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Reduction in language testing

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Abstract
This study represents an initial exploration of raters' comments and actual realisations of form reductions in L2 test speech performances. Performances of three L2 speakers were selected as case studies and illustrations of how reductions are evaluated by the raters. The analysis is based on audio/video recorded speech samples and written reports produced by two experienced raters after testing. Our findings suggest that reduction or reduction-like pronunciation features are found in tested L2 speech, but whenever raters identify and comment on such reductions, they tend to assess reductions negatively, be they regular processes or not.

Keywords: *Language testing; phonetic reduction in L2; judgements of L2 pronunciation.*

1. Introduction

The background for this study is our experiences with what is perceived as "sloppy" or unclear pronunciation in language testing, more specifically the Test of Oral English Proficiency for Academic Staff (TOEPAS). The TOEPAS was developed by the Centre for Internationalisation and Parallel Language Use to test university lecturers' oral proficiency in English for teaching English-medium graduate courses. It is a performance-based test consisting of a lecture and classroom interaction simulation. Performances are rated by two trained raters on five-point analytic and overall performance scales. It happens quite frequently that one or both of the raters conducting one of these tests observe that a participant occasionally "swal-

lows/slurs the ending of a word", "omits part of the word", "slides over the word" or has "unclear pronunciation" without any clearer indication of what exactly was wrong. Such formulations, used by raters, seem to indicate a type of unacceptable reduction, but the imprecise categorisation and labelling of pronunciation features which could potentially impact the overall assessment was unsatisfactory for the test validity. This paper presents a first step towards gaining a better understanding of what actually happens in those situations, both in terms of the actual pronunciation variants used by the participants and of the raters' reactions to reduced forms.

2. What is "sloppiness"?

The examples of "sloppy pronunciation" given by those who complain about it in newspapers or online blogs, may have quite different origin. Some are the result of recent changes in pronunciation or are regional or sociolectal variants, for example more front articulations of the GOOSE, FOOT and GOAT vowels, that can elicit comments to the effect that *goose* is heard as *geese*, *good* is heard as *gid* and *road* is heard as *raid*. Others stem from connected speech processes, sometimes elision of a single phoneme or unstressed syllable, as in the forms "*Feb'ry* for *February*, *lib'ry* for *library*, *Antar'tic* for *Antarctic*, *as'matic* for *asthmatic*, *twel'ths* for *twelfths*, *patien's* for *patients reco'nize* for *recognize*, and so on" (Crystal 1988, reprinted in Collins & Mees 2013: 254), or as the result of slightly more extensive elision and assimilation processes, for example [jɛʃeɪ] for *yesterday* (Ernestus & Warner 2011: 253). The definition of sloppy pronunciation that can be derived from such examples would be that it is pronunciation which deviates from that which the caller holds to be standard or normative, typically because of a lack of effort on the part of the speaker.

Commentators who complain about such sloppy pronunciation often add that it leads to unintelligible speech. The relevance of these popular perceptions of reduced speech for our purposes is the risk that they will affect raters, either consciously or unconsciously. Raters may assess reduced forms negatively, whether the reductions do in fact lead to unintelligible speech or not.

Linguistic studies of reduction focus on the result of connected speech processes such as elision, assimilation or lenition. Many of these processes are considered fully codified and normative, for example elision of /ə/ (or

schwa-assimilation) in words like *button* [ˈbʌtn̩], the forms of all of the words mentioned in the quotation from Crystal (1988) above, certain types of consonant cluster simplification and weak forms of function words. All these reductions are taught in English classes, at least at advanced levels. However, more extended reductions are usually not mentioned, with the exception of a few common phrases, such as [aɪŋənə] for *I am going to*.

Highly reduced forms like [jɛʃeɪ] for *yesterday* or [ɪɹɪ] for *he already* (Ernestus and Warner 2011: 254) are not taught explicitly (in the programmes that we are familiar with) – neither in terms of perception nor production. Such forms are often referred to in the scholarly literature as "reduced speech", "reduced word forms" or "reduced pronunciation variants". Reduction is typically seen by linguists as evidence of the elasticity of speech and a sign of mastery of the language, since reduction may aid comprehension, in the sense that it carries pragmatic meaning (Schachtenhaufen 2010; Heegård 2012). While this may be true for regular, standard reductions such as common weak forms of function words, there is, however, evidence that highly reduced speech can lead to decreased intelligibility (Ernestus and Warner 2011; Schüppert et al. 2012).

In this paper, we refer to standard versus non-standard reductions and to regular versus unexpected reductions. Standard reduction processes are those which are identified in textbooks on English phonetics as being common among native speakers (or obligatory) and acceptable or even recommended for L2 learners of English. This means that only processes which are found in the varieties used as models for L2 learning, most importantly British English RP and General American, count as standard for our purposes. Standard reduction processes are often taught in advanced classes on English pronunciation, at least for university students in English language programmes. At lower levels of instruction, reduction processes are, as far as we know, rarely taught, neither in terms of perception or production. Regular reduction processes are those that are shared by a given speech community, that is, occur with some frequency in speech production and are thus well-known to listeners. Unexpected processes are those that do not follow the regular patterns. The relationship between standard and regular is thus that standard processes is the subset of regular processes that are felt to be so common and acceptable that they are described, and potentially prescribed, in textbooks. We will assume that all regular reductions

are fairly easily understood by competent listeners, whereas unexpected reductions can cause difficulties for comprehension.

3. Reduction in L2

L2 research associates reduction with L2 speakers' language proficiency, which means higher proficiency L2 speakers' reductions are similar to those of L1 speakers. According to Lavoie (2002), L1 speakers' reduction realizations tend to vary depending on factors like frequency and predictability of a word, its position in an utterance, speaking style (casual or formal), or context. However, L2 speakers' reduction patterns differ from what is found for L1 speakers because they are also affected by their L1 interference. For example, Wenk (1985) found that French L1 speakers applied non-canonical reduction of vowel quality in English especially at lower proficiency levels. Gut (2007) presented similar findings with German L1 speakers of English who demonstrated insufficient degrees of vowel reduction. In addition, L1 speakers of Thai, Malaysian and Japanese were found to lack sufficient awareness of typical English patterns of word compression due to addition of syllable suffixes (Bond and Fokes 1985). Another factor influencing L2 speakers' production and comprehension of reductions is the type and number of explicit references to reductions in L2 instruction. L2 speech reduction is primarily taught through use of codified forms, contractions, schwa-assimilation/-deletion, and weak forms, as mentioned in the previous section. See for example Collins & Mees (2013: 120–128). Finally, the tempo of speech production, as determined through speech rate and articulation rate, is also associated with reduction, especially in L1. This means faster speech tempo yields a higher incidence of reductions (Hilton et al. 2011). With reference to L2 production, speech rate is strongly correlated with proficiency level, while articulation rate shows a steady incremental increase across proficiency levels (Ginther et al. 2010), which indicates that higher proficiency speakers speak with a faster tempo. Given these associations, it seems sensible to assume that proficient L2 speakers will have more reduction. However, our experience in testing academic spoken English does not seem to support this assumption, as we will show in the following sections of our paper.

4. Reduction in language testing

Although speech reductions at different levels, sound, syllable, or phrase, are recognized in SLA, they are not explicitly used as descriptors in oral language proficiency test scales. Proficiency levels in scales are usually described in general terms, so reductions may be subsumed into some of the descriptors representing (1) temporal variables of fluency, such as speech rate, rhythm, pausing, and hesitation, (2) pronunciation and articulation, as well as (3) listeners' perceptions of speech including clarity and comprehension [see Test of English as a Foreign Language (TOEFL), International Language Testing System (IELTS), and the Oral Proficiency Interview (OPI) of the American Council of the Teaching of Foreign Languages (ACTFL)]. The TOEPAS scale descriptors related to reductions are: language-related pauses/hesitations, speech rate, pronunciation is intelligible. L2 test descriptors of speaking performance provide no indication whether and what kind of reduction is allowed; whether it is a sign of competence, or lack thereof; whether it reduces intelligibility; or whether it must follow native-like processes. Such information is quite important in language testing because language testers assess samples of spoken performances against a particular norm, trying to make predictions about test-takers' ability to use their L2 in real-life situations. In other words, the testing context is quite different than the contexts in which descriptive linguists obtain and analyse speech data, i.e. description and analysis of speech performances occurring in a specific speech community without any evaluative judgements related to form.

4.1. Test of Oral English Proficiency for Academic Staff (TOEPAS)

In this paper we will describe the reduction patterns in the oral English performances of three TOEPAS test-takers. Before we look into the performances, it is important to understand TOEPAS' purpose, method, and procedures. TOEPAS was developed by the Centre for Internationalisation and Parallel Language Use (CIP) at the University of Copenhagen in 2008-2009 in response to the university management's requirement for quality assurance of instruction in international, English-medium master's programs. Therefore, the main purpose of TOEPAS is screening of lecturers at the university for oral English proficiency. TOEPAS is a simulated mini-lecture consisting of three parts: warm up (10min), mini-lecture (20min),

and interaction (5-7min). Lecturers take the test in groups of three, where they take turns alternating the roles of lecturers and students who ask questions. TOPEAS has a five-level holistic scale (1-5) as well as an analytic grid focusing on five sub-skills: fluency, pronunciation, grammar, vocabulary, and interaction. Lecturers need to receive a score of 3 or higher to be certified. The score report consists of a holistic score, video recording of the test performance, and written report describing the performance in relation to the five sub-skills mentioned above (Soren & Stæhr 2011).

5. Case study from the TOEPAS test

Given the limited research on form reduction in L2 speech production, the lack of understanding of reduction perception and comprehension, and the possible influence of L2 reductions on raters' decisions in language testing situations, it seemed necessary to explore these issues guided by two main questions related to (1) whether and how L2 speakers use reduced forms in speech in their TOEPAS performances, and (2) how TOEPAS raters perceive and assess L2 speakers' use of reduced forms in this language-testing situation.

The brief analysis below is based partly on the audio/video recordings that were obtained as part of the procedure and partly on the written reports produced by two experienced raters after each of the tests. We also examined the raters' notes taken during the testing procedure. Five raters in pairs of two participated in the rating process. Two raters have Danish, two have English, and one has Flemish as their L1, and all are highly proficient in both English and Danish. All raters are trained and experienced and are members of the TOEPAS certification team. In addition, the raters have background in language acquisition as well as English language teaching. The following procedure was established. First, references to speech rate, disfluencies, and reductions were identified in rater reports. Then, specific examples of 'mispronounced' words and expressions related to speech reductions in the rater reports and notes were found. These words and expressions were retrieved from the audio/video recordings of the performances, and subsequently analysed and described phonetically. Finally, additional examples of reductions found in the speech recordings were also analysed and described. Performances of three speakers whose English had been tested using the TOEPAS were selected as case studies and illustrations of

how variations in speech rate and reduction are experienced by the raters. These specific performances were selected because the rater reports that describe them specifically referred to speech rate, disfluencies, and reductions. They represent different aspects of the phenomena that we are interested in, and we make no claims as to the overall representativity of the sample.

One of the speakers was assessed to have very high level proficiency (rated 5 on the 5-point scale), where the report stated that the speech rate was "fast but generally appropriate", but no 'mispronunciations' related to speech reduction were mentioned. The other two speakers were certified with a score of 3 (lowest "passing" score). For one of the speakers there was a single comment in the report about "unclear articulation"; for the other speaker there were multiple comments about "mumbling, sliding over words" etc. The raters also provided examples of 'mispronounced' words to support their statements about unclear articulation for both speakers. All three speakers are male and lecturers at the science faculty at the University of Copenhagen. Two of the lecturers have Danish and one has Swedish as their L1. They were between 34 and 50 years of age at the time of the certification test. The audio recordings that were used for the analyses, were obtained using a wireless Sennheiser EW100 series lapel microphone. The output from the receiver was recorded on a Macbook Pro, time-aligned with the video signal, in the software package Quicktime Pro. Analyses and transcriptions of the audio were performed in the speech analysis software program PRAAT (Boersma and Weenink 2013). For each speaker we will present and comment on the relevant parts of the *Fluency* and *Pronunciation* sections of the written feedback reports, followed by transcription and analysis of examples of reductions that were observed in the audio recording. Articulation rates were measured manually in PRAAT for each of the phrases where the reduced words occurred. All filled and unfilled pauses were excluded from the calculation of articulation rate, which is indicated in syllables per second (sps) after each example in the analysis.

5.1. Speaker 1

5.1.1 Report

Speaker 1 was assessed to have excellent fluency and pronunciation, and only very minor issues are pointed out in the feedback report. In terms of

fluency, it is noted that the speech rate is fast, but that it is generally appropriate, and the only comment about pronunciation that could be related to reduction (stronger stress, or full vowel quality, in a syllable that does not carry primary stress), is called a "very slight deviation" in pronunciation.

Fluency	"[Speaker 1] speaks smoothly, coherently and effortlessly at a fast, but generally appropriate rate. There are no language related pauses or hesitations. [...]"
Pronunciation	"The only very slight deviations in pronunciation that were perceptible were: 'programming' (should have stronger stress on the second syllable – [æ]") [the remaining two examples were unrelated to reduction]

5.1.2 Analysis

Speaker 1 generally used little reduction, even in some cases where he produced speech at fairly high articulation rates. And the only word commented on in the report where reduction might be involved, namely "programming", occurred in a phrase (example 1) which was produced at what seemed to be his normal speaking rate. The second syllable contains a reduced [ə] vowel, where the standard varieties, British English RP and General American, have [æ]. Example 2 illustrates this speaker producing a slower, more emphatic, phrase with no non-standard reductions, and finally, example 3 is interesting because Speaker 1 produces it at a fairly fast rate of articulation, but with very little reduction.

Table 1. Examples from analysis of Speaker 1.

1) *when you took your programming language course* 5.41 sps
wen ju ˈtuk jʊə ˈpɹoʊgɹəmɪ˜ŋˈlæŋgwɪdʒ kɔːs

2) *so the Church-Rosser property said that every peak has a valley* 3.00 sps
soʊ | ðə tʃɜˈtʃˈɹɑsə prɑpəti (0.26) | ˈset (0.1) | ðət ˈevɹi | ˈpiˈk (0.27) | hæz˳ (0.1) | ə ˈvæɬi

3) *hopefully this will not detract from the presentation in fact you should be able to focus more on the language* 7.25 sps
ˈhoʊpfəli ðɪs wəl nɑt dəˈtɹæk | fɹm˳ ðə pɹezn˳ˈteɪʃn˳ | ɪn fækt ju ʃʊd bi eɪbl˳ tə ˈfoʊkəs mɔː ɑn ðə ˈlæŋgwɪdʒˤ

Only standard reductions are used by Speaker 1 in this phrase, namely vowel reduction to [ə] in unstressed syllables, schwa-assimilation and elision of /t/ in a consonant cluster.

5.2. Speaker 2

5.2.1 Report

There are also only few comments that are relevant for our study for Speaker 2, who is a native speaker of Swedish. While there are only positive comments about fluency, it is noted in the report that unclear articulation (and stress errors) occasionally cause strain. It is not specified in the report how exactly the pronunciation is unclear and it is not clear from the four examples of mispronunciation that these are caused by reduction.

Fluency	"[Speaker 2]'s pace is appropriate and his speech is easy to follow." [...]
Pronunciation	"Although his pronunciation is generally intelligible, unclear articulation and stress errors occasionally cause strain for the listener. [...] *visual – sounds like vishul *mammals – sounds like mammoths *spatial – sounds like spatial *(meadow) voles – sounds like vodes"

5.2.2 Analysis

All the reduced words which are mentioned in the analysis have been underlined in the orthographic representation in Table 2. The errors in *visual*, *spatial* and *voles* mentioned in the report seem to be L1 induced segmental errors that are unrelated to reduction processes but rather involve devoicing, insufficient vowel length/glide and the use of a short, clear /l/, respectively. The word *mammals* is said six times by the speaker. The first five times his pronunciation is mostly "correct", that is, it corresponds fairly well with the pronunciation in the standard varieties, except that the /l/ is occasionally realised as a short, clear /l/. The sixth and final time the word is realised as [ˈmæmɔf], which was heard as *mammoths* by the raters. It is doubtful whether this can be considered a reduction, but if it were, it would be not only non-standard but also unexpected. Only one potentially reduc-

tion-related example was included in the report, so we also examined three words which were mentioned in one of the raters' notes, namely, *alternative*, *insects* and *building* (coalition). The word *building* was produced with elision of /d/ and the word *insects* had elision of /k/ that is, fairly local reductions that are nevertheless non-standard and unexpected, as they do not occur in most accents of English. The word *alternative* displayed more extensive deviations from standard forms, and was realised as [ɒˈlˈtɜːnf], which is obviously also an unexpected form. Since neither the report or the raters' notes contained explicit information linking the comment about unclear articulation to specific words or features, we examined the performance for other examples of reduction. Representative examples of what was found are presented as 7-11. While the overall impression of Speaker 2, based on the words from the raters' notes and on the examples we found in our analysis, is that he does not exactly hyper-articulate, especially at faster articulation rates, our analysis suggests that his speech is not highly reduced. Example 7 was spoken at a fairly moderate articulation rate and has little reduction. Examples 8 and 9 illustrate a recurring pattern for this speaker, namely the elision of a weak vowel (in the standard varieties normally [ə] or [ɪ]) before /s/. Examples 9, 10 and 11 illustrate elision of [ə/ɪ] between nasal consonants. Example 10 also contains elision of word initial [ə] in *about* and regressive place assimilation of the final [ŋ] in *talking* to the (now) following /b/. The elisions in examples 8-11 can be considered non-standard, and are thus unlikely to be prescribed in English as a foreign language (EFL) instruction. However, we cannot tell whether these example contributed to the raters' impression that he had "unclear articulation".

Table 2. Examples from analysis of Speaker 2.

4)	*<u>building</u> coalitions* ˈbɪlɪŋ koʊəˈlɪʃənz˳	4.48 sps
5)	*(it's) generally not found in <u>insects</u>* ˈdʒenˈɹəli nɔt faʊn ɪn ɪnsets	5.13 sps
6)	*now there are <u>alternative</u> approaches* naʊ ðə ɑː ɒlˈtɜːnf əpɹəʊtʃəz˳	6.04 sps
7)	*just like we can infer the existence of oxygen or hydrogen* ˈdʒʌst laɪk wi kən ɪnˈfɜː (0.4) | ð ɪgˈsɪstənz˳ (0.13 | ɒˈv ˈɒksɪdjenː | ɔː ˈhaɪdjodjən	3.65 sps

8) *it's a scientific study* 5.90 sps
ɪsˑ saɪnˈtɪfɪk stʌdɪ

9) *it's a simple discrimination task so strictly speaking it's not* 4.89 sps
ɪz ˈsɪmpl, dɪskɪmˈneɪʃn, tɑˈsk | səʊ ˈstɹɪkli ˈspiːgŋ̊, ɪts ˈnɒt

10) *I'll be talking about animal cognition today* 5.85 sps
aɪl bi ˈtɔːkɪm baʊt ˈænməl kəgˈnɪʃn, tədeɪ

11) *and as you can see the rhesus macaques understand this quite well* 4.42 sps
ˈæn æz ju kən siː | ðə ˈɹiːsˑ makɑːks (0.36) | ʌndəstæn ðɪs kwaɪt ˈwel

5.3. Speaker 3

5.3.1 Report

For Speaker 3, the feedback reports mentions more problems with both fluency and pronunciation. The raters seem to have experienced problems with variations in speech rate, perceived as "jerky" delivery, and their comments about pronunciation give some indication about how the problems may have to do with reduction. They specifically mention that Speaker 3 "omits speech segments in words" – presumably a kind of non-standard, non-acceptable elision. They also comment that he "slides too quickly over words, especially at the end of sentences". It is not clear from the formulation whether all types of problem or only the last one are particularly common at the end of sentences, but the list of examples seem to suggest that the problem exists in both word final and word medial position, and only one example deals with syllable initial position, namely "extensive".

Fluency	"[...] his rate of speech is mostly appropriate. On occasions, though, there is some language-related hesitation and this, combined with a tendency to suddenly say a phrase very quickly, can result in a slightly 'jerky' delivery." [...]
Pronunciation	[…] "In addition, he sometimes mumbles, omits speech segments in words, or slides too quickly over words, especially at the end of sentences. The overall effect results in some strain to the listener. Some examples of this 'sliding' over words are: *commonly* pronounced *komli* *Norwegian* pronounced *Norweean*

like eating pronounced *li eeing*
supermarket pronounced *zoo mar*
extensive pronounced *ex'ens*
giant tiger prawn pronounced *gi'ti'praw*"
[...]

5.3.2 Analysis

The overall impression of Speaker 3 is that his pronunciation is not highly reduced, but that, like Speaker 2, he does not exactly hyper-articulate either. However, frequent disfluencies in the form of hesitations, false starts, restarts and pauses in addition to certain L1-induced pronunciation features, interact with reduction phenomena to slightly compromise intelligibility. One of the phrases that was mentioned in the report, was *giant tiger prawns*, which was indicated as being highly reduced. However, this is not obvious from the examples. It does seem, though, that some reduction, in the form of elision or lenition of the stop consonants becomes more pronounced when the phrase has been uttered several times before, especially, though, in example 12d, where it is clearly backgrounded as additional information. In 12e the reduction processes are slightly different and include lenition of /t/ to [s] and /p/ to [f] (or [ɸ]). Here we also find r-colouring of /ə/ in *tiger*, which may be distant assimilation to the /r/ in *prawn*. The speaker's pronunciation of *commonly* and *probably* with loss of a syllable in the first word and cluster simplification in the second are not standard forms taught in EFL, although the *Longman Pronunciation Dictionary*, mentions /ˈprɒbli/ as a form found "in casual speech sometimes" (Wells 2008: 642). Both forms seem likely to occur among native speakers, though. The pronunciation of *extensive*, however, which was also mentioned in the report, is perhaps less likely to occur among native speakers, as is the realisations of *actually* and *supermarket*. All these words contain voicing of fortis obstruents and/or lenition of fortis stops to fricatives. The words are less reduced than was indicated in the report, though, where the notation using apostrophes seemed to indicate the loss of a full syllable (in most cases) or elision of a segment, rather than lenition or voicing.

Table 3. Examples from analysis of Speaker 3.

12a) *also is the <u>giant tiger prawn</u>* ɔːlso iðˌs ðəː ˈˈdjaɪəntʰ ˈtaɪgə pɹˌɔːn	3.62 sps
12b) *giant tiger prawn* ˈdjaɪənˈtaɪɣə pɹˌɔːn	5.00 sps
12c) *giant tiger prawn* ˈdjaɪən ˈtaɪgə pɹˌɔːn	5.32 sps
12d) *the cousin the black tiger prawn the <u>giant tiger prawn</u>* ðə ˈkʰʌsən ðə blækʰ taɪgə pɹɔːn ǀ ðə ˈdjan taɣəpɹɔˈn	5.86 sps
12e) *more famous one the <u>giant tiger prawn</u>* mɔː ˈfeɪməs wʌn ǀ ðə ˈdjaɪən ˈsaɪgə fɹɔːn	6.10 sps
13) *it's <u>commonly</u> served in restaurants in Asia and also* ɪːts (0.36) kɔmliː sɜːvd ɪn ˈɹestoɹɑnsˌ ɪn ˈeɪʃə ənˈɔːlsə	4.22 sps
14) *which you are <u>probably</u> also familiar with* wɪtsj ju ə ˈpɹɔbəli ɔːlso fəˈmɪljə wɪðˌ	6.19 sps
15) *the <u>extensive</u> pond* ðɪ ˈegsteˇnsmf ˈpɔnt	4.03 sps
16) *it is <u>actually</u> not quite known* ɪt ɪz ˈægʒnˌ nɒt ˈkwˌaɪt ˈnoʊn	5.19 sps
17) *when we buy frozen shrimp in the <u>supermarket</u>* wen wɪ baɪ (0.16) ˈfɹoʊzn ʃɹɪmp ɪn ðə ˈzuˈβəmɑˈɣət	5.50 sps
18) *this figure shows why you can find tiger prawns in the <u>supermarkets</u> in Europe today* ˈðɪs fɪgjə ʃoʊzˌ ǀ ˈwaɪ ju kən faɪnd (0.41) ˈtaɪgə ˈpɹˌɔːns (0.14) ɪn ðəː (0.46) ǀ ˈsubəmɑɣəs ǀ ɪn ˈjuːɹəp tʰəˈdeɪ	2.54 sps

In example 12d, Speaker 3 in fact speeds up considerably when he says *giant tiger prawn*, which shows how he uses reduction and increased articulation rate (in addition to compressed pitch range) to create meaning. He has used the phrase *giant tiger prawn* many times already at this point in his presentation, when he refers to the animal as the *black tiger prawn* (for the first time). Speaker 3 not only helps the listener by repeating the phrase he has been using up to this point, but also signals the pragmatic function of this addition by using appropriate prosodic cues.

6. Discussion

This study focussed on whether and how L2 speakers used reduced forms in speech and how raters perceived and assessed these L2 speakers' use of reduced forms in a language-testing situation. Our findings suggest that articulation rate, proficiency level and reduction interact in a complex way, and that raters' perception and interpretation of reduction is variable. As suggested by Ginther et al. (2010), the most proficient L2 speaker from our cases spoke with a faster tempo. However, contrary to our expectations based on Hilton et al. (2011) L1 reduction research, we found that faster articulation rates do not necessarily lead to more reductions, at least for high proficiency speakers. We observed a surprisingly small number of reductions with Speaker 1, the participant with the highest test score, despite of his fast speech. However, the occurrences of reduced forms in the performances of the lower proficiency speakers, Speaker 2 and Speaker 3, increased when they spoke faster although it remains unclear whether these reductions resulted from the increased speaking speed or underlying articulation difficulties. Our L2 speakers used both regular and unexpected reductions in their speech, even though unexpected reductions were more evident in the lower proficiency speakers as suggested by Wenk (1985) and Gut (2007). While raters didn’t explicitly identify the most frequent, "textbook" reductions, they viewed less common and unexpected reductions negatively in their comments. Perhaps raters were inclined to comment on unexpected reductions because of considerations of intelligibility. In other words, in their attempt to predict whether L2 speakers' speech would be comprehensible in real-life contexts, they might have considered the fact that highly reduced speech results in limited intelligibility. Moreover, unexpected forms are traditionally associated with "incorrectness". Another possibility is that some of those reduced forms render themselves conspicuous because they occur in an obvious L2 speech environment. For example, raters might have failed to notice when Speaker 3 pronounced *commonly* as /kɔmli/ if the rest of his performance was closer to a normative variety. The testing context may also influence raters' perceptions of reductions. In the testing situation, raters search for evidence to support their decisions about test-takers proficiency levels, which may force them to undertake a more conservative approach to any deviations from unreduced norms. For example, the raters described Speaker 3's production of slightly

reduced forms as mispronunciations despite the fact that he only used the reduced form after repeating a term several times, which is consistent with L1 behaviour. Raters seem most likely to view unexpected reductions as mispronunciations. However, they may also treat reductions together with other unfamiliar articulation characteristics under the same heading of "slurring" or "mumbling," which again suggests that they may relate reductions to intelligibility issues.

Finally, depending on proficiency level, form reduction in speech may co-occur and interact with other pronunciation features such as hesitations and L1 transfer. Reductions may also interfere with other aspects of the performance, like grammar and vocabulary, which may increase the difficulty of identifying the factors that cause reductions. Raters may be more likely to notice reduced forms more when they coincide with mispronunciations, hesitations etc., and therefore interpret them as an indicator of low, rather than high, L2 proficiency.

7. Conclusion

In this paper we presented an initial exploration of raters' comments and actual realisations of form reductions in L2 speech performances. Our findings suggest that reduction or reduction-like pronunciation features are found in L2 speech in tests of academic spoken English. Whenever they identify and comment on such reductions, raters tend to assess reductions negatively – no matter whether they are regular processes or not. However, the question still remains whether the negative assessment is due to the testing context.

Our goal was to gain better understanding of reduction production and perception in language testing situations, which could serve as a starting point for the design of further, more generalizable, investigations.

These findings are not readily generalizable because of the small sample and a number of uncontrolled variables related to the selected raters and speech performances. Nevertheless, despite these limitations, we were able to identify and understand what could be the potential variables used in a more structured and principled research. For example, L2 speech reductions could be grouped into (1) standard, i.e. 'textbook' reductions, (2) regular, i.e. rule-governed reductions, (3) and unexpected, ad-hoc reductions. These different reduction types could be used in a controlled setting to elic-

it rater reactions in terms degrees of perception and positive or negative assessments. Interviews, stimulated recall techniques, or think-aloud processes, could be applied to understand why raters react in certain ways or how they decide whether the observed reductions are positive or negative evidence for speakers' language proficiency levels.

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