17. Identification of English word medial [ʊə] by Finnish listeners, test word *moors*.

Pronounced by	Identified as					
	/uo/	/u/	/uø/	/o/	?	Others
B	54 %	18 %	7 %	7 %	4 %	11 %

4.2.2 [əʊ]

The slight difference in the pronouncers' accents was perceived well in the test word *no*, where the diphthong is a word final [əʊ]. Pronouncer A's version of [əʊ] was identified as /ou/ by 89 % of the participants, whereas pronouncer B's somewhat different pronunciation was identified by several participants as /øu/ (21 %) or as /øy/ (21%). However, /ou/ was the most frequent suggestion also for B's pronunciation with the percentage of 32. By far the most popular spelling of the test word was 'nou'. The identification of word final [əʊ] is shown in Table 18.

Two diphthongs rose above others in the frequency of the identification of word medial [əʊ]: /ou/ and /øy/. However, /øy/ occurred only for the pronunciation of pronouncer B. The test word which was used was *note*, and typical ways to spell it in the test were e.g. 'nout' and 'nöyts'. In a word medial position the diphthong was perceived differently than in a word final position. In a word medial position it was identified as a monophthong more often, e.g. as /o/ and /u/ which did not occur in the identification of word final [əʊ] at all. Table 19 presents the results of identifying English word medial [əʊ].

Table 18. Identification of English [əʊ] by Finnish listeners, test word *no*.

Pronounced by	Identified as					
	/ou/	/u/	/øy/	/oy/	?	Others
A	89 %	-	-	7 %	-	4 %
B	32 %	21 %	21 %	11 %	4 %	11 %
Average	61 %	11 %	11 %	9 %	2 %	7 %

Table 19. Identification of English word medial [əʊ] by Finnish listeners, test word *note*.

Pronounced by	Identified as					
	/ou/	/o/	/u/	/øy/	/ø/	Others
A	71 %	18 %	11 %	-	-	-
B	32 %	4 %	-	39 %	14 %	11 %
Average	52 %	11 %	5 %	20 %	7 %	5 %

4.2.3 [ɪə]

The identification of English word final [ɪə] is shown in Table 20. For the test word *beer* the participants seemed more unanimous on the diphthong when it was pronounced by pronouncer B. Her diphthong was identified with an equal percentage as /ie/ (36 %) and /iø/ (36 %). The typical spellings were ‘bier’ and ‘biör’. The most frequent suggestions for pronouncer A’s [ɪə] were /ea/ (29 %) and /io/ (18 %), but /ie/ and /iø/ also occurred, with smaller percentages. Pronouncer A’s pronunciation of *beer* was spelled in various ways, e.g. ‘pien’, ‘beam’, ‘pian’ and ‘biän’.

For both pronouncers, /ie/ was the most frequent way of identifying the English diphthong [ɪə] in a word medial position. The test word was *beers*, and it was identified as /ie/ by 39 % of the participants. Other frequent suggestions were /iø/ (especially for pronouncer B), and /i/ (pronouncer A). The results are shown in Table 21. Typical spellings of the test word were ‘pies’ and ‘biös’.

Table 20. Identification of English word final [ɪə] by Finnish listeners, test word *beer*.

Pronounced by	Identified as								
	/ie/	/iø/	/ea/	/io/	/iæ/	/ia/	/e/	/i/	Others
A	11 %	4 %	29 %	18 %	11 %	14 %	7 %	4 %	4 %
B	36 %	36 %	–	11 %	7 %	4 %	–	4 %	4 %
Average	23 %	20 %	14 %	14 %	9 %	9 %	4 %	4 %	4 %

Table 21. Identification of English word medial [ɪə] by Finnish listeners, test word *beers*.

Pronounced by	Identified as							
	/ie/	/iø/	/i/	/e/	/iæ/	/iu/	?	Others
A	32 %	14 %	21 %	14 %	7 %	4 %	–	7 %
B	46 %	39 %	–	–	–	4 %	4 %	7 %
Average	39 %	27 %	11 %	7 %	4 %	4 %	2 %	7 %

4.2.4 [ʌʊ]

The identification of English word medial [ʌʊ] was tested with the test word *cows*, and it was spelled e.g. ‘kaus’ and ‘haus’ by the participants.

Table 23. Identification of English word final [ʌʊ] by Finnish listeners, test word *now*.

Pronounced as	Identified as					
	/au/	/ao/	/ou/	/æu/	?	Others
A	46 %	21 %	11 %	4 %	4 %	14 %
B	71 %	11 %	7 %	4 %	–	7 %
Average	59 %	16 %	9 %	4 %	2 %	11 %

4.2.5 [eə]

The results of identifying word final [eə] in test word *hare* is shown in Table 24. Most frequently it was identified as /ea/ (41 %). When the test word was pronounced by pronouncer A, the word was often spelled simply with /e/, e.g. ‘hel’ or ‘hen’. Pronouncer B’s *hare* was perceived with the æ–vowel quite a few times, as diphthongs such as /eæ/. When it was pronounced by pronouncer B, 11 % of the participants could not identify the word. All in all the most typical spelling of *hare* was ‘hea’.

Because of Wiik’s (1965) finer analysis, several words which include the diphthong [eə] were used in the listening test. He used the word *bear*, another test word in which [eə] is in a word final position, but in which the pronunciation of the diphthong differs from that of in *hare*. The difference was perceived by the participants of the present study: the word final diphthong [eə] in test word *bear* was most frequently perceived as the long vowel /æː/ instead of a diphthong, though diphthongs did occur in the identifications, e.g. /ea/

and /æ/. Another frequently identified long vowel was /e:/. Typical spellings of the test word were 'bää', 'pää' and 'bään'. Table 25 presents the results.

There is a great difference in the identification of word medial [eə] based on which pronouncer the test word *bears* was pronounced by. Pronouncer A's version was frequently perceived as /e:/ or /e/ while /æ:/ was less frequent. Pronouncer B's version was most frequently perceived as /æ:/, while other vowels occurred less frequently. Typical ways of spelling the test word were 'bees', 'bääs' and 'pääs'. The results are shown in Table 26.

Table 24. Identification of English word final [eə] by Finnish listeners, test word *hare*.

Pronounced by	Identified as									
	/ea/	/e/	/eə/	/eø/	/e:/	/æe/	/æ:/	/æ/	Others	?
A	43 %	32 %	7 %	-	4 %	4 %	4 %	4 %	4 %	-
B	32 %	-	18 %	7 %	7 %	7 %	7 %	4 %	7 %	11 %
Average	41 %	16 %	13 %	4 %	5 %	5 %	5 %	4 %	5 %	5 %

Table 25. Identification of English word final [eə] by Finnish listeners, test word *bear*.

Pronounced by	Identified as							
	/æ:/	/ea/	/e:/	/eə/	/æe/	/æ/	/e/	Others
A	43 %	14 %	14 %	-	4 %	4 %	7 %	7 %
B	57 %	7 %	4 %	11 %	7 %	4 %	4 %	7 %
Average	50 %	11 %	9 %	5 %	5 %	4 %	5 %	7 %

Table 26. Identification of English word medial [eə] by Finnish listeners, test word *bears*.

Pronounced by	Identified as							
	/æ:/	/e:/	/e/	/æe/	/æ/	/ea/	Others	?
A	21 %	39 %	32 %	4 %	–	4 %	–	–
B	57 %	7 %	7 %	7 %	7 %	7 %	4 %	4 %
Average	39 %	23 %	20 %	5 %	4 %	5 %	2 %	2 %

4.2.6 [ɹɪ]

There was no great variation in the identification of English [ɹɪ]. As the results in Table 27 show, /ai/ (80 %) was the most frequent suggestion. The test word was *buy*, and it was spelled by the participants e.g. ‘pai’, ‘bai’ and ‘pain’. Identification was quite identical for both the pronouncers.

The presence of the dark l /ɫ/ clearly affected the participants’ identification of English [ɹɪ] in the test word *bile*. The most common way of identification was /ai/, but the effect of the following /ɫ/ is seen in suggestions such as /ao/, and in suggestions which include /j/, e.g. /aj/ and /ajV/. Typical spellings of the test word were ‘pail’, and ‘bail’. The results are shown in Table 28.

Table 27. Identification of English [ʌɪ] by Finnish listeners, test word *buy*.

Pronounced by	Identified as	
	/ai/	Others
A	82 %	18 %
B	79 %	21 %
Average	80 %	20 %

Table 28. Identification of English [ʌɪ] immediately before [t] by Finnish listeners, test word *bile*.

Pronounced by	Identified as							
	/ai/	/ao/	/ae/	/aj/	/au/	/aio/	Others	?
A	57 %	4 %	4 %	7 %	4 %	11 %	14 %	–
B	36 %	11 %	14 %	–	4 %	4 %	25 %	7 %
Average	46 %	7 %	9 %	5 %	4 %	7 %	20 %	4 %

4.2.7 [ɔɪ]

The diphthong [ɔɪ] was identified as /oi/ by the great majority of the participants (84 %). All other identifications were by single listeners. The results are shown in Table 29. The test word was *boy* and typical spellings of it were ‘poi’ and ‘boi’.

As in the identification of [ʌɪ], the presence of /t/ influenced the identification of English [ɔɪ] in the test word *boil*. Most frequently the diphthong was

identified as /oi/, but identifications including /j/ were typical, especially when the test word was pronounced by pronouncer B. In addition to the most typical ways of spelling the test word ('poil' and 'boil'), e.g. 'pojo', 'bojol' and 'poiol' occurred. Table 30 presents the results.

Table 29. Identification of English [ɔɪ] by Finnish listeners, test word *boy*.

Pronounced by	Identified as			
	/oi/	/oe/	Others	?
A	82 %	4 %	11 %	4 %
B	86 %	4 %	7 %	4 %
Average	84 %	4 %	9 %	4 %

Table 30. Identification of English [ɔɪ] immediately before [t] by Finnish listeners, test word *boil*.

Pronounced by	Identified as							
	/oi/	/oe/	/ojo/	/oio/	/oj/	/oijo/	Others	?
A	46 %	14 %	-	4 %	7 %	4 %	21 %	-
B	21 %	4 %	39 %	14 %	-	4 %	14 %	4 %
Average	34 %	9 %	20 %	9 %	4 %	4 %	18 %	2 %

4.2.8 [ʌʊə]

The final test word in the present study was *hour*, which includes a cluster of three vowels [ʌʊə]. This genuine triphthong was extremely difficult for the participants to identify, and the identifications once again revealed the difference between the pronouncers' accents. The participants perceived the

English [ʌʊə] by pronouncer A as /aɪ/, /ava/, /aua/ and /ala/ most frequently, and as /au/, /aø/ and /ao/ when it was uttered by pronouncer B. The test word *hour* was spelled e.g. ‘aal’, ‘aua’, ‘aor’ and ‘aur’. Spellings as complex as ‘auora’ and ‘hayver’ occurred as well. The results are shown in Table 31.

Table 31. Identification of English [ʌʊə] by Finnish listeners, test word *hour*.

Pronounced by	Identified as						
	/aɪ/	/au/	/ao/	/ava/	/aua/	/ala/	/aø/
A	18 %	4 %	–	11 %	11 %	11 %	–
B	–	21 %	14 %	–	4 %	–	18 %
Average	9 %	13 %	7 %	5 %	7 %	5 %	9 %

Pronounced by	Identified as					
	/aʊvø/	/aʊo/	/aʊø/	/a/	Others	?
A	–	4 %	4 %	4 %	21 %	14 %
B	7 %	7 %	4 %	4 %	14 %	7 %
Average	4 %	5 %	4 %	4 %	18 %	11 %

4.3 Identification of English monophthongs by Finnish listeners in 1965 and in 2004

The main focus of my study is on how Finnish listeners identify English vowels, but in addition I am interested in the possible differences in the identification between years 1965 and 2004. Differences in the identification are probable, because there have been changes in British English RP pronunciation from the 1960's until the 2000's.

The results presented in the previous sections are now compared to the results of Wiik from 1965. In the comparison both quality and quantity are taken into consideration. Nevertheless, the main focus is on the identification of monophthongs. This is because Wiik (1965) was interested in smaller segments, e.g. how the neutral vowel [ə] is identified in diphthong [əʊ]. My study does not aim at this, so the results are not comparable in this respect.

4.3.1 Quality

According to Wiik (1965: 63), English [ɪ₁] is close to the phoneme boundary of Finnish /i/ and /e/ and therefore identified sometimes as /i/ and sometimes as /e/. In Wiik's study, 70 % of the participants identified English [ɪ₁] as Finnish /i/ and 26 % as Finnish /e/. In the present study as many as 98 % identified the vowel as Finnish /e/; no one as /i/. Differences in the identification of [ɪ₂] are similar: in 1965, 80 % of the listeners identified the vowel as Finnish /i/, but no one in 2004. Moreover, 84 % of the listeners identified the English [ɪ₂] as Finnish /e/ in 2004 but only 9 % in 1965.

Most of the participants identified English [e₂] as Finnish /e/ in 1965 and 2004. In 1965 the percentage was 90 and in 2004 it was 71. In 2004 27 % of the listeners identified [e₂] as /æ/ but only 6 % in 1965. In Wiik's study, 56 % suggested Finnish /e/ for English [e₂], and 38 % in the present study. The phoneme /æ/ was suggested by 22 % of the participants in 1965 and 20 % in 2004. In the present study /ø/ was suggested by only 2 % of the listeners while in 1965 the percentage was 14. Listeners in the present study identified the

vowel as various diphthongs in greater frequency than Wiik's listeners. Identifying [e₁] as /æ/ has increased from 1965, but this is most likely due to pronouncer B's accent.

The identification of English [u] was quite similar in the studies of 1965 and 2004. Thus, fewer identified the vowel as Finnish /u/ in 2004 (72 %) than in 1965 (95 %). Instead, the vowel was more often identified as Finnish /o/ (13 %) or as the diphthong /ou/ (9 %) in 2004. The identification of English [ʊ] as Finnish /o/ has increased from 1965. In the present study 50 % of the listeners suggested Finnish /o/, while in 1965 /o/ was suggested by only 20 % of the listeners. Finnish /u/ was suggested by 77 % of the participants in 1965 and by 49 % in the present study. Similarly, the identification of English [a] as Finnish /o/ has increased. In 1965 the percentage was only 3 but in 2004 it was 18. English [a] was identified as Finnish /a/ by 97 % of the participants in 1965; in the present study the identification rate was 79.

English [ɜ] was identified as Finnish /ø/ by 59 % of the participants in 1965 but 81 % in 2004. In 2004 no one identified the vowel as Finnish /a/ though in 1965 the percentage was 16. English [æ₂] was identified as Finnish /æ/ by 45 % of the listeners in 1965 and by 54 % in 2004. However, Finnish /æ/ was suggested by only 11 % of the participants in the present study (53 % in 1965). Common suggestions were various diphthongs such as /æu/ and /au/. There was no significant differences in the identification of English [o], [æ₁], [ʌ] and [ɔ] in 1965 and 2004.

4.3.2 Quantity

Wiik (1965: 122) determines English [ɪ₁] as a short vowel. It occurs in test words *hit*, *him* and *hid*. In 1965 the vowel was identified as single by 98 % of the listeners in test words *hit* and *him*, but by 83 % in test word *hid*. In the present study the vowel was identified as single by 98 % of the listeners in test word *hit*, 99 % in test word *him* and 100 % in test word *hid*. According to Wiik, English [æ₁] is a neutral vowel in quantity. It was identified as single by 89 % of the listeners in test word *hat*, 87 % in *ham* and 66 % in *had* in 1965. In the present study it was identified as single by 100 % of the listeners in test words *hat* and *ham* and by 96 % in *had*. English [i], which is always long, was still identified as double by only 14 % of the listeners in test word *seat*, 20 % in *seen* and 47 % in *seed* in Wiik's study. In 2004 the vowel was identified as double in test word *seat* by 20 % of the listeners, in *seen* by 86 % and in *seed* by 98 % of the pupils.

5 DISCUSSION

In the listening test the participants identified English vowels in terms of Finnish vowels – the only vowel system they were familiar with. As described in section 2.3.3, the vowel systems of these two languages differ from each other. This affects the perception of speech sounds, which can be seen in the results of the listening test. According to Wiik's acoustic measurements from 1965, the centre of English [ɪ₁] lies on the phoneme boundary Finnish /i/ and /e/, and is therefore identified as Finnish /i/ or /e/. In my study, identifications as Finnish /i/ did not occur at all. This implies either a difference in the pronunciation between Wiik's pronouncers and mine, or in the perception of the listeners in 1965 and 2004. In the identification of English [ɪ₂] the phoneme's position in terms of the Finnish system did not affect the listeners' perception. The vowel was not perceived as Finnish /ø/ or /y/, even though its centre lies in those phoneme areas, because it is not a rounded vowel as Finnish /ø/ and /y/ are.

Wiik describes English [e₁] as being closest to that of Finnish /e/, but being closer to æ-like vowels than the Finnish /e/. Accordingly, English [e₁] was most frequently identified as Finnish /e/ in the listening test of the present study, but pronouncer B's version of the phoneme was perceived as Finnish /æ/ by more than half of the participants. As English [e₂] differs from Finnish /e/ more than English [e₁], it was identified as Finnish /e/ less frequently.

English [æ₁] was most often identified as Finnish /æ/ in the listening test, because it lies in the phoneme area of Finnish /æ/ according to Wiik's measurements. Because the centre of English [æ₁] is departing towards the phoneme boundary against Finnish /a/, it was perceived as Finnish /a/ by some listeners. English [æ₂] is in the phoneme area of Finnish /a/ according to Wiik, but in my study the participants identified it most frequently as Finnish /æ/, but identifications such as /a/, /ao/ and /au/ did occur as well.

The closest equivalent to English [ɜ] in Finnish is /ø/. Thus, the English vowel was perceived as Finnish /ø/ by the majority of the listeners. Since English [ɜ] is only a slightly rounded vowel in comparison to the fully rounded Finnish /ø/, some of the participants identified it as Finnish /æ/ which is an unrounded vowel. English [u] differs from Finnish /u/ in the direction of Finnish /y/. However, the listening test implies that it rather differs in the direction of Finnish /o/, which was the second most common suggestion after Finnish /u/. English [ʊ] is described by Wiik as the Finnish /u/ with "o-like colouring". This "colouring" was perceived very strongly by the listeners in my study, for half of them identified the vowel as Finnish /o/.

English [o] was perceived as Finnish /o/ by almost all listeners. The result was predictable, because English [o] is in the phoneme area of Finnish /o/. English [ɔ] differs from Finnish /o/ in that it is closer to the a-like vowels. Most of the participants identified it as Finnish /o/, but B's version of it was perceived as Finnish /a/ by some listeners. Both English [ɑ] and [ʌ] lie in the

phoneme area of Finnish /a/, and therefore Finnish /a/ was the most common way of identifying both the English sounds.

It is impossible to say whether the participants in the present study identified English vowel qualities “better” than Wiik’s participants in 1965, but there are differences. The present study shows that the identification of English monophthongs as diphthongs has increased from 1965. Similarly, diphthongs were frequently identified as triphthongs or even clusters of more than three phonemes. The participants in the 2004 study were able to recognise that the vowels they heard were not those they were used to in their native language. I assume this is the reason why they identified the vowels as diphthongs. In Wiik’s study this phenomenon did hardly occur. Therefore one can assume that native Finnish speakers perceived English vowel more precisely in 2004 than in 1965. Even the slight differences in the pronouncers’ accents were perceived, and similarly, the participants were able to hear the influence that the dark l /ɫ/ has to preceding vowels.

As my data shows, the greatest difference in the native Finnish speakers’ identification of English vowels in 1965 and in 2004 is in the identification of phonemes as single or double. In Wiik’s study especially the long vowel [i] was more often identified as single than double regardless of the surroundings of the vowel. In the present study too, it was difficult for the listeners to identify [i] as double before a voiceless consonant (test word *sea*) but in other contexts the identification was far better than in 1965.

The improvement in vowel quantity identification is indeed a positive result, and I hope the developed receptive skills will transfer to pupils' production skills. The /ɪ/-/i/ distinction is very important in English, which is proven by Jennifer Jenkins (2002). Jenkins has engaged herself to create a new pronunciation model for English as an International Language (EIL), and has come up with what she calls the Lingua Franca Core (LFC). Through empirical study on Outer and Expanding Circle speakers' interaction she has gained an understanding on the types of non-standard ways of pronunciation that cause problems in intelligibility, and the types that do not (Jenkins 2002). Based on these findings she has designed the model EIL pronunciation.

By the term Inner Circle speakers I refer to traditional native speakers such as American and British English speakers, by Outer Circle speakers to ESL speakers, and by Expanding Circle speakers to EFL speakers. These terms were developed by linguist Braj B. Kachru in 1985. The Expanding Circle also includes L1 speakers of English, who have acquired English as their mother tongue from their ESL or EFL speaking parents whose common language and the language of the home is English.

The LFC contains only two suggestions concerning vowels. First of all, the vowel quantity should be maintained, so that the distinction between short and long vowels remains clear (e.g. in words *live* and *leave*). The participants of my study showed approved skills in perceiving this distinction. Secondly, Jenkins would allow replacing the English vowel qualities with regional vowel qualities, if they were used consistently. However, the phoneme /ɜ/ (as in the word *bird*)

should not be substituted with another phoneme, because this causes problems regularly. (Jenkins 2002: 97.) Applied to the Finnish context, these compromises would allow Finnish learners to substitute the short English [ɪ] with the short Finnish [i], and the long English [i:] with the long Finnish [i:] without it causing problems in intelligibility in Outer and Expanding Circle interaction. The difference in quality is not significant, but maintaining the distinction in quantity is.

Jenkins' (2002) model of an accommodated pronunciation may be a relief to learners with difficulties in producing English phonemes, and to some extent the model could be applied in Finnish schools. According to Morley (1991: 498), traditional pronunciation goals are set too high for most students to achieve, and at worst this can defeat students who feel they cannot measure up and frustrate teachers, because they feel they have failed their job. Morley continues by a comforting statement that native-like pronunciation is not necessary for comprehensible communication. This is true, and should therefore be considered, and perhaps even emphasized, in EFL classrooms to avoid unnecessary frustration. However, the framework of language teaching in Finland should be thought through before the English teachers of Finland start teaching EIL. I believe the English teaching in Finland has different aims than the teaching of EIL, and that the social context requires skills different than those of EIL – but also different than those of RP, which is often used as the model for pronunciation. It seems that teaching English pronunciation in Finland needs to be developed, perhaps by allowing simplifications, but to what extent, remains a question for future research.

The participants in the present study are used to hearing English in their every-day lives. Even if they do not have the knowledge of the phonological system of English, the phonemes are not totally unfamiliar to them. It appears that they can evaluate which Finnish phoneme is closest to the English one, and they can even recognise that particular phonemes still are not exactly the same in the two languages though they would be close to each other. This helps the learner when he or she attempts to produce a foreign phoneme: the phoneme is not simply replaced with a familiar Finnish one, but the learner tries to produce the correct phoneme because he or she can discriminate it from the Finnish one.

In the 1960's it was highly unlikely for schoolchildren to hear English on a regular basis in Finland. Now the situation has completely turned upside-down. At the time of the present study it is almost impossible for even young children not to hear English in their every-day life. English is strongly present in the Finnish society of the 21st century – mostly through mass media such as television and the Internet, which younger and younger children have access to. Hearing a foreign language as a child can affect one's learning of that language later on, because according to recent studies the human language memory develops at the age of 6–12 months (Lindberg 1998). In the 1960's it was not common to have a television set in the family, and even if there was one, not so many foreign programs were shown.

Though Finnish learners are used to the English sound system, they still have difficulties in learning to perceive and pronounce English. Thus, the fact that

the learner has heard the target language spoken often in the surroundings benefits him or her. In other words, it is a resource which can be made use of in the process of learning. In any case, learning to perceive and pronounce a foreign language requires a great amount of practice. Therefore it is unfortunate how teaching foreign language perception and pronunciation is ignored in Finnish schools. This is an issue taken up by Pekka Lintunen in terms of pronunciation. Lintunen (1999) has studied Finnish university students' English pronunciation, and his results reveal a general lack of knowledge of English pronunciation among them. He heavily criticises language teaching in the upper secondary schools, which according to him emphasize a communicative approach without giving it the necessary basis – pronunciation (Lintunen 1999: 22).

A fairly recent question related to pronunciation teaching is which variety of English, or what sort of English, should be taught. The English language is spoken widely across the world, and it has gained a status of an international language. According to the wildest estimations, there are more than two billion speakers of English in the world (Crystal 2003: 67). The great amount of speakers and the geographical distance between those speakers have caused great variation in the language, and what is more, the speakers of the newer varieties outnumber the speakers of the Inner Circle.

The great variation in the English language is a challenge to English language teaching, especially to perception and pronunciation teaching. The world Englishes differ from each other especially on the level of phonology and

phonetics (Trudgill 2003: 55). Still, it is common, that a single Inner Circle variety is chosen as a model for pronunciation. In recent years, however, this model of pronunciation teaching has been questioned. In Finland the chosen variety has generally been, and still is, Received Pronunciation (RP), the prestige form of British English pronunciation. In questioning this method, the bottom line is the oddity of a majority of speakers trying to imitate the variety of a minority. Finnish learners for example are more likely to communicate in English with other EFL learners or speakers of other Expanding Circle varieties than with speakers of RP. Received Pronunciation in its pure form is nowadays spoken by mere 3 % of British English speakers (Crystal 2002: 65). These speakers form a microscopic minority of all English speakers of the world, and in addition, are most likely inaccessible to the Finnish learners because of their high social position. The question is, why the Finnish learners among many others should train themselves for years to learn a variety of English spoken by people they are highly unlikely to meet? And also: Is it necessary to try to lose the Finnish accent in those parts where it does not disturb intelligibility, i.e. the Finnish speaker becomes understood in a conversation in English despite his or her Finnish accent?

While searching an answer to these questions I have to agree with John Wells, who points out the importance of aim in the matter. He argues, that the aims of learning English pronunciation, and the purpose to which the learnt skills are to be used, should be considered when the model for pronunciation is chosen. According to him, it first needs to be clear whether English is taught as a second, foreign or an international language, and then the model for

pronunciation should be chosen accordingly. The learner should set the goals himself, and estimate the context in which he is going to use English in the future. (Wells 2005: 1-2.) Wells believes in the possibility of simplifying English pronunciation, if it were studied for the purpose of interaction within the Outer and the Expanding Circles.

6 CONCLUSION

The aim of this study was to find out how Finnish listeners identify RP British English vowels, and if there have been changes in the identification during the past forty years. As a result, the identification of thirteen RP English monophthongs and eight diphthongs in a listening test carried out in 2004 are presented in chapter 4. Three major differences in the identification in 1965 and 2004 were found. Firstly, the identification of vowel quantities had improved. Secondly, monophthongs were more frequently identified as diphthongs in 2004 than in 1965. Thirdly, l-vocalization was well perceived by the participants in 2004, which also resulted in identifying monophthongs as diphthongs. However, identifying monophthongs as diphthongs was not restricted to l-vocalization cases.

Even though Finnish learners have developed in perceiving English phonemes, no miraculous solution for the difficulties in learning to perceive and pronounce English has arisen. The familiarity of foreign sounds is a benefit but it can only be made use of in persistent training both in and outside the classrooms.

BIBLIOGRAPHY

- Akahane–Yamada, Reiko, Yoh'ichi Tohkura, Ann R. Bradlow and David B. Pisoni 1996. Does training in speech perception modify speech production? *Proceedings of the International Congress on Spoken Language Processing 1996 Philadelphia, PA, October 1996*, 606–609.
- Bradlow, Ann R. and David B. Pisoni, Reiko Akahane–Yamada and Yoh'ichi Tohkura 1997. Training Japanese Listeners to Identify English /r/ and /l/, IV: Some Effects of Perceptual Learning on Speech Production. *Journal of the Acoustical Society of America*, 101 (4), 2299–2310.
- Bradlow, Ann R., Reiko Akahane–Yamada, David Pisoni and Yoh'ichi Tohkura 1999. Training Japanese Listeners to Identify English /r/ and /l/: Long–Term Retention of Learning in Perception and Production. *Perception & Psychophysics*, 61 (5), 977–85.
- Brinton, Laurel J. 2000. *The Structure of Modern English. A Linguistic Introduction*. Amsterdam / Philadelphia: John Benjamin's Publishing Company.
- Crystal, David 2002. *The English Language*. Second Edition. London: Penguin Books.
- Crystal, David 2003. *English as a Global Language*. Second Edition. Cambridge: Cambridge University Press.
- Diehl, Randy L., Andrew J. Lotto and Lori L. Holt 2004. Speech perception. *Annual Review of Psychology*, 55, 149–179.

- Harrington, J., S. Palethorpe, and C. I. Watson 2000a. Does the Queen speak the Queen's English? *Nature*, 408, 927–928.
- Harrington, J., S. Palethorpe, and C. I. Watson 2000b. Monophthongal vowel changes in Received Pronunciation: An acoustic analysis of the Queen's Christmas broadcasts. *Journal of the International Phonetic Association*, 30, 63–78.
- Harrington, J., S. Palethorpe, and C. I. Watson 2005. Deepening or lessening the divide between diphthongs: An analysis of the Queen's annual Christmas broadcasts. In Hardcastle, W. J. and J. M. Beck (eds.), *A figure of speech: A festschrift for John Laver*. Mahwah, NJ: Lawrence Erlbaum Associates, 227–261.
- Hakulinen, Auli, Maria Vilkuna, Riitta Korhonen, Vesa Koivisto, Tarja Riitta Heinonen and Irja Alho 2004. *Iso suomen kielioppi*. Helsinki: Suomen kirjallisuuden seura.
- Hughes, Arthur, Peter Trudgill and Dominic Watt 2005. *English Accents and Dialects*. London: Hodder Arnold.
- International Phonetic Association 2005: Reproduction of The International Phonetic Alphabet (Revised to 2005). (10 Sep 2007) <http://www.arts.gla.ac.uk/ipa/vowels.html>
- Jenkins, Jennifer 2002. A Sociolinguistically Based, Empirically Researched Pronunciation Syllabus for English as an International Language. *Applied Linguistics*, 23 (1), 83–103.
- Lambacher, Stephen G., William L. Martens, Kazuhiko Takehi, Chandrajith A. Marasinghe and Garry Molholt 2005. The effects of identification training

on the identification and production of American English vowels by native speakers of Japanese. *Applied Psycholinguistics*, 26, 227–247.

Lamminmäki, R. 1978. *Factors influencing the discrimination and identification process of English vowels, consonants, junctures, and sentence stress by Finnish comprehensive school pupils and the relevance of these processes for the testing of pronunciation*. Unpublished Pro Gradu Thesis. University of Jyväskylä, Department of English.

Leather, Jonathan 2003. Phonological acquisition in Multilingualism. In Garcia, Mayo and Maria del Pilar (eds.), *Second Language Acquisition, 4: Age and Acquisition of English as a Foreign Language*. Clevedon: Multilingual Matters Limited, 23–58.

Lindberg, Marjut 1998. Suomalaistutkimus osoittaa: Ihmisen kielimuisti syntyy alle vuoden iässä. *Helsingin Sanomat*, 10 January 1998.

Lintunen, Pekka 1999. Suomalaiset englannin ääntäjinä. *Tempus*, 4, 22–23.

Llisterri, Joaquim 1995. Relationships between Speech Production and Speech Perception in a Second Language. In Elenius, K. and P. Branderud (eds.), *Proceedings of the XIIIth International Congress of Phonetic Sciences Stockholm, Sweden, 13–19 August, 1995*, 4. Stockholm: KTH / Stockholm University. 92–99.

McCandliss, Bruce D., Julie A. Fiez, Athanassios Protopapas, Mary Conway and James McClelland 2002. Success and failure in teaching the [r]–[l] contrast to Japanese adults: Tests of a Hebbian model of plasticity and stabilization in spoken language perception. *Cognitive, Affective & Behavioral Neuroscience*, 2 (2), 89–108.

- McQueen, James M., Dennis Norris and Anne Cutler 2006. The Dynamic Nature of Speech Perception. *Language and Speech* 49 (1), 101–112.
- Morley, Joan 1991. The Pronunciation Component in Teaching English to Speakers of Other Languages. *TESOL Quarterly*, 25 (3), 481–520.
- Morris–Wilson, Ian 1981. *An introduction to English segmental phonetics for Finns*. Helsinki: Gaudeamus.
- Richardson, Ulla 1992. *Perception and production of English stops by native and Finnish speakers in auditory recognition masking and delayed auditory feedback paradigms*. Unpublished Pro Gradu Thesis. University of Jyväskylä, Department of English.
- Suomi, Kari, Juhani Toivanen and Riikka Ylitalo 2006. *Fonetiikan ja suomen äänneopin perusteet*. Helsinki: Gaudeamus.
- Trudgill, Peter 2003. Linguistic changes in pan–world English. In Tschichold, Cornelia (ed.), *English core linguistics*. Bern: Peter Lang.
- Wells, J.C. 1996. Why phonetic transcription is important. *Malsori (Journal of the Phonetic Society of Korea)*, 31–32, 239–242.
- Wells, John 2005. Goals in teaching English pronunciation. In Dziubalska–Kolaczyk K. and Przedlacka J. (eds.), *English pronunciation models: a changing scene*. Bern: Peter Lang.
- Wiik, Kalevi 1965. *Finnish and English Vowels: A comparison with special reference to the learning problems met by native speakers of Finnish learning English*. Annals of the University of Turku. No. 94. University of Turku.

Wolfe, Virginia, Cynthia Presley and Jennifer Mesaris 2003. The importance of Sound Identification Training in Phonological Intervention. *American Journal of Speech–Language Pathology*, 12, 282–298.

Yamada, Reiko A. and Yoh'ichi Tohkura 1992. Perception of American English /r/ and /l/ by Native Speakers of Japanese. In Tohkura, Yoh'ichi, Eric Vatikiotis–Bateson & Yoshinori Sagisaka (eds.), *Speech perception, production and linguistic structure*. Tokyo: Ohmsha Ltd. 155–174.

Yule, George 1996. *The study of language*. Second edition. Cambridge: Cambridge University Press.

APPENDICES

Appendix 1: Sample answer

Kuuntelutesti Oriveden keskuskoululla 12.3.2004

Elina Tergujeff

Kirjoita kuulemasi sanat.

- | | | | |
|-----|------|-----|-------|
| 1. | hets | 21. | häd |
| 2. | dun | 22. | kjeo |
| 3. | ils | 23. | nou |
| 4. | hel | 24. | Pien |
| 5. | seks | 25. | aal |
| 6. | pot | 26. | Kahls |
| 7. | sot | 27. | Pai |
| 8. | sauh | 28. | Pils |
| 9. | hät | 29. | moo |
| 10. | last | 30. | heh |
| 11. | soot | 31. | nout |
| 12. | poot | 32. | Pääh |
| 13. | hal | 33. | Pail |
| 14. | las | 34. | mols |
| 15. | Sit | 35. | poih |
| 16. | het | 36. | nan |
| 17. | händ | 37. | Pääl |
| 18. | hsit | 38. | poil |
| 19. | hem | | |
| 20. | sin | | |

Appendix 2: Phonetic notation in Wiik (1965) and Hughes et al. (2005)

Wiik	Hughes et al.
/ɪ/	/ɪ/
/e/	/ɛ/
/æ/	/a/
/ɜ/	/ɜː/
/u/	/uː/
/ʊ/	/ʊ/
/o/	/ɔː/
/ɔ/	/ɒ/
/ɑ/	/ɑ/
/ʌ/	/ʌ/
/ʊə/	/ʊə/
/əʊ/	/əʊ/
/ɪə/	/ɪə/
/ʌʊ/	/aʊ/
/eə/	/ɛə/
/ʌɪ/	/aɪ/
/ɔɪ/	/ɔɪ/