Linguistic Accommodation in Dutch Academia between Native and Non-native Dutch speakers: will they switch to English when I speak Dutch?

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Abstract

The present study is set in the increasingly multilingual Dutch Academia. It aimed to investigate whether different linguistic features of non-native Dutch speech, namely foreign accent, grammar mistakes, code-switching, and slow speech rate would degrade comprehensibility and consequently increase the likelihood of linguistic accommodation (switching to English), and whether this phenomenon was efficiency driven. This study was structured around the Communication Accommodation Theory (CAT) by Giles (1971). To explore this phenomenon, we conducted an experiment in which Dutch Native speakers heard a voice recording of a student, a Non-native Dutch speaker, asking a question to her teacher in Dutch after class for the first time. Participants then had to respond imagining they were the teacher, if they would have responded in Dutch (maintenance) or in English (divergence). Participants also had to specify whether they perceived the message as comprehensible, and whether they though it would have been polite, and effective to switch to English. Results showed that the linguistic features did not have a significant effect on the comprehensibility of the message, and that participants would have mostly responded in Dutch. Additionally, participants found it more effective to switch to English when the student on the recording used code-switching in her question, than when the speech rate was low, and when the foreign accent of the student was slight. These findings contribute to the existing research by highlighting that, Dutch native speakers may prioritise communication efficiency over minor linguistic precisions within academic contexts. This suggests that second language learners of Dutch should prefer learning approaches that support communicative efficiency, rather than targeting precision of minor linguistic features.

Key words: CAT Communication Accommodation Theory, likelihood of linguistic accommodation, comprehensibility, efficiency, politeness, non-native accent, grammar errors, code-switching, slow speech rate, dutch academia, native and non-native Dutch speaker

1.Introduction

1.1. Globalization and communication

In an increasingly globalized world, communication between native and non-native speakers of different languages has become widely common. This is due to the fact that travelling has become more affordable, businesses have globalized, and much more mobility takes place all over the world (Sanders & De Bruin, 2022). As a result multicultural communication has significantly expanded worldwide, meaning that more and more individuals engage in multicultural, and consequently multilingual, communication as part of their daily lives (Kharisov & Kharisova, 2014; Sridhar, 1996).

1.2. Globalization around the world: Academic settings

This global shift is largely noticeable in academic settings. According to Eurostat, 1.66 million international students, both from within and outside the EU, were enrolled in tertiary education across the EU in 2022 (Eurostat, 2023). Programs such as Erasmus+ have played a major role in fostering this trend, enabling over 1.2 million students to study abroad, in another European country, between 2014 and 2020 (European Commission, 2022). Similar trends are observable in countries like the United States, which hosted over 1.1 million international students in 2023–2024 and sent approximately 280,000 students abroad in 2022–2023, marking a rising inter-continental mobility (Institute of International Education, 2023).

As a result, multilingualism has become an important feature of academia, with students speaking multiple languages and frequently switching between them in their daily academic activities (Bista, 2010). This increasing linguistic diversity demands an adaptation of communication patterns. Research indicates that language barriers remain one of the most significant challenges international students face when integrating into their host environments. These language barriers might stem from challenges encountered during the learning process of the local language, contributing to further feelings of exclusion and lack of belonging (Anderson, 2020).

Addressing challenges posed by these linguistic barriers is therefore essential to foster comprehensive, efficient, and inclusive communication in multilingual academic environments. Furthermore, gaining deeper insight into communicative dynamics between native and non-native speakers can support effective second language learning and highlight optimal learning approaches. The application of this knowledge in academic environments would contribute to the creation of a socially and culturally inclusive university community, where all students feel integrated, communication between native speakers of different languages functions properly, and academic success is fostered.

To achieve this, especially when engaging with native speakers of different languages, students must strategically select a language for communication. Research by Labadorf (2019), who investigated communicative patterns between bilinguals of Spanish and English in the US, illustrates that the choice of language in multilingual contexts is rarely arbitrary. Instead, it is a strategic choice that often relies on a linguistic accommodation process, grounded in the Communication Accommodation Theory also known as CAT (Giles 1971).

2.Theoretical Framework

2.1. Language Accommodation Theory

The Communication Accommodation Theory (CAT) was developed by Giles (1971). It proposes that when two speakers interact, they try to accommodate each other by adapting their communication patterns to one another (Giles, 1971).

According to the theory, accommodation can take shape in three different ways: convergence, divergence, and maintenance. Convergence occurs when an individual adjusts their communication style to their interlocutor by mimicking their tone of voice, accent, vocabulary, or speech style (Giles & Powesland, 1997). Contrarily, divergence takes place when an individual adjusts their communicative style by intentionally distancing themselves from their interlocutor's language use and speech patterns (Giles & Powesland, 1997). Lastly, maintenance takes place when an individual maintains their original communicative style, regardless of the style used by their interlocutor (Gallois et al., 2005).

2.2 Reasons for Linguistic Accommodation

The use of convergence, divergence, and maintenance, whether conscious or unconscious, can be motivated by different factors.

In the case of convergence, the primary motivators are social approval and the desire to minimize the social distance by reducing dissimilarities between speakers (Giles & Powesland, 1997). In fact, according to Giles and Powesland (1997) the essence of this theory lies in the social psychological research on similarity-attraction, which posits that individuals are more attracted by those who share similar characteristics, attitudes, values, and backgrounds (Byrne et al., 1967). This attraction helps explaining the desire to sound similar to one's interlocutor. Therefore, people usually converge to foster relationships, enhance understanding, or align socially with others (Giles & Powesland, 1997).

By contrast, divergence and maintenance are often driven by the desire to assert personal, cultural, or group identity (Gallois et al., 2005). Divergence, in particular, involves an intentional distancing from the interlocutor's speech style. However, in international contexts, divergence does not necessarily aim to create separation, but instead it is a strategic effort aimed at managing differences strategically and improve communicative effectiveness. For example, individuals might diverge to maintain professional clarity, avoid misinterpretation, or signal appropriate social boundaries in intercultural or institutional settings (Gallois et al., 2005; Giles & Ogay, 2007). A study by Labadorf (2019), whose research focused on English-Spanish bilinguals in the U.S. showed that bilinguals often opted for the language that best supported clarity and communicative efficiency, even when it meant diverging from their own native or dominant language.

Divergence aimed at improving efficiency might also be influenced by cultural factors including whether a culture is more efficiency-driven compared to others with regards to communication. Hofstede's (2001) research gives a strong support for cultural dimensions and their interplay with communication behaviours, suggesting that some countries might be more efficiency driven in their communicative patterns, and therefore prioritize clarity and efficiency in communication.

Lastly, a major factor that might trigger divergent linguistic accommodation is comprehensibility. Nejjari et al. (2012) explored the reactions of native English speakers to accented foreign speech, and found that "successful communication between 'native' and 'non-native' speakers greatly depends on the mutual understandability of one another's speech" (p. 250). Furthermore, research by Miao et al. (2023), who examined listeners' perceptions of non-native English accents, found that comprehensibility, rather than native-like performance, plays a more critical role in successful communication. These findings suggest that the choice to accommodate is not solely a socially motivated process, but it is also a strategic response to perceived comprehensibility. This perspective is further supported by Labadorf (2019): bilinguals often adjusted their language, not only to enhance efficiency, but also to that maximize mutual understanding, even when this involved diverging from their habitual language. Overall, these findings suggest that divergence might occur when a speaker's comprehensibility is perceived by the listener as insufficient for successful comprehension.

2.3 Degraded comprehensibility and Linguistic Features

Comprehensibility therefore emerges as a central driver for linguistic divergence, in communication between native and non-native speakers. However, previous research on multilingual communication, particularly involving non-native speakers, has identified several non-native linguistic features that hinder comprehensibility (Bosker et al., 2014; Crowther et al., 2016; Derwing et al., 2002; Guzzardo Tamargo et al., 2016; Miao et al., 2023; Munro & Derwing, 1995; Munro & Derwing, 1998; Sanders & De Bruin, 2022). Native listeners may find non-native speech comprehension difficult due to the need to process mispronunciations, and word choice or grammar errors induced by non-native linguistic features (Sanders & De Bruin, 2022). Among these linguistic features, foreign accent, grammar errors, code switching, and slow speech rate are the most prominent to native speakers.

2.3.1. Accent

Several studies found that accent can hinder comprehensibility. Research investigating the effects of non-native accents on speech perception showed that the cognitive cost of processing linguistic errors is quite apparent when the listener is not familiar with the speaker's accent (Miao et al., 2023; Munro & Derwing, 1995; Sanders & De Bruin 2022). The unfamiliar accent renders non-native speech overall cognitively more demanding than native speech to achieve successful comprehension. Munro and Derwing (1995), who examined the interplay of foreign accent, perceived comprehensibility, and intelligibility in L1 Mandarin speakers of English, demonstrated that foreign accent can significantly increase cognitive processing time and reduce perceived comprehensibility, even when listeners correctly understand the content of the speech. Similarly, Sanders and De Bruin (2022), who investigated the effect of non-native linguistic features, such as grammar and word error, found that comprehensibility ratings were lower in accented speech even when the sentence structure and orthography were correct. These findings suggest that accent influences perceptions of clarity and correctness, therefore impairing the comprehensibility of non-native speech.

2.3.2. Grammar errors

Grammar errors likewise jeopardize comprehensibility of non-native speech. Non-native speakers might make grammar errors while speaking a foreign language, which have been shown to impair the comprehensibility of the interaction (Miao et al., 2023). In their study about grammar and word errors in non-native speech, Sanders and De Bruin (2022) found that similarly to accent non-native grammatical errors take longer and more cognitive resources for native speakers to process. This additional processing time highlights how non-native speech demands considerate cognitive effort for comprehension when grammar is incorrect. Furthermore, Crowther et al. (2016) also found that grammar errors impact comprehensibility:

in non-native English speakers, comprehensibility was influenced not only by pronunciation, but also by other linguistic factors such as grammar, vocabulary and fluency. Similarly, Derwing et al. (2002), who explored how grammatical accuracy, fluency, and pronunciation affect listener's judgements of non-native speech comprehensibility, found that grammatical errors negatively influenced comprehensibility ratings, suggesting that grammar errors can degrade comprehensibility.

2.3.3. Code Switching

Another linguistic feature that can impair comprehensibility, and consequently lead to language switch is code-switching. Code-switching is defined as abruptly and temporarily switching between languages during a conversation (Sankoff & Poplack, 1981), and is considered a hallmark of bilingual communication (Fricke & Kootstra, 2016). Research on bilinguals of Spanish and English in the Caribbeans has shown that the abrupt insertion of foreign language elements reduces clarity, when unfamiliar or unpredictable switches are used. These elements interrupt the flow of conversation, impair listeners' ability to integrate meaning smoothly, and therefore diminish comprehension (Guzzardo Tamargo et al., 2016). This reduced comprehension can prompt a language switch in an effort to maintain or improve communicative clarity.

Codeswitching can also lead to a language switch through priming. Structural priming in language production refers to speakers' tendency to re-use the syntactic structure of recently processed sentences (Pickering & Ferrerira, 2008). Priming is a process that can be activated during code-switching among multilingual speakers (Fricke and Kootstra, 2016). Research by Torres Cacoullos and Travis (2010), who investigated code switching in natural speech of New Mexicans bilinguals, showed that speakers tended to maintain language choices across utterances due to language priming: the use of a language in a sentence, increased the likelihood of its use in the next sentence within and across both Spanish and English. This increased likelihood of second language use suggests that the use of foreign language words as a form of code-switching, would be subjected to language priming and consequently result in a language switch.

Finally, code-switching can lead to a language switch because it signals poor proficiency in L2. Bista (2010) identified and evaluated the factors influencing students use of code-switching across bilingual international students, and found that students frequently code-switched to manage linguistic gaps in L2 proficiency, and ensure clear and efficient communication. These findings suggest that the insertion of words in another langue through code-switching might signal higher proficiency in that language, which might prompt a language switch in the listener with the aim to ensure clear and efficient communication.

2.3.4 Slow speech rate

Slow speech rate similarly decreases comprehensibility. Research by Munro and Derwing (1998) examined the impact of speech rate on listener's judgements of accentedness and comprehensibility across both native and non-native speakers. Their findings showed that very slow speech was rated lower in comprehensibility than slightly faster than typical L2 speech. Similarly, research by Bosker et al. (2014) which explored how speech rate and pausing influence listener's perceptions of both native and non-native speech, found that manipulated fast or slow speech were often judged as less comprehensible than naturally paced speech. These findings suggest that slow speech rate influences listeners' perceptions of non-native speech in regard to comprehensibility.

2.4 Research gap

Previous research has extensively emphasized that the linguistic features non-native accent, grammar mistakes, code-switching, and slow speech rate, jeopardise comprehensibility by rendering non-native speech unclear and difficult to comprehend for native speakers.

Additionally, previous research has clearly illustrated that there are different motivations behind linguistic accommodation, especially divergence, such as comprehensibility and efficiency (Gallois et al., 2005; Giles & Ogay, 2007; Labadorf, 2019; Miao et al., 2023; Nejjari et al., 2012).

However, what remains unexplored, is the specific manner in which these features degrade comprehensibility, by making the threshold insufficient for non-native speech to be comprehended, and therefore actively prompt divergent accommodation by native speakers (who chose to switch language). This study aims to address this gap by analysing the role these linguistic elements play in degrading comprehensibility, and therefore shaping divergent communication behaviours in multilingual interactions.

To investigate this phenomenon, it was necessary to select a context marked by frequent interactions among native speakers of different languages. Additionally, this research focused on academic contexts, thus it required an international and multilingual academic environment for investigation. The choice fell upon the Netherlands, and Dutch Academia.

2.4.1 The Dutch context: demographic shifts in academia and the rise of non-native Dutch speakers

The reason for this choice lies in the fact that globalization and multicultural communication are largely noticeable in the Netherlands. The country has experienced an immense growth of immigration flows in the past few years. According to Statistics Netherlands (CBS), the number of migrants coming to the Netherlands increased by 16% in 2022, reaching nearly 200,000 new arrivals (CBS, 2023). This shift in demographic has been largely noticeable in the educational settings as well, where the influx of teachers and students of different nationalities that decide to study, teach, or research at a university abroad is on a constant rise. Data from the Dutch Ministry of Education shows that the number of international students enrolled in higher education in the Netherlands rose by 28% between 2019 and 2022, with more than 120,000 international students in 2022 (Dutch Ministry of Education, 2023). More specifically, in the academic year 2022/2023, there were 122,287 international degree students studying at state-funded institutions of higher education, comprising 15% of the total student population (Nuffic, 2023).

Consequently, this growth in migration has led to an increase in the number of non-native speakers of the Dutch language. By 2023, nearly 25% of the population in the Netherlands spoke Dutch as a second language, up from 18% in 2010 (CBS, 2023).

2.4.2 A call for communication readaptation in Dutch academia

As a result of the growing international and multilingual student population, many universities in the Netherlands currently make use of both the Dutch and English language. This decision stemmed after the implementation of international language friendly policies supported with the motto “The more international the better”, implemented with the aim to accommodate speakers of diverse linguistic background, and facilitate a functional multilingual communication (Swanenberg and Spotti, 2025). Moreover, the Netherlands has extensively implemented L2 English taught courses in the past decades, therefore increasing the use of L2 English in their campuses (Tilstra & Smakman, 2018).

Consequently, students attending these institutions often alternate between the two languages during their daily academic endeavours, especially when interacting with both native and non-native Dutch speakers. Coupled with the increasing amount of Dutch language learners, this multilingual environment offered and ideal setting for the present research, as it underscores the potential for non-native Dutch speakers to experience divergent communicative behaviours from native Dutch speakers during the language learning process.

Research Question

The research question of this study was the following:

How do different linguistic features of non-native Dutch speech in academic settings influence the likelihood of native Dutch speakers to linguistically diverge by switching to English, and how are perceptions of politeness, effectiveness, and comprehensibility affected by these linguistic features?

Previous research has shown that comprehensibility, more so than native-like performance, is key to successful communication (Miao et al., 2023), and that non-native linguistic features namely accent, grammar errors, code switching, and slow speech rate (Bosker et al., 2014; Crowther et al., 2016; Derwing et al., 2002; Guzzardo Tamargo et al., 2016; Miao et al., 2023; Munro & Derwing, 1995; Munro & Derwing, 1998; Sanders & De Bruin, 2022) hinder comprehensibility by degrading it. Research by Labadorf (2019) further highlights how speakers switch language to ensure clarity and comprehensibility. Building on these insights, it was hypothesized that Dutch native speakers, when confronted with non-native speech characterized by these linguistic features which hinder comprehensibility, would accommodate the non-native speaker by diverging, in order to repair degraded comprehensibility.

H1: Non-native linguistic features foreign accent, grammar mistakes, code-switching, and slow speech rate significantly degrade the comprehensibility of a message and increase the likelihood of linguistic accommodation by divergence.

Research by Giles and Ogay (2007) shows that divergence can be used as a communicative tool to maintain clarity and effectiveness in intercultural communication. Hofstede's (2001)'s cultural dimensions provide further support for this interpretation; for instance, the Netherlands scores high on Individualism (IDV=80), indicating a society that values individual achievement and efficiency. This cultural orientation towards individualism and pragmatism suggests that Dutch native speakers might prioritize clarity and efficiency, which might consequently result in divergent accommodation. In this case this would mean that Dutch native speakers would switch to English when interacting with non-native Dutch speakers, with the aim to enhance communication efficiency.

H2: When Native Dutch speakers are exposed to non-native Dutch speech, they accommodate linguistically by diverging and switching to English with the aim of enhancing communication efficiency.

3. Methodology

Materials

The independent variable (IV) of this research had five levels. These were *Slight foreign accent in Dutch* (control variable), *Strong foreign accent in Dutch*, *grammar errors*, *code-switching*, and *slow speech rate*.

Five brief audio recordings were created. A selected person from the research group was the speaker in all five audios. This was done to prevent differences in speech delivery, intonation, and voice quality to interfere with the experiment. This follows the Matched-Guise Technique (Lambert et al., 1960). In the audios the speaker read an academic related script, namely a student, who is a non-native Dutch speaker, asks a questions to her teacher, who is a Dutch native speaker, after class for the first time. In each audio recording one independent variable was operationalized. For instance, in the first recording the control variable *Slight foreign accent* was operationalized, which means that the speaker spoke with a slight foreign accent, no grammar errors, no code switch, and no slow speech rate. The foreign accent operationalized in the audios containing the variables *Slight foreign accent* and the *Strong foreign accent* was an Italian accent as Italian was the mother tongue of the speaker.

The same pattern was operationalized across each of the 5 audios where only one linguistic feature at a time varied, while the others were held as constant as possible.

- Recording 1 – *Slight foreign accent in Dutch* (Control variable)
    - Participants heard a version of the script in which the speech of the student was characterized by a Slight foreign (Italian) accent.
- Recording 2 – *Strong foreign accent in Dutch*
    - Participants heard a version of the script in which the speech of the student was characterized by a Strong foreign (Italian) accent.
- Recording 3 – *Grammar errors*
    - Participants heard a version of the script in which the speech of the student contained several grammar errors.
- Recording 4 – *Code-switching*
    - Participants heard a version of the script in which the student inserted English words intermittently, simulating code-switching.
- Recording 5 – *Slow speech rate*
    - Participants heard a version of the script in which the speech of the student was characterized by a slow speech rate, and included some hesitations.

The English translation of the script is as it follows

"*Good afternoon, professor, I had a question. I was reading the course material last week and when I got to the exam section, some questions came to my mind. Could you tell me more about how the exam will be administered?"*

The English version of the script was not included in the experiment, it is reported here solely for reference. All the Dutch versions of the script can be found in the appendix 1.

Subjects

A total number of 90 participants took part in the study, although only 68 subjects completed the experiment fully. Participants were Dutch native speakers aged between 18 and 64 years old (M = 25.06, SD = 9.15). 46 subjects were female, 19 male and 3 identified as non-binary or third gender. The majority of the subjects' educational level was research university (69%), others' was higher vocational education (28%), and lastly only a few attained secondary vocational education level (3%). Furthermore, 65% of the participants were currently enrolled in a study programme.

The distribution of the demographic variables across linguistic features/conditions such as gender, educational background level and current educational status were analyzed. A Chi-square test showed a non-significant relation between background education level and linguistic feature ($\chi2$ (8) = 5.43, p = .711). Another Chi-square test showed a non-significant relation between current educational status and linguistic feature ($\chi2$ (4) = 5.80, p = .215). And a lastly, a Chi-square test showed a non-significant relation between gender and linguistic features ($\chi2$ (8) = 8.15, p = .419).

Participants completed a LexTALE test to assess their level of English. A One-Way ANOVA was used to analyze whether significant differences of LexTALE scores were found across the five linguistic features/conditions. The one-way analysis of variance showed no significant effect (F (4, 63) = 1.08, p = .37, $\eta2$ = .06).

To test for differences in age distribution across the 5 linguistic features/conditions a One-Way ANOVA was run. The one-way analysis of variance was not significant (F (4, 60) = .35, p = .84, $\eta2$ = .02).

These tests did not show significant relations between variables, therefore indicating that the distribution of the control variables gender, educational background level and current educational status, age, and LexTALE did not significantly vary across the groups.

Design

The design was a 1 x 5 between-subject experimental design, with 4 dependent variables, *likelihood of language accommodation, Perceived efficiency of accommodation , Perceived politeness of accommodation,* and *Speaker comprehensibility*; and linguistic features as the independent variable with five different levels: *Slight foreign accent*, *Strong foreign accent*, *Grammar errors*, *Code-switching,* and *Slow speech rate*.

A between-subjects approach was applied, therefore each participant listened to only one speech condition, and was tested on only one level of the independent variable. The assignment of the conditions to the speakers was random, in order to control for individual differences. As such, 11 participants were assigned to the condition Slight foreign accent, 15 to Strong accent, 15 to Grammar mistakes, 13 to Code-switching, and lastly 14 to Slow speech rate.

Instruments

A survey was developed to measure the dependent variables likelihood of language accommodation, perceived efficiency of accommodation, perceived politeness of accommodation, and speaker comprehensibility (DV). This survey was carried out in Dutch. The first page contained some demographic questions to rule out any participants that did not meet the criteria (Individuals aged less than 18 years, and non-native Dutch speakers). These questions were: 1) What is your age? 2) What is your gender? 3) What is your mother tongue? 4)What is your level of education?

The dependent variables were measured with a questionnaire (see Table 1 for questions and item scales included in the questionnaire). The variable likelihood of linguistic accommodation was measured with 3 items, and each of them was measured with a 5 point Likert scale ('very unlikely', 'very likely'). The reliability of the scale was poor ($\alpha = .59$). As such, each item was analyzed separately.

The dependent variable perceived politeness was measured with 3 items. The first one was measured on a 5-point Likert scale ('strongly disagree', 'strongly agree') and was inspired by Agustina and Cahyono (2016). The second and third items, also made use of a 5-point Likert scale ('very rude', 'very polite') and were inspired by Giles et al. (2019), were. The internal consistency of 'perceived politeness' was acceptable ($\alpha = .77$), so the mean score of the three items was used to examine the effect of the independent variable on this measure.

Three items were also chosen to measure the dependent variable 'perceived efficiency'. The first two items were measured on a 5-point Likert scale ('completely disagree' , ‘completely agree’), and the third item was measured on a 5-point Likert scale (‘not at all’, ‘completely’). The reliability of ‘perceived efficiency’ was acceptable (α = .79), hence the comprehensive mean of the items was used to examine the effect of the independent variable on this variable.

To assess ‘speaker comprehensibility,’ three items were selected, based on Hendriks et al. (2016). Responses were recorded on a 5-point Likert scale (‘completely disagree’ , ‘completely agree’). The internal consistency for ‘speaker comprehensibility’ was low (α = .41), therefore, the mean of each item was analysed individually. See Table 1 for questions and item scales used to measure the dependant variables.

Participants were also asked to indicate the perceived nationality of the student, and to assess her accent strength.

Lastly, participants undertook a LexTALE test, a vocabulary test that measures English proficiency (Lemhöfer & Broersma, 2012). This was done in order to get an overview of the participants’ English level and measure whether it had an effect on the results. The test and its instructions can be found in the appendix 3.

Table 1. Questionnaire measuring the four dependent variables: *Likelihood of linguistic accommodation, Politeness, Comprehensibility, Efficiency*

Likelihood of linguistic accommodation – 3 statements/questions:	
1. When replying to the student, how likely is the lecturer to reply in English?	1 – very unlikely; 2 – unlikely; 3 – neither unlikely nor likely; 4 – likely; 5 – very likely
2. If you were the lecturer, what would be the probability of you replying to the student in English?	1 – very improbable; 2 – improbable; 3– neither improbable nor probable; 4– probable; 5 – very probable
3. How likely is it that the student expects the lecturer to reply in English?	1 – very unlikely; 2 – unlikely; 3 – neither unlikely nor likely; 4 – likely; 5 – very likely

Politeness – 3 statements/questions:

1. when replying to the student, how polite would it be if the lecturer replied in English?	1 – very impolite; 2 – impolite; 3 – neither impolite nor polite; 4 – polite; 5 – very polite
2. If you were the lecturer, what would be the probability of you replying to the student in English?	1 – very improbable; 2 – improbable; 3– neither improbable nor probable; 4 – probable; 5 – very probable
3. To what extent would switching to English make the student feel more comfortable?	1 – not at all; 2 – slightly; 3– neutral; 4 – very; 5 – completely

Comprehensibility – 3 statements/questions:

1. How clear is the speech of the student?	1 – very unclear; 2 – unclear; 3 – neither unclear nor clear; 4 – clear; 5 – very clear
2. How comprehensible is the speech of the student?	1 – very incomprehensible ; 2 – incomprehensible; 3 – neither incomprehensible nor comprehensible; 4 – comprehensible; 5 – very comprehensible
3. If you were the lecturer, what would be the likelihood of you asking the student to repeat or clarify their speech?	1 – very unlikely; 2 – unlikely; 3 – neither unlikely nor likely; 4 – likely; 5 – very likely

Efficiency – 3 statements/questions

1. Switching to English would lead to better understanding between the teacher and the student	1 – Strongly disagree; 2 – disagree; 3 – neither agree nor disagree; 4 – agree; 5 – strongly agree
2. The conversation would be more effective if both speakers continued in Dutch	1 – Strongly disagree; 2 – disagree; 3 – neither agree nor disagree; 4 – agree; 5 – strongly agree
3. To what extent would switching to English reduce misunderstandings?	1 – Not at all; 2 – slightly; 3 – neutral; 4 – very; 5 – completely

The Dutch version of the questionnaire can be found in appendix 2.

Procedure

Subjects were recruited via the messaging platform WhatsApp, by the members of the research group. On this platform they were sent the survey link. Individuals were encouraged to participate in the study to collectively help peer students and researchers. In fact, participants were not rewarded any (financial) compensation. The survey was carried out under the form of an electronic survey. The experiment was carried out individually. Participants were told what the research is about, but not in extended detail, to ensure their responses would remain unbiased. Participants were asked to fill in a consent form at the beginning of the experiment. Then they were randomly assigned to one of the five conditions and to the corresponding audio recording, followed by the questionnaire assessing the dependant variables (see Table 1 for the questions and item scales included in the questionnaire). After the questionnaire, participants had do complete a LexTALE test (2012) in order to assess their English level. Lastly, participants were thanked for their participation to the study, and debriefed.

Some respondents started the experiment but immediately stopped after they saw that they were required to listen to a recording.

The experiment lasted, on average, 7 minutes per participant.

Statistical Treatment

Several one-way ANOVA tests were used to measure the effects of the different linguistic features on the dependent variables. Provided that Cronbach's alpha indicated acceptable reliability, one ANOVA test was carried out per dependant variable; otherwise, separate ANOVAs were performed for each individual item. Descriptive statistics were used to report perceived nationality. Furthermore, a one-way ANOVA was used to assess perceived accent strength. All analyses were conducted at a significance level of $p < 0.05$ using SPSS.

4.Results section

Likelihood of linguistic accommodation

A one-way analysis of variance did not show a significant effect of linguistic features on likelihood of linguistic accommodation for the first item of the scale (F (4, 63) = 1.37, p = .25, η2 = .08). Furthermore, for the second item of the scale no significant effect occurred neither (F (4, 63) = 2.19, p = .12, η2 = .11), as well as for the third item of the scale (F (4, 63) = 1.77, p = .14, η2 = .10). See Table 2 for means and standard deviations of each item per linguistic feature.

Table 2

Means and Standard deviations for Likelihood of linguistic accommodation per linguistic feature across item 1, item 2, item 3 (1 = very unlikely, 5 = very likely)

	Item 1		Item 2		Item 3		
Linguistic feature	M	SD	M	SD	M	SD	N
Slight accent	2.8	1.0	2.1	.8	2.0	.8	11
Strong accent	2.1	.9	1.5	.7	1.5	.7	15
Grammar mistakes	2.4	.6	2.3	1.4	2.2	1.1	15
Code switching	2.6	1.0	2.5	1.4	2.2	.7	13
Slow speech rate	2.7	.8	1.8	.8	2.3	.8	14

Comprehensibility

A one-way analysis of variance did not show a significant effect of linguistic features on comprehensibility for the fourth item of the scale (F (4, 63) = 0.67, p = .61, η2 = .04). Furthermore, for the fifth item no significant effect occurred neither (F (4, 63) = 1.47, p = .22, η2 = .08), as well as for the third item of the scale (F (4, 63) = 0.21, p = .93, η2 = .01). See Table 3 for means and standard deviations of each item per linguistic feature.

Table 3

Means and Standard deviations for comprehensibility per linguistic feature across item 3, item 4, item 5 (1 = completely disagree, 5 = completely agree)

	Item 4		Item 5		Item 6		
Linguistic feature	M	SD	M	SD	M	SD	N
Slight accent	2.8	1.3	3.2	1.0	1.7	1.0	11
Strong accent	3.1	1.0	2.5	.9	1.5	1.1	15
Grammar mistakes	3.1	1.2	2.7	1.0	1.7	.7	15
Code switching	2.9	1.2	3.1	1.1	1.6	1.0	13
Slow speech rate	2.5	1.0	2.4	.9	1.9	1.1	14

Efficiency

A one-way analysis of variance showed a significant effect of linguistic features on perceived efficiency of linguistic accommodation (F (4, 63) = 3.67, p = .01, η2 = .19). The perceived efficiency of linguistic accommodation under the condition of slight foreign accent (M = 2.7, SD = 0.7) was lower than under the condition code switching (p = .02, Bonferroni correction; M = 3.6, SD = 0.7), and the condition of slow speech rate (M = 2.7, SD = 0.7) was lower than the condition codeswitching (p = .03, Bonferroni correction; M = 3.6, SD = 0.7). There was no significant difference for the other conditions p > .03. See Table 4 for means and standard deviations of efficiency per linguistic feature

Politeness

A one-way analysis of variance did not show a significant effect of linguistic features on perceived politeness of linguistic accommodation (F (4, 63) = 2.4, p = .06, η2 = .01). See Table 4 for means and standard deviations of politeness per linguistic feature

Table 4

Means and Standard deviations for Efficiency per linguistic features (1 = completely disagree, 5 = completely agree/1 = not at all, 5 = completely), and Politeness per linguistic features (1 = strongly disagree, 5 = strongly agree/1 = very rude, 5 = very polite)

	Efficiency		Politeness		
Linguistic features	M	SD	M	SD	N
Slight foreign accent	3.3	.5	2.2	.8	11
Strong foreign accent	2.7	.7	1.9	.7	15
Grammar mistakes	3.0	1.1	2.1	.9	15
Code switching	3.6	.7	2.6	.7	13
Slow speed rate	2.7	.7	1.9	.2	14

Accent strength

A one-way analysis of variance showed a significant effect of linguistic features on accent strength of a student (F (4, 62) = 3.25, p = .02, η2 = .17). The accent strength of the student under the condition of slow speech rate (M = 3.1, SD = 0.8) was significantly lower than under the strong foreign accent in Dutch condition (p = .04, Bonferroni correction; M = 3.9, SD = 0.7). There was no significant difference between accent strength under the conditions slight foreign accent (p = .09, Bonferroni correction), code switch (p = 1.00, Bonferroni correction), and grammar mistakes (p = .31, Bonferroni correction). See Table 5 for means and standard deviations of accent strength per linguistic feature.

Table 5

Mean and standard deviation for Accent strength per linguistic feature (1 = no accent, 5 = very strong accent)

Linguistic feature	M	SD	N
Slight accent	3.7	.6	11
Strong accent	3.8	.4	15
Grammar mistakes	3.9	.7	15
Code switching	3.3	.7	13
Slow speech rate	3.1	.8	14

Nationality of speaker

Participants were asked to indicate the student’s nationality. One participant (2%) indicated ‘Dutch’, while the most commonly mentioned nationality was ‘Italian’ (16%), followed by ‘Turkish’ (12%) and ‘Spanish’ (12%), and lastly French (9%). A small group (3%) responded with 'no idea’, and while the remaining (47%) indicated other nationalities.

5.Conclusion

This study investigated the effect of linguistic features foreign accent, grammar mistakes, code-switching, and slow speech rate on likelihood of linguistic accommodation, comprehensibility, perceived politeness and perceived efficiency.

H1 stated that these linguistic features would significantly degrade comprehensibility of the message, and therefore increase the likelihood of linguistic accommodation by divergence. However, the findings measuring comprehensibility and accommodation likelihood across items disproved this statement by showing no significant effects. The support for H1, is therefore insufficient. H1 is rejected.

H2 proposed that when Dutch Native speakers are exposed to non-native Dutch speech, they would intend to accommodate by switching to English in order to enhance communicative efficiency. Linguistic features were not found to be leading to divergence, however a significant effect was found for perceived efficiency, with switching to English being rated as more efficient in the code-switching condition than the slight accent and slow speech rate conditions. In other words, participants in this condition were more likely to consider switching to English as efficient, than in the other two conditions. These findings suggest that certain linguistic features might be perceived as degraders of communication efficiency, offering therefore partial support for H2. H2 is therefore partially supported.

These findings conclude that the linguistic features did not have a significant effect on likelihood of accommodation, politeness, or comprehensibility, but in the case of code-switching, diverging from the speaker would lead to increased perceived efficiency of the communication.

6. Discussion

The present study aimed to investigate how different linguistic features of non-native Dutch speech, namely foreign accent, grammar mistakes, code-switching, and slow speech rate degrade comprehensibility by rendering the threshold for effective understanding too low, and consequently increase the likelihood of linguistic accommodation by divergence (switching to English). Furthermore, the present study aimed to examine whether perceptions of effectiveness and politeness of language switch would vary across these linguistic features. These questions were explored in the multilingual Dutch academic context.

The results of the experiment showed that the non-native linguistic features (foreign accent, grammar mistakes, code-switching, and slow speech rate) did not significantly affect comprehensibility by degrading it. These findings diverge from previous research which suggested that such linguistic features would degrade comprehensibility (Bosker et al., 2014; Crowther et al., 2016; Derwing et al., 2002; Guzzardo Tamargo et al., 2016; Miao et al., 2023; Munro & Derwing, 1995; Munro & Derwing, 1998; Sanders & De Bruin, 2022). One possible explanation is that, as indicated by Miao et al. (2023) and Sanders & De Bruin (2022), native listeners focus less on grammar or pronunciation errors when processing non-native speech, and more on overall comprehensibility; feature emphasized as a more central factor in communication success (Miao et al., 2023). Another possible explanation to the lack of significant effects could be that participants might have not expected to hear errors, which could have led to reduced attention to subtle mistakes. This would further support prior findings that listeners often prioritize overall meaning over detailed linguistic accuracy (e.g., Sanders & De Bruin, 2022). These results could suggest that Dutch native speakers might prioritize general comprehensibility over a native like performance.

Furthermore, the linguistic features did not have a significant effect on the likelihood of accommodation (i.e. divergence through switching to English). Previous research has suggested that speakers might diverge to maintain clarity and avoid misinterpretations, ultimately aiming at enhancing mutual understanding (Gallois et al., 2005; Giles & Ogay, 2007; Labadorf, 2019). However, because comprehensibility was not significantly degraded by the linguistic features in this study, it is difficult to draw conclusions upon the present results. It remains unclear whether the absence of a significant effect on the likelihood of linguistic accommodation was due to the preserved comprehensibility, to the linguist features, or to other contextual factors not controlled in the experiment.

Moreover, no significant effects were found regarding perceptions of politeness. This outcome challenges the traditional assumptions of CAT that convergence is perceived as more polite, while divergence might be interpreted as an intentional distancing, and assertion of distance (Gallois et al., 2005; Giles & Powesland, 1997). This lack of significant effects might suggest that, within the multilingual context of Dutch Academia, language switching does not substantially influence perceptions of politeness. In other words, when speech contains non-native linguistic features, switching to English might not be perceived as either more or less polite than continuing in Dutch.

A significant result was found in regards of efficiency. Participants thought it would have been more efficient to diverge (i.e. switch to English) when the student code-switched during the conversation, compared to when the student was speaking with a slight foreign accent, or when the student spoke slowly. This finding aligns with studies by Gallois et al. (2005) and Giles & Ogay (2007), who suggested that divergence can serve as a strategic effort to improve communication effectiveness, especially in international contexts. Their studies posited that individuals might diverge to maintain professional clarity, avoid misinterpretation. This perspective might help explaining the behaviour observed in the present study: in the international and multilingual academic setting, Dutch native speakers might have thought that diverging by switching to English, would have helped maintain clarity and avoid misinterpretations.

The perception of efficiency may have also been influenced by participants interpretation of code-switching as a signal of the student's limited proficiency in Dutch. Bista (2010) explained that students frequently code-switched to manage linguistic gaps in L2 knowledge, and ensure clear and efficient communication. Dutch native speakers might have perceived the non-native student's Dutch proficiency as limited, and interpreted the use of English as a signalling of linguistic gaps in L2, or as a compensatory strategy to repair such gaps. English, being the language used in the code-switches, might have been perceived as the student's stronger language. This perception might have prompted native speakers to believe that switching to English would increase clarity, prevent misunderstandings, and thus enhance communicative efficiency. The interplay between perceived proficiency and communicative efficiency also aligns with findings from Lardorf (2019), who suggest that speakers tend to choose a language they believe will be mutually understood and in which both speakers have higher proficiency, thereby promoting clearer and more effective communication.

Another possible explanation for the significant results related to code-switching is language priming. Research by Torres Cacoullos and Travis (2010) showed that the use of a language in one sentence, increases the likelihood of its use in the following sentence within and across different languages (such as Spanish and English in their study). This pattern could account for the significant findings of our research: when the non-native Dutch speaker included code-switching words in English, native Dutch speakers might have been cognitively primed by this immediate exposure to an unexpected language. In other words hearing and processing words in the English, might have rendered this language more cognitively accessible in the listeners' mind, which consequently made them more prone to use it in their answer. Therefore, the preference for switching to English might have also been influenced subconsciously by the prior linguistic input.

The study has several limitations. First, the experiment lacked ecological validity: it was very artificial, as participants were not responding to the students as themselves, but were impersonating someone else (the professor) when giving their answers. Furthermore, their responses were indicated in a digital questionnaire, thus participants were not taking part in the conversation in real life. This might have hindered our results as the experiment did not reflect natural conversation's dynamics.

Moreover, the manipulation of different variables to reduce comprehensibility was not successful. The linguistic features included in this study foreign accent, grammatical errors, code-switching and slow speech rate might have not been prominent enough to decrease comprehensibility, and thus prompt a language switch. In other words there might have not been enough grammar errors in the question, or the foreign accent might have been too slight/subtle, in order for these to be recognized as impeding linguistic features to comprehensibility. Additionally, this preservation of comprehensibility, might have contributed to the lack of significant results of likelihood of linguistic accommodation, therefore limiting the explanatory power of this study.

Lastly, the lack of significance in some findings might be partly due to limited statistical power. 90 participants started the questionnaire, however only 68 completed it fully. Although, this is a substantial number, it still may not have provided enough statistical power to detect smaller effects, potentially contributing to the lack of significant findings in some analyses.

Future research should take these limitations into account to yield robust results. First, it should attempt to make the experiment's scenario closer to a real life conversation, to enhance ecological validity. One way to enact this, could be to set a conversation where the participants interact with the non-native speaker in real life, and talk about academic related topics.

Moreover, the linguistic features included in the dialogue should be more salient. For instance, the conversation should include a greater number of grammar errors, and the foreign accent of the non-native speaker should be more pronounced. Accentuating these features could lead to a greater reduction of comprehensibility, which might in turn produce significant effects on perceptions of likelihood of linguistic accommodation.

Future research should also investigate whether Dutch native speakers are more concerned with general comprehensibility when processing non-native speech, rather than minor linguistic precisions. In the present study, speaker's comprehensibility was not significantly impaired by non-native linguistic features, suggesting that Dutch native speakers seem to prioritize overall comprehensibility of the message over minor linguistic inaccuracies. However the lack of significant results limits the certainty of this conclusion. Future studies could investigate this further by creating a study that measures perceived comprehensibility and perceived linguistic accuracy separately. Future research could compare reactions to speech that is linguistically perfectly accurate (no accents, no grammar errors, no code-switching, and no slow speech rate) but less clear overall, versus speech that contains minor errors but remains highly comprehensible.

Lastly, future research should gather a larger sample, and conduct the experiment with more participants, in order to strengthen statistical power, and possibly detect smaller effects.

In conclusion, the present research contributes to previous work in the field of linguistic accommodation by elaborating on how certain linguistic features of non-native Dutch speech might lead a native Dutch speaker to switch from the L2 to English lingua franca. Contrarily to expectations, the linguistic features foreign accent, grammatical errors, code-switching, and slow speech rate did not impair comprehensibility and did not lead to linguistic accommodation. Perceptions of politeness also did not significantly vary across any of the linguistic features, whereas perceptions of efficiency were influenced by the use of code-switching. Dutch native speakers considered it more effective to switch to English when the student code-switched. This might suggest that Dutch native speakers may have a preference towards efficient communicative practices, and are more inclined to adopt strategies they perceive as facilitating to clear and effective communication.

These implications suggest that non-native Dutch speakers, who are learning Dutch and using it in Academic contexts, should reduce their focus on mastering minor linguistic precisions, and rather aim for a learning approach that will facilitate communicative clarity and efficiency.

To conclude, this research contributes to the field of linguistic accommodation by giving new insights into how Dutch native speakers react to non-native Dutch speech, and by giving new insights into how second language learners of the Dutch language should approach their second language learning in the context of the Dutch academia.

References

Agustina, S., & Cahyono, B. Y. (2016). *Politeness and Power Relation in EFL Classroom Interactions: A Study on Indonesian Learners and Lecturers*. *3*(2). https://www.researchgate.net/publication/311861760_Politeness_and_Power_Relation_in_EFL_Classroom_Interactions_A_Study_on_Indonesian_Learners_and_Lecturers

Anderson, T. (2020). International and Refugee University Students in Canada: Trends, Barriers, and the Future. *Comparative and International Education*, *48*(2), 1–16. https://doi.org/10.5206/cie-eci.v48i2.10787

Bista, K. (2010). Factors of Code Switching among Bilingual English Students in the University Classroom: A Survey. In *ERIC* (Vol. 9). ERIC. https://eric.ed.gov/?id=ED525827

Bosker, H. R., Quené, H., Sanders, T., & de Jong, N. H. (2014). The Perception of Fluency in Native and Nonnative Speech. *Language Learning*, *64*(3), 579–614. https://doi.org/10.1111/lang.12067

Byrne, D., Griffitt, W., & Stefaniak, D. (1967). Attraction and similarity of personality characteristics. *Journal of Personality and Social Psychology*, *5*(1), 82–90. https://doi.org/10.1037/h0021198

Crowther, D., Trofimovich, P., & Isaacs, T. (2016). Linguistic dimensions of second language accent and comprehensibility. *Journal of Second Language Pronunciation*, *2*(2), 160 182. https://doi.org/10.1075/jslp.2.2.02cro

Derwing, T. M., Rossiter, M. J., & Munro, M. J. (2002). Teaching Native Speakers to Listen to Foreign-accented Speech. *Journal of Multilingual and Multicultural Development*, *23*(4), 245–259. https://doi.org/10.1080/01434630208666468

Dutch Ministry of Education. (2023). *International student enrollment in Dutch higher education: 2019–2022 report*. Dutch Ministry of Education. https://research.vu.nl/ws/portalfiles/portal/225441015/160408eegdemanbnwdefdpr%20-%20641db48ba77cb.pdf

European Commission. (2022). *Erasmus+ annual report 2022*. Publications Office of the European Union. Retrieved from https://op.europa.eu/en/publication-detail/-/publication/9020d5f5-8f3a-11ee-8aa6-01aa75ed71a1/language-en

Eurostat. (2023). *Learning mobility statistics*. European Commission. Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php/Learning_mobility_statistics

Fricke, M., & Kootstra, G. J. (2016). Primed codeswitching in spontaneous bilingual dialogue. *Journal of Memory and Language*, *91*, 181–201. https://doi.org/10.1016/j.jml.2016.04.003

Gallois, C., Ogay, T., & Giles, H. (2005). Communication accommodation theory: A look back and a look ahead. In W. B. Gudykunst (Ed.), *Theorizing about intercultural communication* (pp. 121–148). SAGE Publications. https://www.researchgate.net/publication/37628596_Communication_accommodation_theory_A_look_back_and_a_look_ahead

Giles, H., Powesland, P. (1997). Accommodation Theory. In: Coupland, N., Jaworski, A. (eds) Sociolinguistics. Modern Linguistics Series. Palgrave, London. https://doi.org/10.1007/978-1-349-25582-5_19

Giles, H., & Ogay, T. (2007). Communication accommodation theory. In B. B. Whaley & W. Samter (Eds.), *Explaining communication: Contemporary theories and exemplars* (pp. 293–310). Lawrence Erlbaum. https://www.researchgate.net/publication/285632911_Communication_accommodatin_theory

Giles, R. M., Rothermich, K., & Pell, M. D. (2019). Differences in the Evaluation of Prosocial Lies: A Cross-Cultural Study of Canadian, Chinese, and German Adults. Frontiers in Communication, 4. https://doi.org/10.3389/fcomm.2019.00038

Guzzardo Tamargo, R. E., Valdés Kroff, J. R., & Dussias, P. E. (2016). Examining the relationship between comprehension and production processes in code-switched language. *Journal of Memory and Language*, *89*, 138–161. https://doi.org/10.1016/j.jml.2015.12.002

Hendriks, F., Kienhues, D., & Bromme, R. (2016). Trust in science and the science of trust. In B. Blöbaum (Ed.), *Trust and communication in a digitized world: Models and concepts of trust research* (pp. 143–159). Springer International Publishing. http://dx.doi.org/10.1007/978-3-319-28059-2_8

Hofstede, G. (2001, April 11). *Culture's Consequences*. SAGE Publications Inc. https://us.sagepub.com/en-us/nam/cultures-consequences/book9710

Institute of International Education. (2023, November 13). *IIE Open Doors / International Students*. IIE Open Doors / International Students. https://opendoorsdata.org/annualrelease/international-students/

Kharisov, F. F., & Kharisova, C. M. (2014). Bilingualism and multilingualism in a globalized society. *Life Science Journal*, *11*(11s), 439-443.

Labadorf, E. (2019). *Bilingual Language Accommodation*. *35*, 120–132. https://www.researchgate.net/publication/326997769_Bilingual_Language_Accommodation

Lambert, W. E., Hodgson, R. C., Gardner, R. C., & Fillenbaum, S. (1960). Evaluational reactions to spoken languages. *The Journal of Abnormal and Social Psychology*, *60*(1), 44–51. https://doi.org/10.1037/h0044430

Lemhöfer, K., & Broersma, M. (2012). Introducing LexTALE: A quick and valid Lexical Test for Advanced Learners of English. *Behavior Research Methods*, *44*(2), 325–343. https://doi.org/10.3758/s13428-011-0146-0

Miao, Y., Rose, H., & Hosseini, S. (2023). The Interaction Effect of Pronunciation and Lexicogrammar on Comprehensibility: A Case of Mandarin-Accented English. *Language And Speech*, *67*(1), 3–18. https://doi.org/10.1177/00238309231156918

Munro, M. J., & Derwing, T. M. (1995). Foreign Accent, Comprehensibility, and Intelligibility in the Speech of Second Language Learners. *Language Learning*, *45*(1), 73–97. https://doi.org/10.1111/j.1467-1770.1995.tb00963.x

Munro, M. J., & Derwing, T. M. (1998). The effects of speaking rate on listener evaluations of native and foreign-accented speech. Language Learning, 48(2), 159-182

Nejjari, W., Gerritsen, M., Van Der Haagen, M., & Korzilius, H. (2012). Responses to Dutch accented English. *World Englishes*, *31*(2), 248–267. https://doi.org/10.1111/j.1467971x.2012.01754.x

Nuffic. (2023, May). *Fact sheet on international students*. https://www.nuffic.nl/sites/default/files/2023-05/factsheet-international-students-2023.pdf

Pickering, M. J., & Ferreira, V. S. (2008). Structural priming: A critical review. *Psychological Bulletin*, *134*(3), 427–459. https://doi.org/10.1037/0033-2909.134.3.427

Sanders, G., & De Bruin, A. (2022). Examining the difference in error detection when listening to native and non-native speakers. *Quarterly Journal Of Experimental Psychology*, *76*(7), 1547–1560. https://doi.org/10.1177/17470218221135543

Sankoff, D., & Poplack, S. (1981). A formal grammar for code-switching. *Papers in Linguistics*, 14(1), 3–45. https://doi.org/10.1080/08351818109370523

Sridhar, K. K. (1996). Societal multilingualism. *Sociolinguistics and language teaching*, *47*, 70.

Statistics Netherlands (CBS, 2023): Statistics Netherlands. (2023). *Migration trends in the Netherlands: Annual report 2023*. Statistics Netherlands. https://www.cbs.nl/engb/news/2023/51/statistics-netherlands-reviews-the-year-2023#:~:text=Due%20to%20a%20positive%20net,85%20thousand%20immigrants%20from%20Ukraine.

Swanenberg, J., & Spotti, M. (2025). The Monolingual Campus and the Bilingual Campus: Ideological Debates on the Management of Language Diversity at Two Dutch Universities. *Diversity & Inclusion Research*, *2*(1). https://doi.org/10.1002/dvr2.70010

Tilstra, K., & Smakman, D. (2018). The Spoken Academic English of Dutch University Lecturers. *English Studies*, *99*(5), 566–579. https://doi.org/10.1080/0013838x.2018.1483620

Torres Cacoullos, R., & Travis, C. E. (2010). Testing convergence via code-switching: priming and the structure of variable subject expression. *International Journal of Bilingualism*, *15*(3), 241–267. https://doi.org/10.1177/1367006910371025

Appendix 1

Recording 1 – *Slight foreign (Italian) accent*

"Goedemiddag professor,

Ik heb een vraag. Ik was vorige week de cursusmaterialen aan het doornemen en toen ik het examengedeelte las kwamen er enkele vragen in me op. Kunt u me meer vertellen over hoe het examen zal worden afgenomen?"

This script operationalizes the linguistic feature and control variable *Slight foreign (Italian) accent*. Participants will therefore hear the version of the script characterized by a subtle foreign Italian accent.

Recording 2 – *Strong foreign (Italian) accent*

"Goedemiddag professor,

Ik heb een vraag. Ik was vorige week de cursusmaterialen aan het doornemen en toen ik het examengedeelte las kwamen er enkele vragen in me op. Kunt u me meer vertellen over hoe het examen zal worden afgenomen?"

This script operationalizes the linguistic feature *Strong foreign (Italian) accent*. Participants will therefore hear the version of the script characterized by a strong foreign Italian accent.

Recording 3 – *Grammar errors*

"Goedemiddag professor,

Goedemiddag professor, ik heb een vraag. Ik was vorige week de cursusmaterialen aan het doornemen en toen ik het examengedeelte *leesde*, kwamen er enkele vragen in me op. Kunt u me meer vertellen over hoe het examen zal *afgeneemt* worden?"

This script operationalizes the linguistic feature *Grammar errors*. Participants will therefore hear the version of the script containing grammar errors (view in italics).

Recording 4 – *Code-switching*

"Goedemiddag professor,

Ik heb een vraag. Ik was *last week* de cursusmaterialen aan het doornemen en toen ik het examengedeelte las kwamen er enkele vragen *to mind*. Kunt u me meer vertellen over hoe het examen zal worden afgenomen?"

This script operationalizes the linguistic feature *Code-switching*. Participants will therefore hear the version of the script containing code-switching words in English (view in italics).

Recording 5 – *Slow speech rate*

"Goedemiddag professor,

Ik *'uhm'* heb een vraag. Ik *'uuh'* was vorige week de cursusmaterialen aan het *'uhm'* doornemen en toen ik *'uuh'* het examengedeelte las, *'uhm'* kwamen er enkele vragen in me op. Kunt u me meer *'uhm'* vertellen over hoe het examen zal *'uhm'* worden *'uuh'* afgenomen?"

This script operationalizes the linguistic feature *Slow speech rate*. Participants will therefore hear the version of the script characterized by a slow speech rate and some hesitations (view in italics and blank spaces).

Appendix 2

Questionnaire in Dutch

Vragen	5-punts Likertschalen
1. Hoe waarschijnlijk is het dat de docent in het Engels zal antwoorden op de student?	1 – zeer onwaarschijnlijk; 2 – onwaarschijnlijk; 3 – noch onwaarschijnlijk noch waarschijnlijk; 4 – waarschijnlijk; 5 – zeer waarschijnlijk
2. Als jij de docent was, hoe groot zou dan de kans zijn dat je de student in het Engels zou beantwoorden?	1 – zeer onwaarschijnlijk; 2 – onwaarschijnlijk; 3 – noch onwaarschijnlijk noch waarschijnlijk; 4– waarschijnlijk; 5 – Zeer waarschijnlijk
3. Hoe groot is de kans dat de student verwacht dat de docent in het Engels zal antwoorden?	1 – zeer onwaarschijnlijk; 2 – onwaarschijnlijk; 3 – noch onwaarschijnlijk noch waarschijnlijk; 4 – waarschijnlijk; 5 – zeer waarschijnlijk
4. Hoe beleefd zou het zijn als de docent de student in het Engels zou beantwoorden?	1 – zeer onbeleefd; 2 – onbeleefd; 3 – niet onbeleefd of beleefd; 4 – beleefd; 5 – zeer beleefd
5. Als jij de docent was, hoe groot zou dan de kans zijn dat je de student in het Engels zou beantwoorden?	1 – zeer onwaarschijnlijk; 2 – onwaarschijnlijk; 3 – noch onwaarschijnlijk noch waarschijnlijk; 4 – waarschijnlijk; 5 – zeer waarschijnlijk
6. In hoeverre zou het overschakelen naar het Engels de student meer op zijn gemak stellen?	1 – helemaal niet; 2 – lichtjes; 3– neutraal; 4 – zeer; 5 – volledig
7. Hoe duidelijk is de spraak van de student?	1 – zeer onduidelijk; 2 – onduidelijk; 3 – niet onduidelijk of duidelijk; 4 – duidelijk; 5 – zeer duidelijk
8. Hoe begrijpelijk is de spraak van de student?	1 – zeer onbegrijpelijk; 2 – onbegrijpelijk; 3 – niet onbegrijpelijk of begrijpelijk; 4 – begrijpelijk; 5 – zeer begrijpelijk
9. Als jij de docent was, hoe groot zou de kans zijn dat je de student zou	1 – zeer onwaarschijnlijk; 2 – onwaarschijnlijk;

vragen zijn vraag te herhalen of te verduidelijken?	3 – niet onwaarschijnlijk en ook niet waarschijnlijk; 4 – waarschijnlijk; 5 – zeer waarschijnlijk
10. Overschakelen naar het Engels zou leiden tot een beter begrip tussen de docent en de leerling	1 – helemaal niet mee eens; 2 – niet mee eens; 3 – niet mee eens, niet oneens; 4 – mee eens; 5 – helemaal mee eens
11. Het gesprek zou effectiever zijn als beide sprekers in het Nederlands verder zouden gaan	1 – helemaal niet mee eens; 2 – niet mee eens; 3 – niet mee eens, niet oneens; 4 – mee eens; 5 – helemaal mee eens
12. In hoeverre zou de overstap naar het Engels misverstanden verminderen?	1 – helemaal niet; 2 – lichtjes; 3– neutraal; 4 – zeer; 5 – volledig

Appendix 3

The LexTALE Test (Lemhöfer & Broersma, 2012)

Items in LexTALE and correct response (yes: y; no: n):

Platery (practice item; n), denial (practice item; y), generic (practice item; y), mensible (n), scornful (y), stoutly (y), ablaze (y), kermshaw (n), moonlit (y), lofty (y), hurricane (y), flaw (y), alberation (n), unkempt (y), breeding (y), festivity (y), screech (y), savoury (y), plaudate (n), shin (y), fluid (y), spaunch (n), allied (y), slain (y), recipient (y), exprate (n), eloquence (y), cleanliness (y), dispatch (y), rebondicate (n), ingenious (y), bewitch (y), skave (n), plaintively (y), kilp (n), interfate (n), hasty (y), lengthy (y), fray (y), crumper (n), upkeep (y), majestic (y), magrity (n), nourishment (y), abergy (n), proom (n), turmoil (y), carbohydrate (y), scholar (y), turtle (y), fellick (n), destription (n), cylinder (y), censorship (y), celestial (y), rascal (y), purrage (n), pulsh (n), muddy (y), quirty (n), pudour (n), listless (y),wrought (y).

LexTALE description on Radboud University website

What is LexTALE?

LexTALE stands for *Lexical Test for Advanced Learners of English*. It is intended for cognitive researchers studying participants with an advanced level of English as a second language in an experimental setting.

What is it?

The LexTALE is a quick and practically feasible test of vocabulary knowledge for medium to highly proficient speakers of English as a second language. It consists of a simple un-speeded visual lexical decision task. In contrast to other vocabulary or proficiency tests, it has been designed to meet the needs of cognitive researchers. It is quick, easy to administer, and free, and yet it is a valid and standardized test of vocabulary knowledge. It has also been shown to give a fair indication of general English proficiency.

Quick

On average, the LexTALE takes about 3.5 minutes to complete. It comprises only 60 trials, making it a practically feasible addition to any psycholinguistic experiment.

Easy

The LexTALE can either be administered online, or implemented in any experimental software (download the item list and instructions for implementation). The LexTALE can also be downloaded in Praat, Presentation, and Matlab format.

Valid

In a large-scale study (Lemhöfer & Broersma, 2012) on Dutch and Korean advanced learners of English, the LexTALE was evaluated 1) as a measure of English vocabulary knowledge, 2) as an indicator of general English proficiency, and 3) as an indicator of performance on two psycholinguistic experimental paradigms. LexTALE scores were found to be good predictors of vocabulary knowledge (as measured by L1-L2 and L2-L1 translation), to give a fair indication of general English proficiency (as measured by two thorough and extensive proficiency tests, the TOEIC and the Quick Placement Test), and to correlate well with experimental word recognition data (from lexical decision and progressive demasking experiments). See Validity for more information about LexTALE in relation to other tests.

Better than self-ratings

As many bilingual studies use in-house questionnaires including language history questions or proficiency ratings, the predictive power of the LexTALE was compared to that of self-ratings (Lemhöfer & Broersma, 2012). Self-ratings were assessed separately for writing, reading, listening and speaking proficiency. They turned out to be significant predictors of some of the translation accuracy and general proficiency variables, but not as consistently as the LexTALE. Moreover, self-ratings were not significantly related to the experimental word recognition data at all, whereas the LexTALE was.

Free

We would like to invite everybody to use the LexTALE for their research purposes. We would appreciate it if you let us know, just for our information. In your publications, please refer to www.lextale.com and to Lemhöfer & Broersma, 2012 - for updates on this reference, please keep an eye on this website.

Dutch and German versions

Apart from the standardized and validated English version of the LexTALE, there are also a German and a Dutch version of LexTALE available. Although they are not yet validated or tested for their equivalence with the English version, they were developed in parallel to the English version. Both can be done online, and downloaded as item list, and in Praat, Presentation, and Matlab format.

References

Lemhöfer, K., & Broersma, M. (2012). Introducing LexTALE: A quick and valid Lexical Test for Advanced Learners of English. Behavior Research Methods, 44, 325-343.

Information retrieved from:

Radboud University. (2011). *LexTALE*. Www.lextale.com. Retrieved March 14, 2025, from https://www.lextale.com/downloadthetest.html