L2 pronunciation stability: how the pronunciation of advanced EFL students is affected by a lack of explicit instruction

Gwen Brekelmans
Radboud University
gwen.brekel@gmail.com

ABSTRACT
Pronunciation teaching tends to take a back seat in second language teaching. Even advanced students of English still have some trouble in maintaining the advanced level of their pronunciation. This paper aims to show how stable the pronunciation of advanced students of English is when they no longer have any explicit pronunciation teaching, and when their exposure to the desired accent is minimal. The influence of a stay abroad is also investigated.

It turns out that overall, the student's pronunciation tends to remain fairly stable with only a marginal deterioration occurring after pronunciation instruction was stopped, but there are specific features that show distinct patterns of deterioration or improvement. Additionally, the pronunciation of students who had spent time abroad improved instead of stabilised.

Keywords: pronunciation, EFL, pronunciation stability, pronunciation instruction.

1. INTRODUCTION
In attaining proficiency in an L2, pronunciation is often seen as the last hurdle learners need to overcome. However, even very advanced learners of English seem to have trouble retaining an advanced level in their pronunciation. Many anecdotes were found of L2 learners indicating that they feel their pronunciation deteriorates after some time of not having had explicit pronunciation teaching, which is not an unlikely change. Both [6] and [10] have shown that even relatively limited explicit phonetic instruction can be beneficial to learner's pronunciation. Another factor in the learners' deteriorating pronunciation may be the increased use of the L1: [5] showed that the degree to which the L1 is used can be a negative influence on the accentedness with which a learner pronounces the L2.

What this paper aims to show is how the pronunciation of advanced Dutch learners of English is affected by a lack of explicit pronunciation instruction, to see whether their accent improves, deteriorates, or remains stable over time. This is examined through means of a phonetic analysis of both spontaneous and read speech produced by a group of advanced Dutch university students of English. Their speech was recorded at different moments during their studies, at which the amount of explicit pronunciation instruction they received varied.

In addition to the lack of explicit instruction possibly negatively influencing the learners' pronunciation, this research will include subquestions regarding several independent variables that might be of influence. One factor that might be of influence is exposure to the pronunciation of the people they interact with most, or the variety of English they are most exposed to; speech accommodation theory poses that speakers adapt their pronunciation to that which they are exposed to [see 4 for an overview of the theory]. Another factor that might be influential is whether the student spent time abroad in an English-speaking country, and in accordance with this, how many English-taught courses they had in the academic year they were recorded.

Taking these variables into account, this means there are essentially four ways in which the pronunciation of the advanced Dutch students might develop when explicit pronunciation instruction is stopped: it can remain stable and on the same level as it was when they still received instruction, it can improve and come to sound more native-like, it can deteriorate and become more Dutch, or it can change towards a variety of English to which the students are more exposed, i.e. American English. This paper hypothesises that overall, the students' pronunciation will become more Dutch. It is expected that going abroad and having more English-taught courses will be beneficial to having a native-like pronunciation.

2. METHOD
In order to investigate this hypothesis, the pronunciation of advanced Dutch university students of English was recorded. The students' current pronunciation was compared to their own pronunciation that had been previously recorded at pronunciation exams, at which times they did have pronunciation classes. Their overall pronunciation was analysed on the basis of a list of features as shown in section 2.3.1.
2.1 Participants

For this study, 12 native Dutch third-year students of English from Radboud University participated in the recordings (9 women and 3 men, mean age 22.1), all of whom had chosen the British (RP) pronunciation track. Four of the students had spent a semester abroad in an English-speaking country (either in England or in the Republic of Ireland). In the academic year in which they were recorded, the students did not have any pronunciation instruction or any classes focussing on oral communication skills. Up to the time of recording, the average number of English-taught courses that the students had taken in that academic year, including any taken abroad, was five (out of a total of eleven courses they had to take). This is barely half of the English-taught courses they had in previous years, when obligatory courses ranged from eight to eleven individual courses.

2.2 Materials

The materials the participants were asked to record consisted of three parts, representing three different types of speech: one text that was familiar to them through previous exams (the phonetic text 'Arthur the Rat'), a set of 10 sentences used in the grading of the pronunciation exams focussing on particular pronunciation difficulties for Dutch students (e.g. The work in the brewery has ruined his shoes for the vowel combinations), and three open questions in which they were asked to elaborate on topics relevant to their pronunciation (their stay abroad, their classes, and their opinion on their own pronunciation). These materials were compared to the recordings of the students' own pronunciation made as part of the pronunciation exams at the end of their first and second year at university. The structure of the exams was identical to that used by the pronunciation teacher in the pronunciation exams which was when the data from the participant's first and second year was collected. The only difference between those exams and the current recordings was the students receiving a grade for their pronunciation exams.

2.3 Procedure

The recordings took place in the language lab at the Radboud University. This lab is equipped with 22 PCs, and one PC on which the recording program operates. For each session, a maximum of five students were recorded at a time, to ensure the participants were not distracted by having others reading out the same text right beside them. The participants were seated at a PC running on Windows 7, which was equipped with a standard-issue headset used in the language lab. ReLANpro [11] was used to record the students, which was controlled from the experimenter's desktop. The optimality of the recording procedure was confirmed in a pilot study in which three graduate students participated.

Beforehand, the participants were not told the goal of the study in which they were participating, but since the structure of the material was similar to their own pronunciation exams, the study's focus on pronunciation will have been obvious to them. It was made clear to the participants that they would not be graded for anything that they did during the session, and that their data would only be used for research purposes.

The setting and procedure used in the recordings were identical to that used by the pronunciation teacher in the pronunciation exams which was when the data from the participant's first and second year was collected. The only difference between those exams and the current recordings was the students receiving a grade for their pronunciation exams.

2.3.1 Features

The features that were used to investigate the learner's pronunciation were chosen based on the list of features that is used to grade the student's pronunciation exams. This list, as shown in Table 1 below, focusses on those features of RP English that have shown over the years to be the most difficult for advanced Dutch learners and to be the best indicators for students' overall pronunciation proficiency (Kamara, personal communication).

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specific attention</th>
</tr>
</thead>
<tbody>
<tr>
<td>vowel quality</td>
<td>/æ vs. e, ə, ʌ, ɔ, ɑː, ɔɪ, ɜː/</td>
</tr>
<tr>
<td>word and sentence stress</td>
<td>compounds</td>
</tr>
<tr>
<td>duration of voiced portions</td>
<td>fortis vs. lenis endings</td>
</tr>
<tr>
<td>consonants</td>
<td>/θ, ð/; /s,f/ vs. /z,v/</td>
</tr>
<tr>
<td>voiceless stops</td>
<td>aspiration and preglottalisation</td>
</tr>
<tr>
<td>non-rhoticity</td>
<td>US English influence</td>
</tr>
<tr>
<td>undesirable assimilations</td>
<td>regressive voicing /b,d/</td>
</tr>
<tr>
<td>strong vs. weak forms</td>
<td>overuse of strong forms</td>
</tr>
<tr>
<td>liaison</td>
<td>pre-vowel glottal closure</td>
</tr>
<tr>
<td>intonation</td>
<td>flat intonation, ‘uptalk’</td>
</tr>
</tbody>
</table>
Importantly, all of these features are dealt with extensively in the pronunciation classes at the Radboud University [see 8 for the book that is used during this course]. The second column of Table 1 indicates to which issues particular attention will be paid for each of the features, as they are known to occur in Dutch learner's pronunciation. These issues will be discussed in more detail below [for an overview of the differences between the phonetics of Dutch and English, see 2].

The mentioned set of vowels is under closer investigation since they do not occur in Dutch and are not always mapped onto a correct vowel representation as a result of this; this is particularly the case for the distinction between /æ/ and /e/, as both vowels tend to be mapped onto Dutch /ɛ/ [2]. The duration of the voiced portions is a known troublesome area, with Dutch learners not always being able to distinguish between word-final voiced and voiceless consonants as Dutch has final devoicing [9]. Additionally, for the consonants, those that do not occur in Dutch can cause problems (/θ, ð/), and the distinction between word-initial voiced and voiceless fricatives might result in problems depending on the native region of the speakers [7]. Since Dutch, unlike English, does not aspirate its word-initial voiceless stops nor preglottalises the word-final ones [8], these areas can be particularly troublesome. Finally, the assimilations that are used in English differ from those that occur in Dutch [3], so undesirable transfer of regressive voicing, progressive devoicing, and intervocalic voicing are things to look out for.

2.3.2 Data analysis

The participants' recordings were analysed on the basis of the feature list as presented in section 2.3.1. For each feature, the RP-like quality of the participant's current pronunciation was determined in both quality and quantity, which was expressed through means of a percentage. This percentage was then compared to their pronunciation of that feature in previous years. In the end, this percentage was converted to a grade for the student's current overall pronunciation as well as for the separate features, and this grade was compared to their previous grades to see if the general tendency was an improvement or a deterioration.

Praat [1] was used to analyse the average vowel quality and the quality and precision of the consonants, to measure the duration of the voiced portions, to check for the presence of aspiration or affrication and preglottalisation, and for undesirable voice assimilations, as well as to determine the intonation pattern that had been used. The other features were phonetically transcribed and checked for accuracy.

3. RESULTS AND DISCUSSION

Overall, as Figure 1 shows, the participants' pronunciation was slightly less good in the third year than it was in their second year, but it was better than in their first year of studying English, despite the fact that they did not receive any explicit pronunciation instruction or communication classes anymore (mean year 1: 77.1%; mean year 2 = 81.9%, mean year 3 = 81.5%). Both the difference between the first and the second year, t(863) = -28.4, p < .001 d = 0.2, and the difference between the second and the third year, t(863) = 12.7, p < .001 d = -0.02, were significant and represented small effects.

Figure 1: Average pronunciation grade for all participants, indicated per year.

However, a closer analysis paints quite a different picture for the separate features. Figure 2 shows that the individual patterns of change for all features differed quite a bit. Interestingly, the change in the features can to be categorised in three distinct patterns: the first pattern only keep increasing from year 1 to year 3 (though not necessarily massively so), the second remains relatively stable overall, and the third pattern increases from year 1 to year 2, but then decreases in year 3. Features that fall into the first category are word and sentence stress, use of strong and weak forms, liaison, and voiceless stops. The second category contains consonants and the duration of voiced portions. Finally, the third category houses most features: rhoticity, undesirable assimilations, intonation, and vowel quality.

There does not seem to be a very clear reason for a particular pattern occurring for a specific feature. Strikingly, the features that show an increase between the first and the second year but decrease in the third year, were those that started out lower than the other features; all but the rhoticity...
percentage started out at or below 80%, while in the first year the other features had an RP-like percentage of 85% or more.

**Figure 2:** The overall RP-like percentage per year for each feature.

Overall, it could be concluded that the biggest change for the participant's pronunciation from the first to the second year was to be found in the quality of the vowels: in the second year, these were 74% RP-like, while in the first year these were much more consistently replaced with the closest Dutch equivalent with an RP-like quality of 62%. From the second to the third year, the RP-like quality of the vowels dropped slightly to 71%, though still remaining well above the percentage at which they started. It seemed as if the participants were trying to fine-tune their vowels but not quite succeeding. This is likely due to them receiving more exposure to different varieties of native English as well as to other Dutch students speaking accented English, and adapting their own pronunciation accordingly.

**Figure 3:** The average overall pronunciation grade for participants who had spent time abroad and those who had not.

Whether the participant had spent time abroad in an English-speaking country during their studies turned out to be of influence on their overall pronunciation grade. As can be seen in Figure 3, the average pronunciation grade for those students who did not spend time abroad went down slightly when compared to the previous year, but the average pronunciation of those students who had spent time abroad, usually in the first part of the third year, increased quite steadily. The mere fact of having to speak only English for a term seems to have been enough to enable students to improve their pronunciation.

A final note, though unrelated to the pronunciation of the students, is that the vocabulary of the students contained more Americanisms than it did in the previous pronunciation exams. This seems to indicate that they were exposed more to US English than they had been before, and consequently incorporated features of it in their own speech.

4. CONCLUSION

This paper aimed to show the effect of a lack of explicit pronunciation instruction on the pronunciation of advanced learners of L2 English. Without continued pronunciation instruction, the students' pronunciation did improve overall. Certain features turned out to be more robust than others: consonants and the duration of voiced portions remained very similar through all three years, while word and sentence stress, use of strong and weak forms, liaison, and voiceless stops steadily increased and rhoticity, undesirable assimilations, intonation, and vowel quality showed a more variable pattern of initial increase but a slight subsequent deterioration. This means that the learners' pronunciation has not stabilised in such a way that all features remain at a certain level of RP-like quality, but that the individual features seem to develop separately.

The value of pronunciation teaching turns out to be very high, even for advanced students. Additionally, not being exposed to varieties of British English as much as they were before might have been a big influence on the pronunciation of the participants: since they were exposed more to mainly American English through the media, and Dutch accented English from other Dutch natives, there was less input that matched their pronunciation model than before.

Overall, the students’ pronunciation seems to not have stabilised entirely after their third year, with only those students who spent time abroad improving still, while the other students marginally deteriorated. This has confirmed the original hypothesis: it was expected that unless they had spent a term abroad, the students' pronunciation would actually deteriorate.
5. REFERENCES