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ABSTRACT

This preliminary report of an English-as-a-Second-Language (ESL) pronunciation test carried out at Telemark College in Norway is first of all a description of the difficulties Norwegian students have with regard to the pronunciation of Received Pronunciation (RP) vowels and consonants. An attempt also is made to predict areas of possible difficulty by comparing the phoneme systems of Norwegian and English. Specific sections provide information on the following: (1) the background of the students; (2) the ESL course at Telemark College; (3) the pronunciation test; (4) the differences between standard Easter Norwegian and RP, and (5) allophonic problems confronting Norwegian students of ESL. (VWL)

Do You /Ond 'taend?

An Error Analysis of Norwegian Student's Pronunciation of English

by Thor Sigurd Nilsen

This paper is a preliminary report of a pronunciation test carried out at Telemark College, Norway. It is first of all a description of the difficulties Norwegian learners have with regard to the pronunciation of RP vowels and consonants, but also an attempt to predict areas of difficulties by comparing the phoneme systems of the two languages. Before I do this, however, I feel that it might be a good idea to say a few words about the kind of students I teach at Telemark College.

I Student background

Since our course is a "basic" university course, the students will have had at least eight years of English in primary and secondary education. It goes without saying that English is our first foreign language. This means that the students (at least most of them) are able to follow lectures in English and they are fairly fluent in the language.

The "basic" university course

It is therefore important to define the word **basic** as used in this context. What it really means is that this course gives a foundation for more specialised studies in English and American civilisation, literature, grammar, usage, and phonetics. At the completion of the course, we expect our students to be able to give a fairly detailed analysis of English sentences/utterances both gramr cally and phonologically. In order to prepare for this relatively advanced study, students attend a preparatory course in general phonetics and linguistics.

It should also be added that this basic course qualifies the students

as teachers of English as a foreign language in Norwegian schools. That is the reason why we expect something more than just communicative ability. The students should be able to speak a fairly correct language, both with regard to grammar and pronunciation.

II The pronunciation test

At the beginning of the school year (in mid August) the students are subject to both a grammar/vocabulary test, and a pronunciation test. The latter consists of two parts:

A: lists of minimal pairs or near minimal pairs. The list was constructed partly according to the mistakes one might expect from Norwegian students of English, given the contrastive differences between the sound systems of the two languages, and partly based on experience. This means that the test includes oppositions **s/z**, but not for example **p/b**.

B: A written text which contains many/most of these assumed difficulties in a context.

After having analysed the recordings, I go through the test with each individual student, and they are given a form like the one you have on pp. 4-8. This is the first-aid given to the students at the beginning of the course.

The form I constructed was also meant to be used in my research. Ideally, an error analysis should be based on spontaneous speech. But, as Hector Hammerly says in his article "Contrastive analysis and error analysis", IRAL XX:1, p. 20, "this would require very large samples if they are to include all, or almost all problems". During my

work with the analysis of these data, I have discovered that the results will have to be taken with a pinch of salt. The reason for this is the fact that our students come from a great variety of dialect backgrounds, and the differences between the dialects are considerable.

Still, I feel that the tests show something of importance.

As you will see, I have divided the further discussion into two parts, systemic differences between the two languages, and allophonic difficulties.

III Systemic differences between Standard Easter Norwegian (SEN) and Received Pronunciation (RP).

The term **systemic differences** is here used to describe the differences between the SEN and RP phoneme systems.

A. Vowels

As the handout clearly shows (p. 2), the system of monophthongs in SEN is more complex than in RP (18 vs 12). On the other hand, RP has a more complex system of diphthongs.

In this discussion I shall concentrate on monophthongs.

1. Quantity and Quality

As you can see, Norwegian has a system of paired long and short vowels. You will also see that there is relatively little difference in quality between the long member and the short one, although long vowels tend to be more tense, and

consequently more narrow than the corresponding short vowels. For the back vowels there is a relatively greater difference between the two members. In Norwegian the length and quality of monophthongs are not all that important, because of a phenomenon which I shall call ***jamvekt*** for want of a better term (I don't think I have seen an English term for this feature). The point is that all syllables in Norwegian have equal length: a short vowel in Norwegian is always followed by a long consonant, whereas a long vowel is followed by a short consonant, e.g. **mate [ma:ta]** vs. **matte [mat:a]**. This of course means that even though I have used the term long and short **vowels**, I might just as well have said long and short **consonants**. Since length is not a **chroneme** (D. Jones's term), i.e. a distinctive feature for vowels in English (length differences may be neutralised), and since Norwegians use approximately the same quality for long and short vowels in their mother tongue, it becomes obvious that it is more important to teach quality than quantity. As you can see from the results of the diagnostic test (p. 4), 122 testees out of 172 used a too narrow quality for the RP short /ɪ/. The quality they used was in fact very close to the RP norm for the long /i:/. There is, therefore, a risk that pairs like **beat** and **bid** will sound the same (the /i:/ in **beat** is very much shortened because of the fortis stop /t/ - [bit]; whereas the

/ɪ/ in **bid** is not shortened – [bɪd]). Even though the context will normally disambiguate, this articulation is not acceptable for a future teacher of English.

2. Realisation of RP /ʊ uː/

/ʊ/ and /uː/ As you can see from the diagrams, SEN has two vowels with more or less the same qualities as the RP phonemes. You will also notice that SEN (and most other Norwegian accents) have three distinctive lip-positions for front half-close to close vowels: lip-spreading, lip-rounding, and extra lip-rounding. What is strange here is that Norwegian students associate /ʊ/ and /uː/ with native front quality /ʉ/ and /ʉː/ rather than with their back half-close to close vowels. The only explanation I can offer is that RP /ʊ/ and /uː/ are often spelt with a **u** (this is particularly true for /ʊ/ – and if the two vowels are thought of as a pair, this may also strongly influence the /uː/). Another explanation may be that when Norwegian learners are introduced to phonemic transcriptions (which they will be quite early on), they see that the symbols used for the two English sounds are precisely the letters they associate with [ʉ]. It might be added here,

although this was not part of the test, that most Norwegian learners will **repeat** the correct sound.

3. Central Vowels

If you compare the two charts, you will see that Norwegian lacks completely central vowels. The strategy most Norwegian learners seem to use with central vowels in English, is to substitute them with native vowels that are as near in quality as possible, mostly front vowels.

/ʌ/ This is a central vowel with most RP speakers. Even though there is a Norwegian vowel with more or less the same quality as /ʌ/ (the Norwegian /ɑ/ in **katt**), most learners are very reluctant when it comes to using this quality, which is in Norwegian associated with the spelling **a**, and certainly not with spellings like **u**, **o**, **ou**. All of these spellings are in Norwegian associated with lip-rounding, and that may explain why learners prefer to use a vowel with lip-rounding. At this point it is important to remember that Norwegian spelling is fairly phonetic, so that the letter **o** is associated with a back

vowel and pronounced with /ɔ/. But why, then, is not the spelling **u** realised as the [ʉ] we just discussed? I believe that degree of opening prohibits this quality. Remember that we are talking about relatively advanced learners. They will tend to use a rounded front vowel in the half-open area - i.e. the Norwegian short /ø/. With the spelling **ou** there is vacillation - a word like **country** will be realised as /ø/ (cf. the new "Norwegian" word **køntri**), whereas **young** will often be realised as a back vowel. The main mistakes with the /ʌ/, then, is that Norwegian learners tend to use a vowel with lip-rounding.

/ə/ This is the biggest problem, not only for Norwegians, but indeed almost any foreigner learner. The problem here, of course, is that there are no clues in the spelling; /ə/ may be spelt with almost any combination of vowel letter and/or consonant. When my testees did pronounce a /ə/, the quality was normally good enough, but as you can see from the form, the problem was that they did not reduce the unstressed syllables often enough in e.g. a

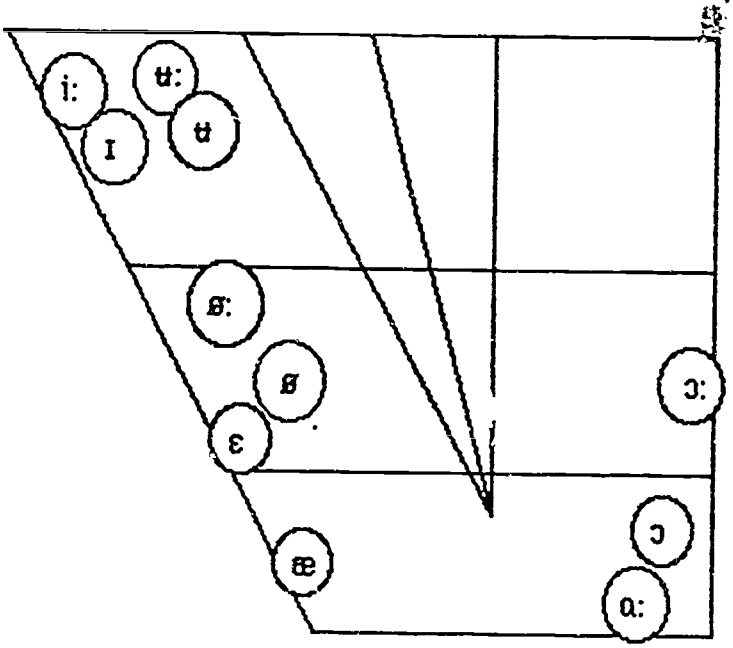
word like **compartment**. I strongly doubt whether many foreigners ever attain a level of pronunciation where they automatically reduce such vowels. The problem with /ə/ is also linked up with the problem of weak forms, but that is outside the scope of this paper.

/ɜ:/ This is also a central vowel in RP. No Norwegian learners would used a back vowel here - the quality of /ɜ:/ bears no resemblance to any of our back vowels, which are all rounded. Again, most learners use a front vowel substitute. Since they believe that they detect an [ø]-quality in the RP vowel, they will substitute their native long /ø:/. Another point worth mentioning is that they will also pronounce the r that is normally present in the spelling of RP /ɜ:/.

4. An interlanguage vowel system

If we now sum up the errors mentioned so far with regard to monophthongs, we can set up a proposed vowel system for the interlanguage of Norwegian students of English (p. 4). But it is important to bear in mind the fact that this system is based on

the mistakes made by 172 students of English at university level with very different dialect backgrounds, and it does not necessarily represent the interlanguage of individual students:



When we compare this system to the diagram representing the monophthongs of the target accent, RP, we note the absence of central vowels and back close to half-close vowels. We also see that perhaps the most "foreign" feature of this inter-language system is the presence of two pairs of rounded front vowels - /ʉ: - ʉ/, representing RP /u: - ʊ/, and /ɞ: - ɞ/, representing respectively RP /ɜ:/ and /ʌ/ (when the spelling for the latter sound is **u**, and sometimes **ou**).

B. Consonants

When we compare the consonant systems of the two languages, it becomes immediately obvious that there are three striking differences. In this diagram, place of articulation is indicated vertically, and manner of articulation horizontally. For the first two "manners", the first line is **fortis** and the second line **lenis**. Firstly, SEN (or any other Norwegian accent, for that matter) does not have the series of lenis fricatives (an exception could be made for /v/, but I'll come back to that). Secondly, there are no **dental** fricatives in SEN. The third major difference is that SEN has a series of what Catford would label **apico-postalveolar** (in traditional terminology **retroflex**) consonants. Since SEN also has phonemes corresponding to RP /t d l n/, it is not immediately clear from a study of the two systems what consequences this extra category will have for the Norwegian learner's pronunciation of RP.

1. Lenis fricatives

In a language that lacks completely lenis fricatives, one would expect students to substitute the nearest native equivalent - i.e. the corresponding fortis fricative (if there is one). In my

material, however, this was only partly the case: 146/172 testees realised /z/ (lenis alveolar fricative) as the fortis counterpart /s/.

/v/ - this is a lenis labio-dental fricative in RP. No students substituted the fortis /f/. The explanation here is that Norwegian has a phoneme similar to /v/, but it is an approximant - not a fricative. 104/172 testees used their native sound - a fact that can be predicted from a comparison between the two phoneme systems.

As far as the dental fricative /ð/ is concerned, I shall come back to that.

I didn't record a great number of mistakes with the lenis lamino-postalveolar fricative /ʒ/. The reason is quite simply that it only occurred in one word - **pleasure** - and in most cases it was realised as the fortis counterpart /ʃ/. (There is a mistake in your diagram here.)

2. Dental fricatives /θ/ and /ð/

There don't seem to be any obvious candidates in the SEN consonant system for a replacement of these two trouble-makers. The analysis showed that my students had more problems with /ð/ than with /θ/. The article by Hector Hammerly I referred to earlier in my paper stated that the acquisition of a phoneme with no parallel in the native

language was not among the most difficult. If we consider /θ/ my analysis supports this view (only 23/172 had problems). But with /ð/ it is a totally different matter. Here, however, we must bear in mind that there are two difficulties working together: **(a)** there are no dental fricatives in SEN; **(b)** there are no lenis fricatives in SEN. In addition, initial /ð/ is very frequent, and since it only occurs in function words (which are normally unstressed), this must also be part of the explanation why as many as 91/172 students had difficulties. When a situation like the present one arises, i.e. L1 does not have either of the two members of a pair of consonants in L2, the learner will tend to substitute a native sound that shares at least two of the three distinctive features of the target phoneme. All my testees who had problems with /ð/ substituted a Norwegian /d/ - which is a lenis dental stop. /z/ also shares two distinctive features with /ð/, but such a substitution would be totally out of character. To the extent that /θ/ was mispronounced, it was realised either as Norwegian /t/ - fortis dental stop, or as /s/ (only 4/172) - fortis alveolar fricative.

3. Semivowel /w/

SEN (and all other Norwegian accents) has only one semivowel -/j/. As you can see (p. 7), a very high number substituted

their native frictionless continuant /v/ - i.e. both RP /v/ and /w/ have the same realisation.

4. Distribution of /r/

As I have mentioned before, Norwegian spelling is relatively phonetic. This means that if there is an r in the orthography, it will be pronounced. Most Norwegian learners of English will apply the same spelling-to-pronunciation rule when they read English. This tendency is strongly reinforced by the fact that pre-consonantal and pre-pausal /r/ is pronounced in American English, and a variety of other native accents.

IV Allophonic difficulties

Earlier in my paper I referred to the article by Hemmerly. He based his article on an error analysis of English-speaking students learning Spanish. He found that allophonic problems were on the whole more difficult to get rid of than learning new phonemes. This corresponds well with my own findings - even students who mastered most of the phonemic oppositions had difficulties with allophonic realisations of RP phonemes with counterparts in SEN.

A. Vowels

/e/ Norwegian also has the phoneme /e/, but when it occurs in front of a nasal or /r/, we use an allophone which is much more open than the norm for the phoneme, e.g. *sett* [set:] vs *penn* [p^{h}en:] vs *herr* [her:]. This may explain the great

number of mistakes my testees made with /e/+/N, r/, e.g. *men* [mɛn] (and, of course, matters are not made easier by the fact that Norwegian has a word which is spelt in the same way).

/ɔ/ As you can see from your charts, the Norwegian short /ɔ/ is slightly closer and more centralised than the English vowel. Again it is obvious that my learners use their native articulation.

B. Consonants

Time does not allow me to mention all the allophonic problems that I recorded in this error analysis. So I shall have to make a selection.

1. Alveolar closure

The correct place of articulation for the RP alveolar consonants /t d n/ is problematic not only for Norwegian learners of English, but indeed for speakers of very many other languages. These phonemes often have a dental counterpart in other languages. Of course, this is not a mistake that will affect communication, and I do not normally correct it.

As I pointed out earlier, though, Norwegian has a series of apico-postalveolar (or retroflex) consonants. These

phonemes are the realisations of the letter combinations **rt, rd, rn, rl** and a few others. As you can see on p. 7, 38/172 students used this articulation of /t d n/ after the letter **r**. This pronunciation is very hard to correct, and the difficulty is certainly reinforced by the strong tendency to pronounce a written **r**, as I mentioned earlier in my paper.

2. Velar → pre-velar

   I thought I'd just mention this problem since you will notice the high number of students who used a too front realisation of /k/ and /g/. Again, it is certainly not a serious mistake, and I hardly ever bother to correct it. However, it is very easy to observe in e.g. **lock**.

3. "Clear" and "dark" /l/

   The RP "clear" /l/ is identical to the one used in SEN. The problem, and a very persistent one, is the "dark" or **velarised** /l/, which occurs before consonants and pauses. Many learners find this allophone very difficult to articulate, and when they manage to produce the difference between the two sounds, they tend to distribute them incorrectly.

V Conclusion

In this paper I hope that I have been able to demonstrate that it is possible to account for most pronunciation errors made by relatively advanced students of English by reference to a contrastive analysis

of the phoneme systems of RP and SEN. But, as you have seen, some mistakes can only be explained by referring to spelling or to allophonic variants.

I believe that this method is valuable no matter what kind of students, or what levels, you teach. It is certain that knowledge of your students' native sound systems can make pronunciation teaching more effective. The problem with such an approach arises, of course, when you have an extremely multilingual classroom. But that was not the case with my group of students, although we occasionally have students with other mother tongues than Norwegian.

As far as my own future research is concerned, I now plan to pick out three or four well described dialect areas in Norway, and make a similar analysis to the one I have done with this material. The test will be slightly more comprehensive, including audiolingual imitation of both known and unknown words and phrases, and reading known and unknown words and phrases. In this way I hope that I shall find out whether the conclusions from the present test can be said to be valid for a larger part of the population. My hypothesis is that it will be

valid as far as the vowels are concerned, and valid with some modifications for consonants. The reason for this is that most dialects in Norway share more or the less the same vowel system.

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Do you /snda'ʃtænd/? - An error analysis of Norwegian students' pronunciation of English.

Handout

I Student background

II The pronunciation test

III Systemic differences between Standard Eastern Norwegian (SEN) and Received Pronunciation (RP).

A. Vowels (monophthongs)
1. Quantity and quality
2. Realisation of RP /ʊ uː/
3. Central vowels
4. An interlanguage vowel system

B. Consonants
1. Lenis fricatives
2. Dental fricatives
3. Semivowel /w/
4. Distribution of /r/

IV Allophonic difficulties

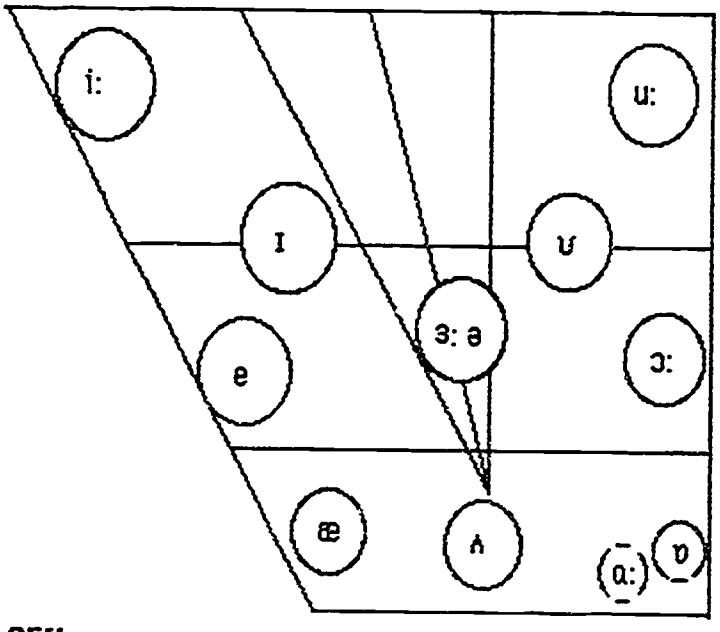
A. Vowels (monophthongs)
1. /e/
2. /o/

B. Consonants
1. Alveolar closure
Alveolar → dental
Alveolar → apico-postalveolar
2. Velar → pre-velar
3. "Clear" and "dark" /l/

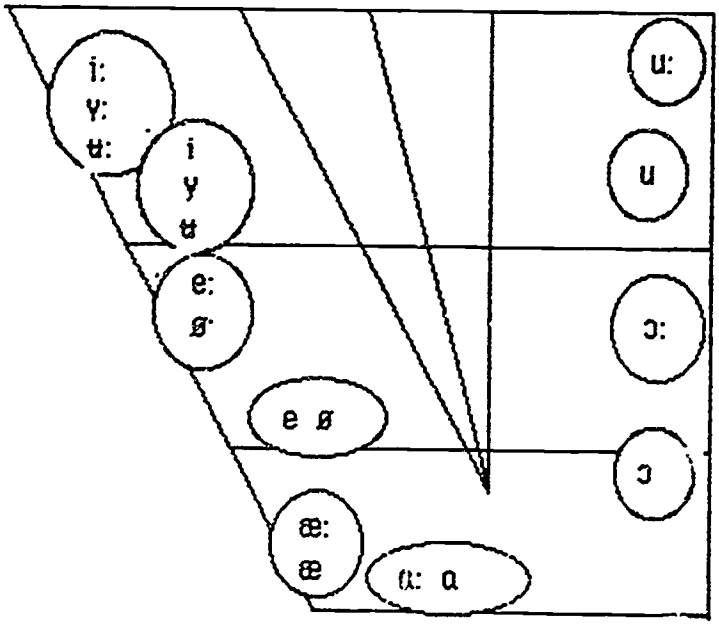
V Concluding remarks

VOWELS IN RP AND SEN (MONOPHTHONGS)

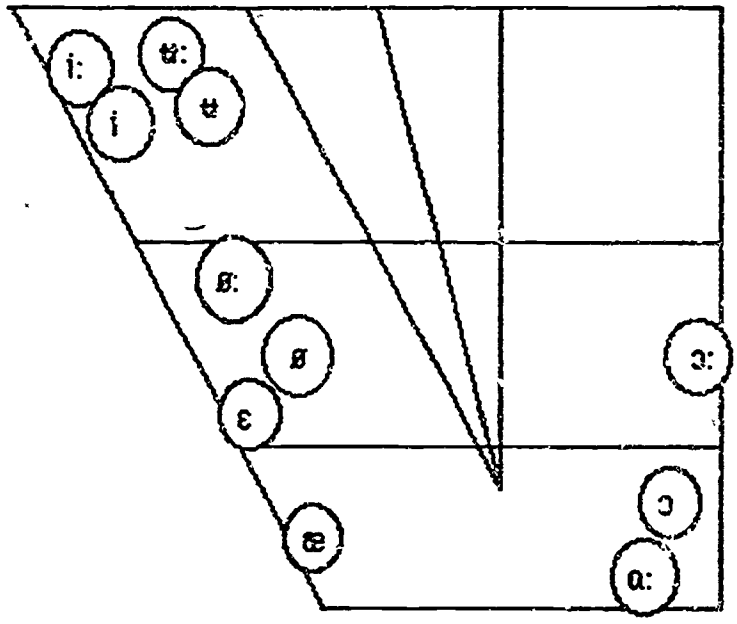
RP



SEN



Interlanguage vowel system



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Phoneme		Comments
/i:/	92	too narrow
	6	diphthongised
	1	too open
/ɪ/	122	too narrow ([i]-quality)
	2	too open
	1	realised as /ə/
/e/	4	too narrow
	84	too open (= /æ/) *with many speakers before N/r*
	3	too long
	2	diphthongised
/æ/	9	not open enough
	9	too open/indistinguishable from /ʌ/
	42	too short
	1	not front enough
/ʌ/	134	pronounced as [ø]
	132	pronounced as [ɔ]
	19	coalescence with /æ/
	7	coalescence with /ə/
	2	pronounced as /ʊ/
	1	retracted

/ɑ:/ 18 ☐ not retracted enough
6 ☐ lip-rounding
10 ☐ uncertain distribution /ɑ:/ - /æ/

/ɒ/ 121 ☐ not open enough
4 ☐ too much lip-rounding. Too "tense"
2 ☐ not enough lip-rounding
121 ☐ not retracted enough
2 ☐ pronounced as /ə/
1 ☐ coalescence with /ʌ/
2 ☐ too long

/ɔ:/ 39 ☐ too open
1 ☐ too short
☐

/ʊ/ 3 ☐ not open enough
84 ☐ pronounced like Norwegian /ʉ/
28 ☐ pronounced as /ə/
3 ☐ too open
☐

/u:/ 97 ☐ pronounced like Norwegian /ʉ:/
1 ☐ too open
2 ☐ diphthongised
2 ☐ too close to CV [u]

/ɜ:/ 99 ☐ lip-rounding
2 ☐ too front
☐

/ə/ 1 ☐ too short in final position
38 ☐ too much [e]-sound in final position
129 ☐ too few reductions
2 ☐ too long finally
6 ☐ too open finally
1 ☐ r-coloured in final position
1 ☐ lip-rounding in final position ([ø]- or [œ]-sound)
2 ☐ too much retracted finally

/eɪ/ 7 ☐ initial part too open
90 ☐ final part too close (almost a [j]-sound)
26 ☐ final part too prominent
☐

/ɑɪ/ 2 ☐ initial part not fronted enough
30 ☐ final part too close (almost a [j]-sound)
12 ☐ final part too prominent
☐

/ɔɪ/ 3 ☐ initial part not retracted enough
31 ☐ final part too close (almost a [j]-sound)
23 ☐ lip-rounding throughout
1 ☐ initial part too open - almost [ɑɪ]

/əʊ/ 97 ☐ lip-rounding throughout
10 ☐ final part too close (almost a [w]-sound)
1 ☐ final part too prominent
19 ☐ not distinguished from /ɑʊ/
2 ☐ realised as [ʊv]
1 ☐ initial part too open
1 ☐ pronounced [ɘʊ]

/ɑʊ/ 2 ☐ too strong /æ/-sound in the initial part
3 ☐ final part too close (almost a [w]-sound)
☐ final part too prominent
24 ☐ not distinguished from /əʊ/
1 ☐ final part realised as [v]

/ɪə/ 52 ☐ initial part too close
12 ☐ not enough diphthongisation
2 ☐ pronounced as [e:]
1 ☐ realised as [ɪe]
8 ☐ too strong diphthongisation
99 ☐ pronounced like /eə/
1 ☐ pronounced with **stød**

/eə/ 16 ☐ indistinguishable from /æ/
20 ☐ not enough diphthongisation
16 ☐ pronounced like /ɪə/
1 ☐ too strong diphthongisation
1 ☐ pronounced with **stød**

/ʊə/ 54 ☐ not enough diphthongisation
39 ☐ pronounced like /ɔ:/
2 ☐ pronounced as [ɔə]
3 ☐ too strong diphthongisation
1 ☐ pronounced with **stød**

/ɑɪə/ 23 ☐ pronounced with a [j]-sound
☐

/əʊə/29☐ pronounced as /əʊə/

97 ☐ pronounced with a [w]-sound

1 ☐ pronounced with a [v]-sound

/t d n/88☐ too dental

50 ☐ apico-postalveolar after r

38 ☐ /t/→/d/ between stressed and unstressed syllables

7 ☐ /d/ →/ð/

1 ☐ tendency /t/ → /θ/, and /d/ → /ð/

1 ☐ /t/ and /d/ affricated

1 ☐ /tr/ and /dr/ sound like /tʃ/ and /dʒ/

1 ☐ /d/ too strong finally

1 ☐ velarised /n/

/b d g/10☐ too much voicing finally

☐

/k g ŋ/146☐ too front

☐

/ŋ/ 27 ☐ pronounced as [ŋg]

☐

/v/ 18 ☐ pronounced as /w/

104☐ pronounced like Norwegian /v/

☐

/w/ 6 ☐ pronounced as /v/

116☐ pronounced like Norwegian /v/

☐

/θ/ 19 ☐ pronounced as /t/

4 ☐ pronounced as /s/

21 ☐ problems in front of /r/

/ð/ 91 ☐ pronounced as /d/

☐ pronounced as /z/

1 ☐ too much voicing finally

/s/ 7 ☐ pronounced as /ʃ/ after r

19 ☐ pronounced as /ʃ/ before consonant

☐

/z/ 146☐ pronounced as /s/

28 ☐ too much voicing finally

☐

/ʃ/ 8 ☐ pronounced as [sj]

3 ☐ pronounced as /tʃ/

115☐ pronounced as apico-postalveolar [ʂ]

1 ☐ pronounced as /s/

/ʒ/ ☐ pronounced as /z/
1 ☐ pronounced as [zj]
1 ☐ pronounced as apico-postalveolar [ʐ]
2 ☐ pronounced as /j/
/tʃ/ 3 ☐ pronounced as [tsj]
4 ☐ pronounced as /ts/ finally
68 ☐ pronounced as apico-postalveolar [tʂ]
6 ☐ pronounced like No. /tj/
4 ☐ pronounced as /ʃ/
3 ☐ pronounced as /k/ when spelling is **ch**
3 ☐ realised as [tç]
/dʒ/ 2 ☐ pronounced as /ʒ/
5 ☐ not distinguished from /tʃ/
4 ☐ pronounced as apico-postalveolar [dʐ]
1 ☐ pronounced like No. /ç/ in *kinn*
11 ☐ pronounced as /j/ especially when the spelling is j
1 ☐ not clearly distinguished from /dr/
1 ☐ pronounced [dzj]
5 ☐ pronounced like /dj/
/l/ 140 ☐ no distinction **clear** and **dark** /l/
☐ pronounced like [ɽ] as in SEN *blé*
1 ☐ **dark** /l/ too frequent
/r/ 134 ☐ pronounced in pre-pausal and/or pre-consonantal positions
13 ☐ pronounced as SEN apico-alveolar vibrant
3 ☐ use of other native No. variant
62 ☐ problems after /θ/
1 ☐ sounds like fricative medially
1 ☐ lamino-postalveolar
/j/ 5 ☐ pronounced as /dʒ/
1 ☐ sometimes left out in /C_u:/