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THE RELATIONSHIP BETWEEN ENGLISH LANGUAGE PROFICIENCY LEVEL AND COMPREHENSION OF CONNECTED SPEECH ASPECTS

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ABSTRACT: *Despite the fact that connected speech features strongly affect the perception and comprehension of natural spoken language, they have not received proper attention in academic studies. Consequently, little research has focused on the effect of connected speech features on the listening comprehension EFL and ESL learners. The present study tries to fill this gab as it investigates whether the presence of connected speech influences Saudi EFL learners' listening comprehension. Furthermore, the present study attempts to find out if there is a relationship between the learners' familiarity with aspects of connected speech on the one hand and their English proficiency on the other hand. To achieve the objectives of the study, sixty-four English majors take part in this study. The participants were classified into three groups (i.e. High- proficiency, mid- proficiency and Low-proficiency) according to the scores obtained in the English Language Proficiency Test. The research instrument was a dictation test consisting of 25 digitally recorded sentences that include the five targeted aspects of connected speech. The participants took a dictation test which asked them to write down the sentences read with and without connected speech. Independent t-test results showed that the presence of connected speech features significantly affected the subjects' listening comprehension. The presence of connected speech imposes a negative impact upon listening comprehension by the Saudi learners of English. This negative influence was observed in all groups of different proficiency levels. In addition, the results indicated that the high-proficiency level students performed significantly better than the mid- proficiency level students. Low-proficiency level students often lagged far behind. Further, the indication garnered from t-test results revealed that there were interactions between the proficiency level of the students and the types of connected speech patterns. In other words, the higher students' proficiency level was, the better they could detect the connected speech patterns used in the natural speech flow. Last, elision and intrusion proved to be the most difficult aspects of connected speech for all the participants.*

KEYWORDS: connected speech, English reduced forms, proficiency level, listening comprehension

INTRODUCTION

No one can deny the importance of listening skill in EFL learning.
According to Aquil (2012), listening is the ability to identify and understand what others are saying. This process involves understanding a speaker's accent or pronunciation, the speaker's grammar and vocabulary, and comprehension of meaning. An able listener is capable of doing these four things simultaneously. Many studies in language learning have indicated that listening comprehension plays an important role

in the learning process. For example, Carreira (2008) reported that listening has an important place in learning as it is one of the four major skills in language acquisition. He adds that listening plays a vital role, as it helps the language learner to acquire pronunciation, word stress, and the comprehension of messages conveyed can be based solely on tone of voice, pitch and accent; and it is only possible when we listen. Without understanding input appropriately, learning simply cannot get any improvement. In addition, without listening skill, no communication can be achieved.

Despite the fact that listening has an important role in language learning, it still represents one of the most difficult skills for foreign language learners due to the unavoidable presence of "reduced forms" in authentic speech (Khaghaninezhad and Jafarzadeh, 2014). Many ESL and EFL learners often have considerable difficulty in comprehending the real language used by native speakers or the authentic one they hear during watching movies or listening to radio. One of the main reasons for this difficulty is connected speech. Matsuzawa (2006) defined connected speech as 'spoken language when analyzed as a continuous sequence, as in normal utterances and conversations. In a real language use, connected speech involves considerable phonological modifications such as reduction, intrusion, elision, assimilation, and contraction which may cause comprehension difficulty when non-native speakers listen to it (Carreira, 2008; Simpson et al, 2019). In line with this claim, Rosa (2002) attributes much of difficulty in comprehending the spoken language to connected speech, whereby changes occur in sound and stress patterns in relation to how words interact with those that follow and precede them. Thus, the EFL learner may not recognize what he/she hears and, when speaking, may connect or fail to connect words to the extent that the listener is unable to follow. In the same vein, Ito (2006) states that learners may experience more difficulty in listening to the connected speech with its accompanying features like assimilation, contraction and dissimilation. In his study, Kuo (2012) has indicated that the common presence of connected speech (i.e. assimilation, contraction, elision, linking, and deletion) is found to significantly affect learners' listening comprehension. Similarly, Lee (2013) reports that ESL learners 'listening comprehension difficulties were ascribable to sound modifications caused by phonological processes such as deletion and reduction. Connected speech modifications or processes may change, delete, or add sounds to words (e.g., are't instead of are not), leave their sounds relatively intact, or result in drastic changes to the connected words (e.g. wouldjou instead of would you).

There has been heated debate among researchers about the reasons behind the difficulties that EFL learners find in comprehending the real language used by native speakers. In her recent study, Aquil (2012) discussed the problem of connected speech and found that learners were not able to recognize words that have undergone the phonological modification. This was due to the fact that the learners knew the words in their citation forms. She adds that ESL and EFL students have learnt English "through their eyes" and has trouble interpreting the utterances of native speakers who don't monitor their output. Similarly, Anderson et al (1994) report that the disparity between citation forms and connected speech forms is sometimes so great that it appears that the speaker possesses two different languages. Simpson et al (2019) has observed that ESL and EFL students deal with a lot of difficulties caused by connected speech

modifications. He considers the teacher is responsible for such difficulty because language teachers speak clearly and provide listening materials that are full of clearly pronounced and articulated speech. They seldom use the reduced forms in their speech.

In his study, Seong (2008) reported that connected speech forms in listening input would decrease the saliency of the words and therefore make comprehension more difficult for ESL learners. Consequently, ESL and EFL learners who are unfamiliar with such connected speech modifications may encounter frustrating experiences when dealing with real-life English conversation. Similarly, Aquil (2012) reports that foreign language learners are faced with a daunting task when they listen to native speakers using naturally occurring connected speech. Norris also (1995) stated that foreign learners find that sounds are distorted, juxtaposed, or lost altogether when listening to native speakers outside the classroom. Norris adds that those with little experience of listening frequently fail to connect the sounds they hear with the words they have seen and recognized in their printed form, and find the whole experience confusing and discouraging. In line with this claim, Ahmadian and Matour (2014) report that non-native speakers might feel linguistically overburdened, frustrated, and agonized when taking a listening exercise or communicating with native speakers. This indicates to what extent connected speech becomes a nightmare in listening comprehension for ESL and EFL learners.

Research on the issue of connected speech (reduced forms) has not been touched upon satisfactorily in instructed SLA and classroom activities. Such issue has not received the attention they deserve. However, a few studies have dealt with the causes of the nonnative English speakers' agony in comprehending natural spoken language embedded with features of connected speech (Simpson et al, 2019; Aquil, 2012; Kuo, 2012; Rosa, 2002). Other researches have tried to explore whether connected speech instruction can improve ESL and EFL learners' listening comprehension (e.g., Khaghaninezhad1 and Jafarzadeh, 2014; Ting and Kuo, 2012; Carreira, 2008; Brown and Hilferty, 2006; Celce-Murcia et al., 2010; Matsuzawa, 2006; Norris, 1995). Additionally, a few previous studies have also encompassed a wide range of issues regarding the connected speech, such as subjects in different learning contexts, types of connected speech, the effect of presence/absence of connected speech, and the relationship between proficiency level and understanding of connected speech. But among them, two studies recruited ESL learners to examine the effect of presence/absence of reduced forms on their listening comprehension (Henrichsen, 1984; Ito, 2006), and only one study has compared EFL non-English majors' performance in word recognition in the presence/absence of reduced forms (Kuo, Lu, and Lee, 2011). It has been noticed that most of the previous studies have focused on ESL and EFL non-English majors, but none of them have considered EFL English majors as learners who might need to be studied. More importantly, not many studies have investigated whether there is relationship between the proficiency level of language learners and their familiarity with reduced forms. Hence, the current study attempts to address this gap by determining whether the presence of connected speech modifications influences Saudi English majors' listening comprehension. Furthermore, it intends to examine the relationship between the proficiency level of language learners and their familiarity with reduced forms.

Statement of the problem

English majors are believed to be more highly motivated in learning English. They are required to deal with English related courses in literature, linguistics, and the four language skills. When they are expected to know more than other EFL learners, some basics about language learning are neglected, for example, good pronunciation (accuracy), speech flow (fluency), and intonation (prosody). Literature and linguistics are regarded as academic courses where students learn a lot of terms without applying them to their language use. Connected speech is the result of simplified phonology presentation. Connected speech process can occur within words and between words. Though English majors are exposed to larger quantity of natural real language, their lack of knowledge and application of reduced forms might hinder them from making progress in listening comprehension. They usually have problems in listening to English native speakers' utterances or a story even though it contains words which are not new for them and they have been acquainted with those words in the previous lesson. They are not able to catch words correctly when listening to them, and this probably leads to failure in communication. Even advanced EFL students have the same problem in interpreting natural spoken language since they have learnt their English through their eyes. The students expected to hear all words in an utterance as clearly as they see those words written in the textbook. They do not realize that spoken language has special features that are different from the written language. EFL learners try to understand each sound precisely while native speaker instead of focusing on their output, focus on the message.

Needless to say, the language used in a real life is quite different from that of classroom setting in EFL education. In a typical conversation, depending on the significance of a message, native speakers tend to stress some words and leave some unstressed. Learners should be aware of this strategy and they should try to put it into practice whenever they have a conversation. To sum it up, many researchers have claimed the importance of listening comprehension in general and connected speech features (reduced forms) in particular in learning a new language (Kuo, 2012; Weinstein, 2001; Rosa, 2002; Brown, 2006; Matsuzawa, 2006; Carreira, 2008). Nevertheless, in spite of the importance of listening comprehension in L2 teaching and learning, little research has been reported to focus on the area of connected speech.More importantly, connected speech features have not received the attention they deserve in ESL/EFL pedagogy literature. So, the main challenge, but also motivation for this study was the lack of research in connected speech. More specifically, no study, according to the knowledge of the researchers, has investigated whether the presence of connected speech affects the listening comprehension of English majors with English proficiency levels in Saudi Arabia. Hence, the present study intends to focus on examining three factors, which are the presence of connected speech, the proficiency level of subjects, and aspects of connected speech.

Purpose of the Study

According to the above-mentioned reasons, the present study recruited EFL English majors to do the following:

-Investigating how the presence and absence of connected speech aspects influence ESL learners' listening comprehension.
-Examining whether subjects' language proficiency affects their understanding of connected speech.
-Checking whether learners' listening comprehension is affected by the aspects of connected speech.
-Pursing the interactions between aspects of connected speech and subjects' proficiency levels

Study Questions

Thus, the following research questions were posited in this study:
1. Does the presence and absence of connected speech aspects affect Saudi EFL students' listening comprehension?
2. Does the effect of connected speech modifications on English majors' listening comprehension vary according to their language proficiency?
3. Is learners' listening comprehension affected by the aspects of connected speech?
4. Are there interactions between aspects of connected speech and subjects' proficiency levels?

Study hypotheses

Hypothesis 1: The presence of connected speech will have a negative influence on Saudi English majors' listening comprehension.
Hypothesis 2: The effect of connected speech on Saudi learners' listening comprehension will vary according to their language proficiency.
Hypothesis 3: Saudi learners' listening comprehension will be affected
by the aspects of connected speech when their English proficiency is lower.
Hypothesis 4: There are interactions between taspects of connected speech and subjects' proficiency levels.

LITERATURE REVIEW

Defining connected speech

In the field of language teaching, the term "connected speech" has been used by many linguistics researchers (e.g., Brown & Hilferty, 2006; Brown and Kondo-Brown, 2006; Celce-Murcia et al, 2010; Weinstein, 2001). According to Weinstein (2001), connected speech refers to the pronunciation changes that occur in natural speech because of the environment or context in which a word or a sound is found. Celce-Murcia et al (2010) define the term "connected speech" as a phenomenon commonly observed in the informal speech of native speakers. They explain that "these forms involve unstressed vowels, omitted sounds, and other alternations of the full form, such as assimilation, contraction, and blending" (p. 230). Brown and Kondo-Brown (2006) define connected speech as an "analysis of the continuous chains in normal spoken language and conversation as compared with the typical linguistic analysis of individual phonemes analyzed in isolation" (p. 284). They mention that connected speech makes up "a very real part" (p. 5) of the spoken language and occurs in "all levels of speech" (p. 5) from casual to even very formal levels. Within the research community, other terms have been used to describe this phenomenon, such as reductions (Brown & Hilferty, 2006;

Brown & Kondo-Brown, 2006), sandhi-variation (Henrichsen, 1984), reduced-speech forms (Celce-Murcia et al., 2010), and connected speech (Brown & Kondo-Brown, 2006). The term connected speech is interchangeably used with reduced forms in this study to refer to this phenomenon.

Aspects of Connected Speech Patterns Examined in the Present Study

Research investigations on the issue of connected speech aspects have found that elision (Alameen and Levis, 2015), contraction, (Fan, 2003), assimilation (Wang, 2005), and V-V linking (Kuo, 2012) are the basic aspects of connected speech causing problems for EFL learners. The present study thus targeted on five connected speech patterns, which are introduced below. The definition of connected speech aspects is provided as follows (Brown and Kondo-Brown, 2006):

Elision, also named deletion or omission, refers to the phenomenon that a sound in the citation forms is eliminated in certain environment. Consonant clusters in English tend to undergo elision (Alameen and Levis, 2015). When the consonant cluster occurs in the final position of a word and the next word starts with a consonant, the consonant cluster will be modified. For example, the word "fast" when it is isolated you pronounce it fully with /t/, but sometimes in a context you elide the sound /**t**/ for instance the phrase " fas**t** people", here the last sound /t/ in fast is elided for the sake of fluency. Another example, /**d**/ in "blin**d** man" will be deleted.

Contraction is the only connected speech aspect that can be reflected in written forms (Fan, 2003). Contraction often occurs in function words, such as "am," "is," "will," "have," and "has." For example, "I am" can be contracted as "I'm."

Assimilation is "a process whereby one phenomenon is changed into another because of the influence of nearby phenomena" (Wang, 2005). For example, In the context "get them" the initial phoneme of the second word "them" is /ð/ it is changed into /t/ so the sentence "get them" / get ðəm/ is changed into / get təm /. Another example is that / k / replaces /t/ before /k/ or /g/. that cat /t/→/k/. That girl /t/→/k/

Linking is a process in which the final sound of a word is connected with the initial sound of the next word (Kuo, 2012). There are two subcategories in English: C-V linking and V-V linking, for example, "type it" (C-V linking), "see it" (V-V linking).

Reduction is "a process that occurs in connected speech, in which phonemes of the language are changed, minimized, or eliminated in order to facilitate pronunciation" (Brown & Kondo-Brown, 2006). For example, Vowels in unstressed syllables are reduced to schwa /ə /. could ⇒/kəd

Intrusion

The addition of sounds in connected speech which are not heard when words or syllables are said in isolation (Kuo, 2003). There are three sounds in English that behave as intruders: / r/ y/ j/ and / w/ as in the following examples:

'go on' becomes ' go**w**on'

'I agree ' becomes ' ai**y**agree'

'law and order' become ' law**r**anorder' (Brown and Kondo-Brown (2006)

The major characteristics of connected speech

The major characteristics of connected speech that Anderson (1994) identifies are (1) more frequent assimilation, in which the distinctiveness among adjacent sounds is lost;(2) a blurring of boundaries and a reorganization of phonetic material;(3) lenition, or a lesser degree of closure in the vocal tract, (4) vowel reduction, by which is meant vowel centralization and shorter vowel duration, as well as possible vowel loss leading to the syllabification of consonants, (5) a shorter duration of long sound segments, and (6) the deletion of consonants in consonant clusters.

The importance of connected speech

There exist a number of reasons which contribute to the importance of connected speech in learning a new language, making teachers and curricula designers consider these features of high significance to be included in their teaching program. First, connected speech is a very real part of the English language. Indeed, it may be part, of all living languages. Students need to be exposed to and taught all the features of connected speech. Secondly, students also need to be able to adjust their styles and registers in using language, and the ability to understand and use connected speech is essential for making such adjustments. It can also help non-native speakers understand oral English and produce comprehensible spoken English. Thirdly, students also need to be able to use and produce connected speech patterns so as to be able to make such adjustments. As Rosa, (2002) pointed out, "working on sentence stress and intonation can help students to better understand spoken English, so can working on the other features of connected speech. In addition, students need to learn more about grammar, vocabulary, and pronunciation than we traditionally teach, and connected speech is a part of the new information they need to understand about pronunciation.

Research studies indicate that non-native speakers have a problem understanding and producing the features of connected speech (Ito 2006, Hunderson, 1984). Research also indicates that the features of connected speech can be taught to non-native speakers of English (Brown and Hilfery, 2006, Wickens 2016). In many cases, the simple awareness of their existence can help enormously in enabling students to better understand spoken English they hear. Perhaps, most important of all, in my experience, students enjoy learning about the features of connected speech because it is mostly new information that they find interesting.

SLA theory in this study

In order to approach the role of pronunciation in listening comprehension theories, it is important that we first have an overview of the theory of Second Language Acquisition (SLA) relevant to the current study. Perucci (2005) sheds light into the theory of Linguistic Universals which is more directly associated with this investigation.

Within the theory of Linguistic Universals, Perucci highlights the concept of markedness. According to this concept, if an item of a language is more marked, it means that it is lacking in many other languages; therefore, foreign language learners would find this item difficult to be learned. On the other hand, if an item is less marked,

it means that it exists in most of the world languages; hence, learners would find it easy to learn when learning a foreign language. Gurevich (2001) argues that sounds are not always marked or unmarked, but that they are in a continuum of 'relative markedness'. Gurevich proposes three possibilities of markedness categories in phonology: (a) Elements that are unmarked both physiologically and perceptually; (b) elements that are marked physiologically but not marked perceptually; (c) elements that are unmarked perceptually but marked physiologically. But no phonological elements are marked both physiologically and perceptually. Other researchers (Celce-Murcia et., 2010; Ito, 2006) focusing on reduced forms, claim that these forms are part of Linguistic Universals. Therefore, they are unmarked, which makes them easier to be learned in the L2 context.

Research on connected speech

Unfortunately, there is not as much written about connected speech as there is about many other issues in applied linguistics. Indeed, the literature on connected speech in English can best be characterized as being collection of a bit here and a bit there over the last fifty years. Some researchers have offered modest efforts to explain a few facets of connected speech and suggested ways to teach them (Ahmadian and Matour, 2014; Carreira, 2008 and Khaghaninezhad and Jafarzadeh, 2014; Wang, 2005; Lee and Kuo, 2010). Most of those authors have only touched on the issues involved in connected speech, and they have typically done so as on relatively small part of learning listening comprehension or pronunciation. Sadly, actual research on connected speech is very hard to find indeed.The influence of connected speech on listening comprehension has also been investigated in other studies (Alameen and Levis, 2015; Ito, 2006). These studies also show how reduced forms in connected speech can interfere with listening comprehension.

Studies related to the topic of the study

According to ESL and EFL literature, a few studies have addressed the issue of the relationship between proficiency level and connected speech. The pioneering research on the effect of connected speech can be dated back to 1984 when Henrichsen recruited 65 subjects, including 15 native speakers, to measure their comprehension of connected speech. Hencrichsen examined the influence of connected speech on second language (L2) learners' listening comprehension. He found a statistically significant interaction between listeners' proficiency level and their test scores for the presence and absence of connected speech.

In an experiment conducted in the ESL context, Ito (2006) found that the presence/absence of the connected speech patterns and subjects' proficiency levels significantly affected learners' listening comprehension. When a similar experiment was conducted in the Taiwanese EFL context, Fan (2003) found that there was a positive correlation between proficiency level and the subjects' performance in connected speech comprehension.

Hencrichsen (1984) also examined the influence of connected speech on second language (L2) learners' listening comprehension. He found a statistically significant interaction between listeners' proficiency level and their test scores for the presence

and absence of connected speech. This finding confirmed that the presence of connected speech adds difficulties to the learners' listening comprehension of English. In a smaller-scale experiment, Fan (2003) conducted a research on EFL students' perception of connected speech. He concluded that connected speech modifications were problems for Taiwanese EFL students, regardless of students' proficiency levels. In a similar research, Kuo, Lu, and Li (2011) conducted study in the EFL context and confirmed that the presence of connected speech modifications significantly influenced Taiwanese senior high school students' spoken word recognition.

Further, Yoo (2005) examined 480 high school students' listening comprehension of linking, assimilation, deletion, and reduction using 20 test sentences. The results of her study showed that the percentage correct was 24.3% and the students had the most difficulty with linking. The results also showed that the students' listening comprehension was related to speech rates and also to the students' English proficiency levels. In another study, Lee (2013) found that native speakers of English were able to retrieve reduced or even missing parts of the speech signal brought about by connected speech processes whereas L2 learners had problems detecting the missing or reduced parts of speech input.

In a crucial study, Alameen and Levis (2015) confirmed the presence of connected speech as a positive factor affecting the performance of ESL students' listening comprehension and verified that both lexical and phonological types of reduced forms are equally confusing to non-native speakers, regardless of their proficiency levels.As seen in the literature review, the paucity of studies in the area of connected speech usage in L2 settings in general and in EFL settings in particular crystalizes the need for more research regarding the connected speech, such as subjects in different learning contexts, aspects of connected speech, the effect of presence/absence of connected speech, and the relationship between proficiency level and understanding of connected speech. Therefore, according to the above-mentioned reasons, the present research intended to examine the effect of the presence of connected speech on Saudi EFL learners' listening comprehension, and the effect of their proficiency level on their familiarity with these forms in listening comprehension.

Method

Study variables:

a) The dependent variable was the total score on the two versions of the dictation test (absence or presence).

b) The independent variables were the presence of reduced forms with two levels (absence or presence), the type of reduced form with five levels (assimilation, reduction, intrusion, elision, and contraction), and students' language proficiency with three levels (higher, intermediate and lower).

Participants

Sixty non-native speakers were recruited from two English-major classes in Qassim University. The subjects' proficiency levels were determined by a test of the Intermediate Level GEPT Listening (the General English Proficiency Test). The

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grouping is shown in Table 1. Based on their scores in the proficiency test, the research subjects were classified into the high-proficiency group, the mid-proficiency group and the low-proficiency group. The results of the independent t-test on the scores of the GEPT listening test showed that there is significant difference between the high-proficiency group, the mid-proficiency group and the low-proficiency group.

Table 1: Proficiency test results

	N	Mean	Std. Deviation	Std. Error Mean	t	Sig.
HIGH	18	92.7778	2.57946	.60798	152.517	.000
MEDUM	20	78.8000	4.94815	1.10644	71.174	.000
LOW	26	60.9231	5.49125	1.07692	56.525	.000

MATERIALS AND PROCEDURES

Instrument

This study applied a quantitative method to determine whether the presence of connected speech modifications influences Saudi EFL learners' listening comprehension. Dictation test materials used in the present study was composed by the researcher aiming to document whether the presence and the absence of reduced forms affect Saudi EFL learners' listening comprehension. It also intended to examine the relationship between the proficiency level of language learners and their comprehension of spoken language embedded with reduced forms. The dictation material was a self-developed dictation test, which consisted of 25 sentences read in two ways, namely, with the presence and the absence of reduced forms. The reduced forms in the 25 test items included assimilation, intrusion, elision, contraction, and reduction. Subjects were required to transcribe the full form of each word in the spoken sentence, only the targeted reduced forms were scored. Further, the recording of the dictation was done by a native speaker working as an assistant professor in Qassin University.

Test Construction

The materials applied in this study were chosen from a wide variety of sources including interviews, movies, series, talks, etc. in which instances of 5 types of reduced forms could be found. Since in an EFL context like Saudi Arabia, having limited access to native speakers, the present researcher tried to use materials which were representative of natural spoken language.

According to literature on listening comprehension, it is of crucial importance that listening materials be representative of genuine speech and they should have the characteristics of the target language (Zarei and Doostkam 2014). There are three criteria for choosing listening materials items: First, they must be representative of natural spoken language second, the items were geared to the proficiency level of the

participants; third, the test started with recognition items to assist the participants in overcoming psychological inertia which was an artifact of the administration conditions. It also lowers the anxiety level of the participants and ameliorates their performance on the test (Krashen & Terrell, 1983).

Test time

The length of pauses between items is of crucial importance in processing spoken language. In testing listening comprehension, it is important to make a choice on the whole time of the test and time intervals between items. Several studies have emphasized that it would be helpful for examinees to give time to preview the stems of the question, for it helps examinees exploit metacognitive strategies through planning as well as turning their attention to the related parts of the text (Kuo 2012). Previewing test items improves the performance of examinees in tests of listening comprehension (Ito, 2013)**.**

On the other hand, the time intervals between items must be appropriate, neither too short nor too long. If the time interval between items is too long, it will bring about communication breakdown (Zarei and Doostkam, 2014). On the contrary, if the time interval is short, it will be difficult for the listener to retain the information in their mind. The time intervals between items are taken into our consideration.

Test Validity

The test was presented to a panel of experts, and they were asked to give their feedback and suggestions on the test of reduced forms in general and its constituent items in particular. The panel composed of 5 university professors of English teaching and applied linguistics. The test was scrutinized by expert for its face and content validity. They commented on the general appearance of the items, the clarity of instruction as well as the suitability of the test items. Based on the experts' feedback and comments, some items were modified or discarded from the test.

Test reliability

The dictation test was tested on a pilot group. This group consisted of 39 students randomly selected from the section of the target level at the department who were not members of the groups who participated in the study. A technique of a test-retest was used to ensure the reliability of the research instruments. The period between the test and the re-test was two weeks. The reliability of the test items was assessed using Cronbach's alpha which was 0.726, which was considered statistically acceptable for the current study.

Procedure for the dictation test

Following the testing procedure of Henrichsen (1984) and Ito (2006), the test was given in two versions. Presence and absence of connected speech were distributed in Test A and Test B. To counterbalance the test item difficulty, one class did the test in the order of A, then B, whereas the other class reversed the order.

Data collection and data analyses

The dictation test scores of presence/absence of connected speech (Test A and Test B) were collected for analysis. The scores of all subjects in the two dictation tests were run in independent samples t-tests to examine the effect of reduced forms on the subjects' listening comprehension to answer research question 1. Further, a t test analysis was used to determine whether the subjects' proficiency levels and the aspects of connected speech affected their listening comprehension in order to answer research questions.

RESULTS AND DISCUSSION

To answer the first research question, " Does the presence and absence of connected speech aspects affect Saudi EFL students' listening comprehension?**",** the student scores from the dictation test were systematically uploaded into a computer for quantitative analyses. The Statistical Package for the Social Science (SPSS) was adopted in the statistical analysis. Consequently, an independent T-test was administered to find out whether the absence/presence of connected speech affected the learners' listening comprehension of English.

Table 2 shows the means and standard deviations of the subjects' performance in absence/presence of connected speech dictations. The paired samples *t*-test results yielded a significant difference between absence-of-connected-speech dictation and presence-of-connected-speech dictation ($p < .001$). The results in table 2 reveal that the effect of presence of connected speech on learners' dictation test scores was statistically significant. Table 2 shows that the mean absence score (16.20) is higher than the mean presence score (12.73), and therefore the first hypothesis, "The presence of connected speech will have a negative influence on Saudi English majors' listening comprehension" was confirmed.

Table 2: Descriptive Statistics for the Dictation Test Scores in the Absence and the Presence of Reduced Forms Groups

Condition of Reduced Forms	No.	M	SD	t	Sig.
Presence	64	12.73	4.262	-3.731	.053
Absence	64	16.20	6.095		

The results indicate that the presence of reduced forms in a natural speech flow did significantly affect the participants' listening comprehension. This finding confirmed that the presence of connected speech adds difficulties to the learners' listening comprehension of English. This finding provides a further support to the claim that the presence of connected speech has a negative influence on learners' listening comprehension. A strong relationship between aspects of connected speech and listening comprehension has been reported in the literature (e.g., Ernestus, et al., 2002; Ito, 2006; Weinstein, 2001; Henrichsen, 1984). The same finding has been reached by Ito (2013) who confirmed that the presence of connected speech modifications significantly influenced EFL learners' listening comprehension. This finding is also similar to that reached by Kuo, Lu, and Li (2011) who use a t-test comparing the non-native speakers' mean difference between the presence and the absence scores, which showed a statistically significant result. In addition, the interaction effect between the

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presence of connected speech aspects and the proficiency level was statistically significant. It is worth mentioning that this finding is in line with previous research into reduced forms in spoken language which found that Saudi EFL learners have little familiarity with reduced forms.

In order to answer the second research question which states, "Does the effect of connected speech modifications on English majors' listening comprehension vary according to their language proficiency?", data gathered from the three groups was run in the statistical analysis. Descriptive statistics in Table 3 show that the correct response percentages of presence of connected speech modifications for the high-proficiency group, mid-proficiency group, and low-proficiency group are 17.72, 13.85, and 8.42 respectively. This finding indicates that in the presence of connected speech modifications, the higher the proficiency level, the better the subjects performed in spoken word recognition.

Table 3: Descriptive statistics of the correct answering rates of subjects of various proficiency levels in the presence of connected speech modifications

Subjects of the study	N	Mean	Std. Deviation	Std. Error Mean
High- proficiency group	18	17.7222	1.40610	.33142
Mid-proficiency group	20	13.8500	1.13671	.25418
Low-proficiency group	26	8.4231	2.28338	.44781

According to the obtained results, there was a support for the second hypothesis stating that the effect of connected speech on Saudi learners' listening comprehension will vary according to their language proficiency

In addition, the interaction effect between the presence of reduced forms and the proficiency level was statistically significant. Therefore, this finding is consistent with the results of other previous studies (Kuo, 2012, Ito, 2006; Anderson-Hsieh, 1994) which clearly indicate that language proficiency is an important factor affecting speech modifications. The high-proficiency group displayed significantly more modifications in three of the categories investigated when compared with the mid-proficiency group and low-proficiency group. Also, while the high-proficiency group achieves high means in their rate of modifications in many of the categories investigated, the mid-proficiency group and low-proficiency group, for the most part, showed dramatically lower rates of modification.

As shown in Table 4, results of the statistical analysis revealed that the effect of connected speech aspects on listeners' performance in listening comprehension differ significantly according to listeners' proficiency levels. Results of the multiple group comparisons showed that the high-proficiency group performed significantly better than the mid-proficiency group which in turn outperformed the low-proficiency group. This finding indicates that proficiency level is a factor affecting listeners' performance of spoken word recognition in the presence of reduced forms. This finding goes in accordance with the results of Simpson et al (2019) and Lee (2013) who found low-intermediate ESL learners had difficulty understanding speech when it is fast.

Table 4: Summary Results for Subjects' Proficiency Levels and Aspects of Connected Speech in Dictation Test

Subjects of the study	Test Value = .05					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
High-proficiency group	53.322	17	.000	17.67222	16.9730	18.3715
Mid-proficiency group	54.293	19	.000	13.80000	13.2680	14.3320
Low-proficiency group	18.698	25	.000	8.37308	7.4508	9.2954

In order to answer the third research questions, "Is English majors' listening comprehension affected by connected speech aspects?", table 5 shows the descriptive statistics of the subjects' correct-answering rate of five aspects of connected speech patterns. The correct answering rates of assimilation and contraction are 3.02 and 2.97 respectively. As for intrusion, elision and reduction, the correct-answering rates are 1.95, 2.09, and 2.83 respectively. As shown in Table 4, the statistical analysis revealed that aspects of connected speech modifications also significantly affected the subjects' performance in comprehending natural language. According to multiple group comparisons on the correct answering rate, assimilation and contraction were found to be significantly the least difficult reduced for students to understand and recognize. But the most difficult ones appeared in intrusion, elision and reduction, among which caused significantly more problems in listening comprehension. This finding goes in accordance with that reached by Lin, Jen, and Chung (2007) who have found that the most difficult connected speech aspects for students are intrusion and elision. They attribute the difficulty to the fact that these reduced forms are more unpredictable in their formations and completely different from what students would have expected

Table 5: Descriptive Statistics of Aspects in the Presence Condition of Connected Speech Modifications

Connected speech types	N	Mean	Std. Deviation	Std. Error Mean	t	Sig.
Assimilation	64	3.02	.900	.112	26.373	.000
Elision	64	1.94	1.233	.154	12.248	.000
Intrusion	64	1.95	1.227	.153	12.408	.000
contraction	64	2.97	.854	.107	27.345	.000
Reduction	64	2.83	1.017	.127	21.862	.000

In summary, the finding supports that aspect of connected speech modifications is a factor affecting the performance of spoken word recognition.

To answer this question the fourth Research Question which states, "Are there interactions between aspects of connected speech and subjects' proficiency levels?", data gathered from the three groups was run in analysis of descriptive statistics. Table 6 shows the descriptive statistics of the performance of subjects of different proficiency levels in differentiating the five aspects of connected speech. The high-proficiency level students received less satisfactory scores in intrusion and elision, 3.11and 3.22 respectively. As for the other connected speech aspects, assimilation, contraction, and reduction, 3.78, 3.78, and 3.83 of correct answering rates were found.

For the mid-proficiency level students, similar results were yielded in all of the five aspects of connected speech. Contraction and elision belonged to the low-score category, 2.95 and 2.35 respectively. Additionally, the scores for assimilation, intrusion, and Reduction were 3.15, 3.11, and 3.00respectively. As for the low-proficiency level students, the rate of difficulty, i.e., the correct-answering rate remained similar to those of the other groups. There was a clear distinction between the scores for intrusion and elision, .81and .73 respectively, and those for contraction, assimilation, and reduction, 2.42, 2.38, and 2.22 respectively.

Table 6: Descriptive Statistics for the Performance of Subjects of Different Proficiency Levels in Five Aspects of Reduced Forms

Group	Type	N	Mean	Std. Deviation	Std. Error Mean
High	Assimilation	18	3.78	.548	.129
	Elision	18	3.22	.647	.152
	Intrusion	18	3.11	.963	.227
	contraction	18	3.78	.732	.173
	Reduction	18	3.83	.786	.185
Mid	Assimilation	20	3.1500	.81273	.18173
	Elision	20	2.3500	.67082	.15000
	Intrusion	20	2.4000	.50262	.11239
	contraction	20	2.9500	.68633	.15347
	Reduction	20	3.0000	.56195	.12566
Low	Assimilation	26	2.3846	.69725	.13674
	Elision	26	.7308	.60383	.11842
	Intrusion	26	.8077	.69393	.13609
	contraction	26	2.4231	.57779	.11331
	Reduction	26	2.0000	.69282	.13587

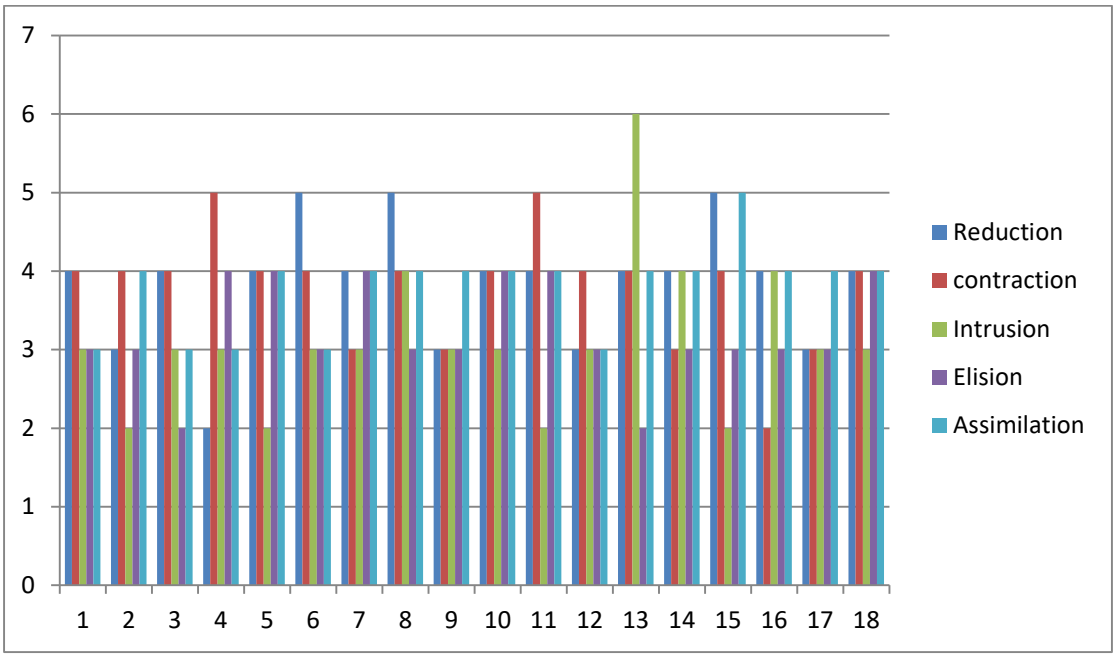

Figure 1: High proficiency group mean percentage rates in dictation test for the presence of connected speech aspects (i.e. contraction, assimilation, intrusion, reduction and elision)

As illustrated in Figure 1, the high-proficiency level students got lower performance in intrusion and elision than the other connected speech aspects, assimilation, contraction, and reduction receive.

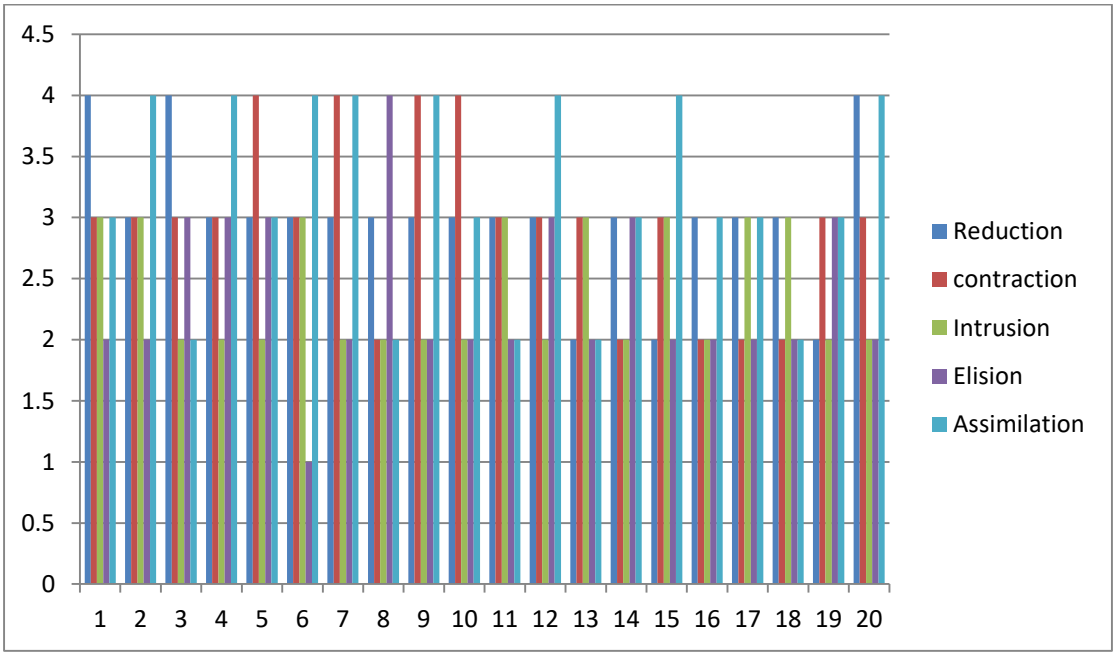

Figure2. Mid-proficiency group mean percentage rates in dictation test for the presence of connected speech aspects (i.e. contraction, assimilation, intrusion, reduction and elision)

As illustrated in Figure 2, the mid-proficiency level students got lower scores in contraction and elision than their scores for assimilation, intrusion, and reduction.

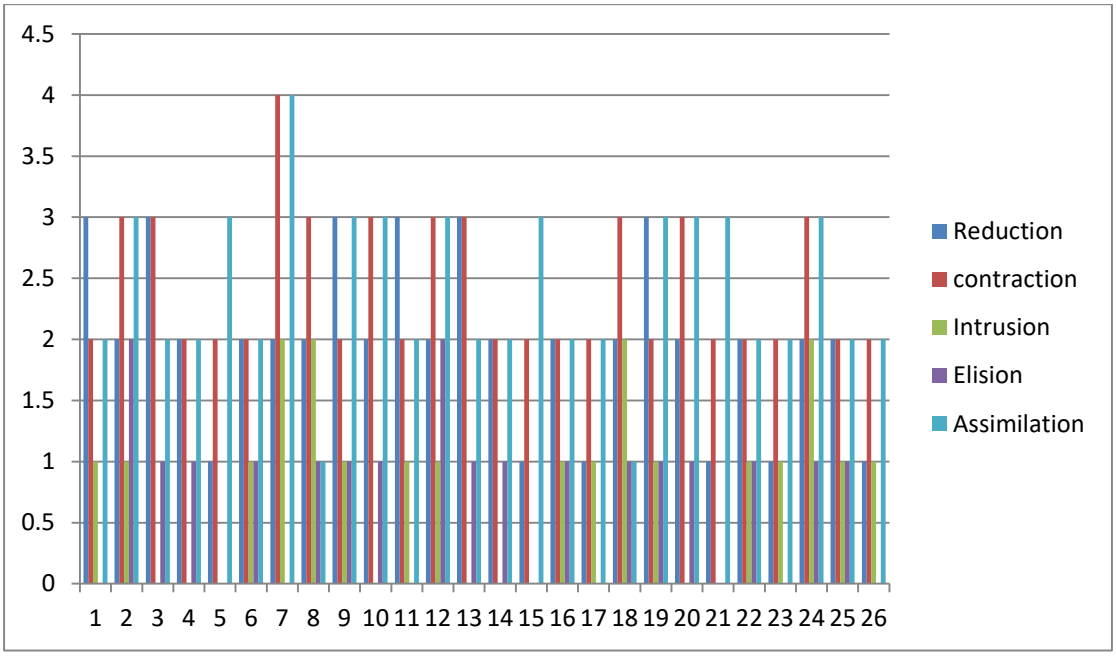

Figure 3: Low-proficiency group mean percentage rates in dictation test for the presence of connected speech aspects (i.e. contraction, assimilation, intrusion, reduction and elision)

As illustrated in figure 2, the low-proficiency level students have more difficulty in intrusion and elision than in contraction, assimilation, and reduction.As shown in Table 4, the statistical analysis revealed a significant interaction between the proficiency levels of the students and their respective performances in the five aspects of connected speech modifications, indicating that English majors' listening comprehension differed among the 3 proficiency levels across the five aspects of connected speech modifications. The high-proficiency level students performed significantly better than the mid- and low-proficiency level students.

To further investigate the interaction, statistical analyses were employed to determine how proficiency levels have interacted with aspects of connected speech patterns. Table 7 provides the results of statistical analyses of subjects' proficiency levels and connected speech aspects connected speech aspects. The analyses yielded a result that in contraction, assimilation, intrusion, reduction and elision, the high-proficiency group performed significantly better than the mid-proficiency group, and the mid-proficiency group performed significantly better than the low-proficiency group.

Table 7: Statistical Analyses of the Interaction between Subjects' Proficiency Levels and Connected Speech Aspects

Types	Proficiency Level	N	M	SD	F	P
Contraction	High	18	3.78	.732	22.557	.000
	Mid	20	2.95	.686		
	Low	26	2.42	.578		
Elision	High	18	3.22	.647	87.369	.000
	Mid	20	2.35	.671		
	Low	26	.73	.604		
Assimilation	High	18	3.78	.548	21.656	.000
	Mid	20	3.15	.813		
	Low	26	2.38	.697		
Intrusion	High	18	3.11	.963	58.205	.000
	Mid	20	2.40	.503		
	Low	26	.81	.694		
Reduction	High	18	3.83	.786	39.178	.000
	Mid	20	3.00	.562		
	Low	26	2.22	.693		

The indication garnered from the results was that there were interactions between the proficiency level of the students and the aspects of connected speech patterns. This finding confirmed the fourth hypothesis stating that there are interactions between aspects of connected speech patterns and subjects' proficiency levels. In other words, the higher students' proficiency level was, the better they could detect the connected speech patterns used in the natural speech flow, the ability of which further affected students' performance of spoken word recognition. The results are consistent with those of Simpson et al (2019) Doostkam and Zarei (2014), Kuo (2012), Ito (2006), Fan (2003) and Anderson (1994) found that there was an interaction between proficiency level and the subjects' performance in connected speech comprehension.

CONCLUSION

The current study reported here attempts to investigate further the influence of the presence of reduced forms in real language on Saudi EFL learners' listening comprehension. Furthermore, it intends to examine the relationship between the proficiency level of English majors and aspects of connected speech patterns. The research instruments were an English Language Proficiency test and a dictation test. The subjects were 64 English majors from the department of English. Based on their scores in the English Language Proficiency test, they were classified into three groups; namely the high-proficiency group, the mid-proficiency group, and the low-proficiency group. Based on the results of this study, it was concluded that the presence of reduced forms in a natural speech flow did significantly affect the participants' listening comprehension. This finding confirmed that the presence of connected speech adds difficulties to the learners' listening comprehension of English. In addition, the finding displays that learners' listening comprehension is influenced by different aspects of reduced forms. Results of the multiple group comparisons indicated that the high-

proficiency group performed significantly better than the mid-proficiency group which in turn outperformed the low-proficiency group. This finding signifies that proficiency level is a factor affecting learners' listening comprehension in the presence of reduced forms. The results obtained in the present study support the results of Ito (2006) and Kuo (2012) that there is a positive relationship between proficiency level and understanding of connected speech. Categorization of connected speech may need further investigation in future research.

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Appendix

Connect Speech Dictation Test

Instructions:

In a moment you will hear 25 sentences. After you hear each sentence, write it down in the appropriate space on your paper. Use the full form of each word even though some of the words you hear may be contracted or blended together. For example, if you hear the sentence "What'd ja do yesterday?" you should write down what – did – you – do – yesterday? Even though the first few words were contracted and reduced to "What'dja".

You should rely on your knowledge of English sentence structure as well as on the sounds you hear. Think and write quickly. The pauses between sentences will not be too long. If you do not have time to write the full sentence or you cannot remember all of it, write as much as you can - even if it is only the first few words. Each sentence will be spoken only once and none of the sentences will be repeated. If you have any questions about what you are supposed to do, raise your hand and ask them.

Process	Sentences to be written by students	Reduced forms	Full forms
Assimilation	1. **'Ten boys'** learn English. 2. **Don't you know** that **they are** having a secret dinner? 3.Mr. Hay will visit ***his son and his daughter*** *tomorrow*. 4. ***Won't you*** *come with us* next week? 5. Sameer bought **good pen** last week.	-/temboys/ - /dontʃa/ - /hɪz sʌn ndɪs ˈdɔː.tə/ - /wəʊnt ju/ -/gʊb pen/	-**'Ten boys'** - **Don't you know** - ***his son and his daughter*** - ***Won't you*** - **good pen**
Elision	6.John ate '**sandwich**' 7. I like **'fish and chips'**. 8. *Hany prefers to have* ***tea 'and' cakes*** in the evening 9. She **acts** like she owns the place! 10. My **family** supports me in my new job.	- 'sanwich' - fishnchips' - /tiː n̩ keɪks/ - / æks/ -/ˈfæmli/	-'**sandwich**' -**'fish and chips'** - ***tea 'and' cakes*** - **acts** - **family**
Intrusion	11. **I agree** with Ali's opinion. 12. You have to follow the **law and order**. 13. Teachers **'go on'** and 14. Please **do it**. 15. I don't like to biscuits. **I ate it** when I am hungry.	-'aiyagree' -'lawrunorder' -'gowon' - Please do/ **w**/it. - /aɪj et ɪt/	- **I agree** - **law and order** -**'go on'** - **do it** - **I ate it**
Contraction	16. **I'll** see her in an hour. 17. The hospital **won't** give out any information. 18. **I'm** glad you came. 19. I **couldn't** catch it. 20. **We're** landing soon.	- **I'll** - **won't** - **I'm** - **couldn't** - **We're**	- **I'll** - **won't** - **I'm** - I **couldn't** - **We're**
Reduction	21. **Can you** pass me the mobile? 22. I am **going to** watch TV. 23. Hind and Ali **want to** eat soup. 24. **they have** stayed at a hotel in this city. 25. I can't come tomorrow, I've **got to** work.	- /kəd/ - /gonna/ - /wanna/ /hafta/ -/gotta/	- **Can you** - **going to** - **want to** - **they have** - **got to**