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The American University in Cairo
School of Humanities and Social Sciences

THE IMPACT OF SPEECH RATE REDUCTION TECHNIQUES ON THE
LISTENING COMPREHENSION PERFORMANCE OF EGYPTIAN HIGH SCHOOL
STUDENTS

A Thesis Submitted to
The Department of TEFL
In Partial Fulfillment of the Requirements
For the Degree of Master of Arts

By
Ghada Abdulmoneim Ibrahim

May 2012

The American University in Cairo

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Has been approved by

Dr. Phyllis Wachob
Thesis Committee Advisor _____
Affiliation _____

Dr. Amira Agameya
Thesis Committee Reader _____
Affiliation _____

Dr. Robert Williams
Thesis Committee Reader _____
Affiliation _____

_____ Dept. Chair _____ Date _____ Dean of HUSS _____ Date

ABSTRACT

The speech rate (SR) of the recorded aural native input has been recurrently reported by EFL listeners worldwide as being the major obstacle to achieve successful listening comprehension (LC). To investigate the efficacy of natural rate reduction techniques in facilitating LC, this study was designed to compare and contrast the immediate effect(s) of exposing two intact classes ($n=46$) of Egyptian high school students enrolled in the International General Certificate of Secondary Education (IGCSE) to two SR reduction techniques. The first technique was the deliberate articulation (DA), and the second was inserting three-second pauses at T-unit boundaries. The dependent variables were the students' LC task scores on the one hand, and their perceptions of the slow speeds appropriateness to their LC needs, on the other hand. LC proficiency was considered as a moderating variable. A Control group ($n=26$) was included to collect baseline data on these students' LC performance in the "normal" SRs adopted in Cambridge exams. A mixed design approach was followed in collecting data. Five sets of LC task scores were gathered in five weeks. During the 1st, 3rd and 5th weeks, the experimental classes completed the LC tasks in the normal speed (NS) condition. In the 2nd and the 4th weeks, the experimental classes performed their LC tasks while listening to texts modified according to the two techniques under investigation. This design was meant to allow each of these two classes to experience the two reduced SR conditions. Triangulation of data collection tools was achieved. Thus, beside task scores and class observations, retrospective semi-structured interviews were held with 14 students representing three LC proficiency levels immediately after each of the five tasks to examine in depth the interaction between the listeners' LC proficiency level and their perceptions of the reduced SRs appropriateness. SPSS analyses of significance of variance (one-way ANOVA and independent *t*-tests) of mean scores showed a statistically significant drop in LC scores in the reduced SR conditions compared to the normal ones. Further, the interviewees' input clarified the observed discrepancy between perceptions of improved overall understanding and poor task performance. Although both techniques provided the participants with added processing time to deduce meanings, and to read questions thoroughly before listening, the reduced SRs interfered with the introspective task management leading to concentration breakdown and feelings of boredom. Despite this interference, a number of intermediate and all of the low-level interviewees received improved task scores, and reported facilitated LC. One implication of the results is that English as a Foreign Language learners (EFLs) of advanced, intermediate and low LC proficiency are recommended to be instructed in "rapid speech phonology" (Cauldwell, 2002) by a variety of SR reduction techniques to develop sound LC bottom-up skills before their exposure to the spontaneous native talk.

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CHAPTER ONE

INTRODUCTION

Introduction

Research on modifications that enhance the comprehensibility of the native aural input directed to nonnative speakers of English (NNS) has recently become of central importance (Blau, 1991; Rader, 1990). This could be attributed to the increasing oral dialogue between native speakers (NS) and non native speakers (NNS) using English as a *lingua franca*. As a result, exploring the best practices in teaching the orality skills of listening and speaking is receiving more focus in the EFL pedagogy.

A class practice that is widely adopted in different EFL contexts worldwide to develop the listening comprehension (LC) skills of the EFLs is exposing them to the audio-taped native talk. Although this medium of authentic language presentation is touted for compensating the EFLs for the lack of exposure to the rich native input in contexts where English is used as a foreign language, it has been criticized for imposing a number of cognitive challenges on the EFL listeners, especially beginners, that are not present in live interactions with NSs.

One major obstacle affecting the comprehensibility of the recorded continuous native input is the uncontrollable speed of word delivery, technically called speech rate (SR) (Cauldwell, 2002; Coskun, 2008; Goh, 2000; Higgins, 1996; Ishler, 2010). In real life interactions, NSs are observed to adopt a simplified input called *foreign talk* to NNSs of limited linguistic resources by adopting a slower SR, assuming that it is a facilitative technique to enable their listeners to follow the flow of the speech (Griffiths, 1991). More For example, NSs usually utilize the slowing technique of speaking deliberately and

clearly with the least use of reduced forms (RF) such as elisions (Hayati, 2010). Also, they allow for more processing time by means of longer and more frequent empty pauses (Blau, 1991; Ishler, 2010; Rader, 1990). Lastly, listeners have some control over the SR during conversations as they can stop their interlocutor to ask for repetition, to make clarification requests or simply to indicate lack of comprehension.

Conversely, while listening to the non-interactive recorded speech, EFL listeners have no control over the flow due to the lack of direct interaction with the interlocutor; they become “at the mercy of the speaker” (Grant, 1996, p.13). In this listening condition, the linguistic and the temporal characteristics of the auditory text become of crucial importance in aiding LC (Long, 1983). But, if the speed of the recorded input is too rapid, the working memory (WM) becomes completely absorbed in a “vicious circle” (Goh, 2000, p.70) of message perception and information processing. At low language proficiency levels, this makes the speech flow sounds like a meaningless “rapid-fire” noise (Rader, 1990, p. 38) as LC processes get impeded.

Manipulating the temporal features of the recorded text in terms of adding more processing time has been assumed to render it more comprehensible, and to decrease the cognitive load on the WM of the EFL listeners (Blau, 1991; Griffiths, 1992; Ishler, 2010). Despite the observed positive relation between slowed SRs and LC, a number of LC researchers still describe the relation as “intuitively appealing” (Zhao, 1997, p.50) but not theoretically supported. This is because the relation involves a number of complexities that are far from being resolved in the rate specialized research. These complexities are presented in some detail in the following sections.

SR Reference Ranges

One unsettled issue is the recurrent claim that SR research has not been able to precisely define the SR ranges that are considered as “appropriate” (where LC thrives) and those which are threshold (where LC declines) by EFL listeners of different proficiency levels. The lack of standardized references, according to Zhao (1997), has led to serious methodological flaws and inconsistent results that make the transferability of these conclusions to other contexts almost impossible. Reviewing some of the reported SR studies, Zhao (1997) observed that what is so-called “normal” SR was once 170 word per minute (WPM) (Blau,1991), 180 WPM (Zhao,1997) or 155 WPM (Rader, 1990). Given the disparity among these ranges, it could be understandable why results collected from these studies are conflicting and thus incomparable.

Based on the qualitative data derived from surveys on EFLs perception of the SR of the authentic talk, Zhao (1997) and Higgins (1996) concluded that SR is a highly subjective phenomenon that is closely related to the relative developmental stage and the learning objectives of each listener. The implications of this subjective definition have been evident in a number of methodological modifications adopted in research to assess SR.

First, Zhao (1997) concluded that finding an “ideal” SR for a group of learners of similar ability is almost “impossible” (p. 50) since each learner has a unique SR reference. Thus, assessing rate modification effects on LC only by means of calculating group averages denies listeners their individual differences, and yields results that are insignificant. Hence, including more qualitative approaches in examining SR, as argued

by Zhao (1997) and Higgins (1996), would uncover the inner most criteria used by these learners to define their “appropriate” SRs.

This new approach of investigating SR using qualitative approaches has been implemented by a very limited number of researchers (Blau,1990,1991; Ishler, 2010; McBride, 2011; Zhao,1997). Adopting self assessments, surveys and semi-structured interviews, these researchers were successful in delineating the comprehensible input from a listener’s perspective. More insights are yet to be attained about the SR appropriateness through more qualitative research on EFLs of unique characteristics as far as L1, age, learning context and culture are concerned.

SR Modification Hot Debate

Another dimension in the complexity of investigating SR lies in the hot debate over rate manipulations as distorting the authenticity of the aural input. Proponents of slowed SRs argue for the importance of rendering the aural input comprehensible as a condition for acquisition. Results reported in rate specialized research tend to indicate that participants exposed to slowed SR conditions outperformed others in scoring the highest in global comprehension checks and recall protocols (Blau,1990; Griffiths,1992 ; Higgins, 1996; Rader, 1990), in noticing more forms (Higgins,1996; McBride, 2011), and in better comprehending texts at faster rates due to developed bottom-up skills (Hayati, 2010; McBride, 2011).

Opponents, on the other hand, are skeptical about the long-term gains of rate reduction as it attunes the listeners’ ears to a representation of spoken English that is hardly used outside the EFL class. These maintain that the earlier the exposure to faster SRs, the better the performance in the long run in real listening tasks. There is some

emerging evidence that the exposure to fast rates for three months did help intermediate Iranian freshmen to comprehend authentic broadcast texts delivered at moderately fast SRs, and to develop transferrable bottom-up skills to other rates (Hayati, 2010). As can be seen, SR reduction is a highly controversial type of input modifications in terms of authenticity. More empirical evidence is still needed to support both short- and long-term gains of exposure to slow SRs at different stages of acquisition.

Lately, a third group of researchers have managed to reach a compromise in this hot debate by providing listeners with added seconds of processing time while retaining as much as possible the “naturalness” of the flow of input. As the name indicates, the “Short Path” Approach (Hayati, 2010, p.113) is premised on the assumption that the exposure to slow SRs should be a transitional phase where sound LC skills are developed in preparation for better performance at faster rates. To preserve the naturalness of the input as much as possible, the SR reduction techniques adopted are the ones assumed to affect the least the authentic features of the spoken input. Examples of these techniques are the deliberate articulation technique (Hayati, 2010; McBride, 2011) and empty pauses (Ishler, 2010; McBride, 2011). Results reported concerning the efficacy of these techniques are not conclusive.

While the naturally slowed SR tended to yield the highest LC scores and the most improved grammatical accuracy in a Chilean EFL context (McBride, 2011), still it was not as significant as the spontaneous SR in enabling the Iranian participants to comprehend texts delivered at moderately fast SRs (Hayati, 2010). Empty pauses, on the other hand tended to be of a consistently positive impact on LC achievement at all proficiency levels (Blau, 1990,1991; Ishler, 2010). Yet, the question whether empty

pauses are “preferred” more than other reduction techniques by more skilled listeners is not answered. Another gap is whether and how listeners of different LC abilities invest the added processing time of empty pauses while on task.

Again, due to the dearth in research adopting this middle approach, there is not enough evidence whether slow rates used in LC training would prepare L2 listeners more efficiently to handle faster rates. Also, the question “which techniques or combination of techniques are recommended in slowing SRs in a natural way?” has not been addressed. What is more important is to investigate how the efficacy of these natural techniques of rate reduction is perceived by listeners of different LC proficiency levels. Addressing such questions is anticipated to reveal part of the complexity of understanding SR and to uncover the characteristics of the comprehensible input required for successful language acquisition.

Statement of the Problem

Egypt is a unique EFL context in terms of how LC is practiced. Students taught in the Egyptian preparatory language schools hardly receive LC formal instruction as a result of a negative washback of summative assessments. On joining international secondary education systems such as IGCSE (International General Certificate of Secondary Education), the level of their LC achievement becomes a determiner of their academic success since the listening task constitutes a minimum of 25% of the final grade in the Cambridge/ ED Excel Exams. Accordingly, they are trained for the LC final tests by listening on a weekly basis to audio-taped British monologues and dialogues while answering a set of comprehension checks such as MCQs, T/Fs or short answer completion. But due to the novelty of these tasks, these students score poorly in them and

become frustrated. As reported by their language teachers, they unanimously consider the unusual SR of the spontaneous native talk to be the major difficulty that hinders their attempts to deduce the overall meaning and to complete the task successfully.

The current study targets a group of Egyptian EFLs enrolled in the first year of the IGCSE. Their first encounter with the audio taped native input was described by them as “shocking”; more specifically, according to the majority of them, the SRs of the British connected talk have rendered the recorded input to be incomprehensible. What is considered to be crucially important for these EFLs at this critical stage of their SLA is to develop sound bottom-up LC skills to be effective communicators in the target language. Applying SR reduction techniques during the initial encounters of these learners to the recorded native input is assumed to enhance text comprehensibility needed for overall linguistic development, and to improve their academic performance in terms of LC scores.

Considering the nature of the target language input that these learners were used to hear, it is found to be limited to the input of their language teachers who either code switch or speak at relatively slow rates. Therefore, these learners have been sensitized to versions of spoken English that are not used by NSs in terms of speed.

Seen from a temporal perspective, the aural texts used in the IGCSE context are contrived for pedagogic use in a way that is assumed to intensify the listeners’ perception of the rapidity of the native talk. Rader (1990) clarified that scripted and semi-scripted aural texts utilized for assessing LC in different EFL settings lack some crucial features of the spontaneous talk such as natural pauses, repetitions, redundancies and false starts.

These features have the potential of providing listeners with more time to reflect on the perceived input.

In addition, the LC tasks utilized for final test preparation purposes are cognitively challenging, being introspective in nature. Bearing in mind the age of these learners (average of 15 years), it could be explained why their echoic memory (short-term memory) usually falls short in meeting effectively the on-line processing demands of a while-listening task where they have to attend to uncontrollable flow of speech, and to answer a set of comprehension questions simultaneously.

Given these challenges, this research study examines the extent of effectiveness of reducing the SRs of the audio taped native input by means of two techniques, prolonged pauses and deliberate articulation; in improving text comprehensibility as well as LC task achievement as far as the targeted Egyptian learners are concerned. While doing so, the construct of the “appropriate rates” will be tackled from a novel perspective. That is, the SR ranges perceived to be ideal in facilitating LC are investigated from the view point of adolescent Arab EFLs who carry unique socio cultural and academic backgrounds. By adopting a qualitative approach, these listeners will be given the chance to voice “their” own criteria of SR appropriateness while evaluating the reduced SR techniques.

The Research Questions

The current study aims to answer the following questions:

1. What is the immediate impact of applying the SR reduction technique of prolonged pauses on the LC performance of the Egyptian students preparing for IGCSE?
2. What is the immediate impact of applying the SR reduction technique of deliberate articulation on the LC performance of the Egyptian students preparing for IGCSE?
3. How do Egyptian students preparing for IGCSE perceive the impact of each of these two techniques in terms of text comprehensibility and task completion?

Variables of the Experiment

The study examines the effect of two independent variables (SR reduction techniques of prolonged empty pauses and deliberate articulation) on the two dependent variables of the participants' LC task scores and their perceptions of the text comprehensibility and task completion. The participants' LC proficiency level is considered as a moderating variable. Worthy to mention is that the unmodified speech rates considered to be the "normal SRs" in the context where the study was conducted were later included as the third independent variable. This addition was done as the normal SRs were used as the baseline against which the rate reduction techniques were compared and contrasted.

Definition of Constructs

Listening Comprehension

Similar to the reading comprehension processes, LC is theoretically defined as an inferential process in which a listener is assumed to “associate an available auditory input with his/her existing background knowledge to access the intended meaning” (Fang, 2008, p. 22). Nevertheless, what makes LC a more cognitively demanding process is the role that both attention and the WM play in decoding the auditory message, given that the listening text is ephemeral. So, mental processes pertaining to segmentation, rehearsing and recalling are at play while listening more than while reading. Based on the uniqueness of the LC processes, Ishler (2010) concluded that the definition of LC is not as problematic as defining the processes and skills involved in it.

Traditionally, LC used to be described as an automatic process (Fang, 2008). Accordingly, the listener’s role was mainly to receive and store the comprehensible aural input. A cognitive model that goes in harmony with this view of LC is the Three-Phase Model (Goh, 2000). The model has been highly criticized for restricting the LC processes to three simple phases (perception, parsing and utilization), and for lacking the strategy use of the listener.

Recently, Ishler (2010) has provided a more active model of LC. His definition is “Comprehension is not a unitary process which consists of two major stages: word recognition processes and meaning construction/integration processes” (p.45). This definition implies that LC takes place through the integration of the perceived oral input with the listener’s schemata with the aid of the listening strategies. Recognizing the central role of the strategy use in the LC processes, Ishler (2010) proposed a more

“active” model called the Cognitive Strategic Listening Comprehension Model. The model is a hybrid of four cognitive LC levels (reception, recycling, retrieval, and storage) and the LC strategies (cognitive, metacognitive and socioaffective).

The two definitions of LC mentioned above do not fully meet the purposes of the current study since they lack any references to the listeners’ utilization of the deduced meanings in completing a listening task. Fang’s (2008) definition seems to be the most applicable among them all to the way LC is operationally defined in this research. According to Fang, “Listening comprehension is an active and conscious process in which the listener constructs meaning by using cues from contextual information and existing knowledge, while relying upon multiple strategic resources to fulfill the task requirement” (p. 22).

The Operational Definitions of LC. The construct of LC is operationalized in this research in two ways: first, it is objectively defined as the participants’ level of task performance as reflected in their scores. Second, it is subjectively represented by the perceived percentages of the aural text comprehensibility as reported by the interviewees. These two operational measures of LC have been included by the researcher to detect any discrepancies between the participants’ self assessments of the aural input comprehensibility and their task performance when exposed to the reduced SRs.

LC Proficiency

In contemporary LC research, LC proficiency is assumed to represent the repertoire of strategies that a given listener can utilize to decode the aural meaning. Based on the conclusions reported by Goh (1998), Ishler (2010) and Vandergrift (2007), proficient

listeners, beside having advanced linguistic abilities, are found to be capable of using and orchestrating more and higher cognitive strategies to represent the intended meaning.

The consensus in this study is that there is a certain LC proficiency threshold required to successfully fulfill the requirements of the listening tasks. Accordingly, listeners in this study are divided into three levels based on their LC task performance. The scores collected from the LC tasks are assumed to represent the LC proficiency of the participants. However, this operational definition has a potential limitation because, for example, participants who are classified as the most proficient in LC may be the most successful in terms of test taking skills rather than LC skills.

Speech Rate

The speed of input delivery - termed technically as speech rate - is one of the acoustic-temporal characteristics of the aural text. In the rate specialist literature, SR was classified as either belonging to the speaker's characteristics (Ishler, 2010) or to the text features (Rubin, 1994) depending on the mode of the language delivery. Higgins (1996) defined it as "the total sum of the temporal variables of articulation time, blank and filled pauses" (p.64). The branch of LC research that examines SR and the other temporal variables is the Specialist Temporal Variables (STV) research.

The Operational Definition of SRs. Given that the standardized "normal," "fast," and "slow" SR ranges reported by Tauroza and Allison (1990) may be ungeneralizable to the IGCSE setting targeted, being highly context-bound, the SR range considered as the "normal" in this study fell between 124-150 WPM. This range represents the speeds preset by The Cambridge International Exams. Editing the aural texts included in this

study by inserting 3-second empty pauses reduced the SR range to 120-136 WPM, whereas adopting the deliberate articulation yielded a slower SR range of 70-124 WPM. These two SR ranges represent the “slow” SRs in the current study. Table 1 shows the “normal” and the “slow” SR ranges adopted.

Table 1

Normal and Slow SR Ranges Adopted in the Study

Week #	SR Condition	Duration	speed (WPM)
week1	(NS)	45 mins	126:142
week2	(DA)	1 hr.9	95: 124
	(3-SP)	58 mins	133:136
week3	(NS)	45 mins	133: 145
week4	(DA)	57 mins	70:114
	(3-SP)	56 mins	120: 130
week5	(NS)	45 mins	124:150

Note. NS: normal speeds, 3-Sp: 3-second pauses, DA: deliberate articulation

The Listening Tasks

Due to the difficulty of directly accessing the cognitive processes involved in the LC, listening comprehension tasks are considered indirect means of assessment used by teachers and researchers to check the level of comprehension/achievement of the listeners in decoding the meanings of the auditory texts. However, these measuring tools may double the cognitive load of input processing, and hence yield inaccurate assessment of LC performance.

Ishler (2010) stated that the scores collected by some listening tasks may be “distorted” due to a number of factors. One factor is whether listeners are required to answer using their own words or copying the actual words of the text. Another factor has

to do with whether the task is answered while listening or after the text is ended. Ishler summed it up by stating that open, retrospective tasks are more challenging than closed, on-line tasks. Despite this, he concluded that both task types do not reliably represent the actual LC level of the listener.

The pedagogic tasks referred to in this study are the Cambridge/ED Excel listening exams used in the IGCSE context to assess the LC ability of the ESL/EFL listeners. They are introspective tasks that require both closed and open responses. Hence, respondents are sometimes required to summarize segments of the input in their own words. In the target context of the study, these tasks are the only indicator of the listeners' listening comprehension proficiency levels.

List of Abbreviations

1. LC: listening comprehension
2. RF: reduced forms in connected rapid speech such as contraction, assimilation and the weak schwa.
3. SR: speech rate
4. WM: working memory
5. WPM: word per minute
6. SPM: syllable per minute
7. STV: specialist temporal variables
8. DA: deliberate articulation
9. 3-SP: three-second pauses
10. NS: normal speed

Summary of the Chapter

This chapter was dedicated to the introduction of the main construct being investigated in this study, which is the “appropriate rate” as perceived by Egyptian EFLs. First, the rationale of manipulating the temporal characteristics of the audio-taped native talk to be comprehensible for NNSs was clarified. Next, the complexities involved in slowing the speeds of the spontaneous native speech were highlighted in terms of the lack of standardized SR ranges, the hot debate on the slowed SR authenticity, and the highly subjective definition of SRs . Further, three research questions focused on the efficacy of two SR reduction techniques, three-second pauses vs. deliberate articulation, in facilitating the LC task performance of the target participants and their perceptions of appropriateness. Both dependent and independent variables of the experiment were mentioned. Finally, constructs of LC, LC proficiency, speech rates and the task used for measuring the participants’ LC ability were briefly discussed.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

This chapter presents the theoretical framework of the proposed study. The variety of the topics discussed reflects the complexity of the construct of SR. Typical to the SR specialized research, the construct is introduced in the first section entitled “The impact of SR on the information-processing system” within a psycholinguistic framework being the major factor affecting the information-processing system while listening (Goh, 2000; Ishler, 2010; Rubin, 1994). Secondly, the chapter addresses some of the challenges that SR researchers usually encounter when defining and measuring the different speech rate ranges in a section called “SR assessment.” Thirdly, the part headed as “Rate manipulation debate” briefly covers the rate manipulation hot debate which leads the way to the discussion of the “Short Path” Approach partially applied in the study.

In addition, the fourth section entitled “Selected research on the efficacy of rate reduction techniques” presents some of the reported results on the efficacy of different rate reduction techniques in terms of improving LC performance and alleviating perceptions of task difficulty. This section is included to justify the choice of the techniques in this research. Then, the chapter is concluded with a fifth section entitled “Conclusions drawn from the reviewed literature” where a number of insights drawn from the literature review are highlighted. Finally, the significance of the proposed research questions within the theoretical framework is detailed under the heading of “the significance of the proposed research questions within the theoretical framework.”

The selection of the list of the studies included in this review was done according to two criteria: recency and variety. Most of the studies reviewed were conducted in the 1990s, which is considered a thriving period of LC research in general and SR manipulation specifically (Rubin, 1994; Vandergrift, 2007). This is due to the increasing awareness of the important role of the aural/oral skills in the effective communication between NSs and NNSs. Higgins (1996) and Zhao (1997) published two seminal studies that are claimed to have taken the SR manipulation research a step further as far as the subjective definition of the “appropriate rate” and the highly recommended qualitative approach are concerned. These new insights on the construct of SR seem to have impacted LC research and rate specialized research in the 21st century. The choice of very recent SR research (Hayati, 2010; Ishler, 2010; McBride, 2011) was meant to see how the variable of the appropriate rate has been examined and/or developed since it was coined in the 1990s.

The second criterion adopted for study selection is variety. Different EFL contexts are presented in this review: Tunisia (Ishler, 2010), Iran (Hayati, 2010), Puerto Rico (Blau,1990), Japan (Griffiths, 1992; Higgins,1996), Oman (Griffiths, 1992; Higgins,1996), Chile (Rader,1990), China (Flowerdew & Miller, 1992; Goh,2000; Tauroza & Allison) and Turkey (Coskun, 2008). This variety serves the formation of a more comprehensive view of how SR affects the comprehensibility of input directed to EFL listeners of different L1s.

Moreover, an array of SR slowing techniques is presented. These are mechanically reducing the velocity of SR, natural slowing by deliberate articulation,

inserting empty and/or filled pauses, and allowing listeners the freedom of fine tuning the speed to their needs using computers. The efficacy of each technique is measured in terms of LC performance and the listeners' perceived speed of the text and the difficulty of the task.

The keywords used for searching for the reviewed studies were “slowing speech rate and the comprehensible input,” “speech rate and Listening comprehension,” “LC difficulties of EFL learners,” “word rate,” “speech rate manipulation,” and “reducing speech rate to facilitate LC.” During the initial research, studies that examined SR using video-taped listening materials were excluded since the main focus of the current study is restricted to the unidirectional audio-taped texts. This restriction is premised on the assumption that the level of perception of SR difficulty is completely different in both media (Vandergrift, 2007). The lack of any visual cues to aid the listener while processing the authentic audio-taped texts adds to the challenges perceived while decoding the aural message.

The Impact of SR on the Information-Processing System

This section provides a psycholinguistic framework for the construct of the speech rate. It is aimed to clarify the nature of the cognitive pressure that SR is assumed to impose on the information-processing system of L2 learners while listening to unidirectional authentic texts. The discussion includes four terms that are key to the understanding of the LC processes taking place while perceiving and analyzing the aural message. These terms are the working memory (WM), the cognitive deficit, the cognitive load, and the bilingual models of meaning representation.

This section is important as it shows the mental limitations that L2 learners experience while constructing meaning as opposed to native speakers. The role that the proficiency level plays in minimizing/increasing these limits is tackled. Also, it provides a justification for providing L2 listeners of low LC proficiency more processing time due to a cognitive delay in the automatization in the second language processing.

Working Memory (WM)

The working memory, also called the echoic memory, is not simply “a storage facility” (McBride, 2011, p.132) of the perceived linguistic signals, but rather the “virtual area” where the newly perceived information from the aural text is integrated with the old one stored in the long-term memory resulting in comprehension (Ishler, 2010). Any failure in the stages of LC starting from message recognition, decoding and ending in integration with schemata is mainly attributed to “an overtaxed working memory” with a too much input to be processed (Ishler, 2010, p.86). Usually the mental overload related to SR leads to problems such as forgetting parts of the input, the inability to segment familiar lexical items from the stream, and incomplete integration of information, i.e. partial understanding. The cause of these problems is made clearer by the understanding of the “cognitive load.”

Cognitive Load

“The cognitive load” is a term used to describe “ the amount of new information that the WM can process at a time” (Ishler, 2010, p. 67). Ishler reported that the WM can temporarily hold up to seven pieces of new information, but it can perfectly analyze only

three to four units at a given time. If the perceived signal is not rehearsed, i.e. repeated, these information units decay after 10 seconds. In addition, if the speed of the new information delivery exceeds the threshold perceived by a given listener, the increased cognitive load would result in fragmented comprehension due to inability to recognize and process all of these information simultaneously. Still, this phenomenon is supposed to diminish eventually with more developed automatization.

This limitation may partially explain the difficulty perceived by EFLs in following an ephemeral audio text delivered at natural SRs. The mental load is claimed to be at its worst conditions in such one-way listening tasks (Field, 1996; Grant, 1996; Ishler, 2010; Lam, 1996; Vandergrift, 2007). In these tough listening conditions, listeners are forced to rely on the text features such as lexis, syntax and prosody (e.g., intonations and stress patterns) to deduce meaning. But, if the linguistic component is beyond their abilities, the topic is unfamiliar, the task is complicated, the listening environment is noisy and the SR is too fast, the load is drastically increased and LC is obstructed.

Cognitive Deficit

The term is defined as “the set of restrictions of the working memory that are set by L1” (Ishler, 2010, p.65). One example of these restrictions is the observed transfer of L1 perception strategies such as segmentation and heuristics (perceiving pitch direction, stress patterns, intonations and discourse logical cues) to L2 listening tasks. Ishler (2010) clarified that, at early stages of SLA, L2 learners usually transfer their L1 segmentation habits automatically and unconsciously to L2. This behavior is likely to cause perception errors. For example, Higgins (1996) observed that her Japanese intermediate learners

whose L1 is SOV faced difficulty in both segmenting and recalling verbs in English which is a SVO language. Nevertheless, she noticed that the effect of this restriction was eventually alleviated with slower SRs. Both Ishler (2010) and Higgins (1996) seem to agree that L2 learners control L1 negative transfer eventually with more developed LC proficiency.

Bilingual Processing Models

Bilinguals are assumed to adopt one of the following LC models while recognizing the lexical items in the stream, and mapping them to the mental lexicons of L1 and L2 stored in the long-term memory (Ishler , 2010). These are the Word Association Model and the Concept-Mediation Model (p.79). Less skilled listeners usually adopting the first one, do mental translation due to heavy reliance on the automatically activated lexicon of L1 to decode the oral message. The second, on the other hand, is assumed to be utilized mostly by the more advanced ones who can directly access meaning in the L2 lexicon due to a rich exposure and a faster activation.

Although both models combined constitute the overall LC competence of a given listener, the degree of integrating them depends mainly on the overall language proficiency (Ishler,2010). The first model, Higgins (1996) explains, is more time consuming than the second and characterizes less skilled listeners who have not developed “automatization of lexicon activation” (p.68). For this reason, it is recommended to allow listeners who are still in the initial stages of developing LC skills more processing time (Vandergrift, 2007).

SR Assessment

In this section, two central notions in the assessment of SR are discussed. The first addresses the recurrent claim in STV literature that there are no standardized speed ranges available for SR researchers to reference when adjusting aural text speeds to LC proficiency levels. The second section presents an argument that challenges the reasoning behind standardizing SRs. The discussion is aimed at showing that there are grounds for adopting more “subjective” methods when assessing the appropriateness of SRs in different contexts.

These two notions are of high relevance to the investigations of SR. The discussion of them will clarify some of the challenges that SR researchers often face when defining and/or assessing SR. Also, it explains why researchers often interpret results that are either statistically insignificant or contradictory to what others concluded.

The SR Ranges Dilemma

Among the many methodological limitations that weaken the validity and transferability of the results collected in SR research, Rubin (1994) singled out the lack of unified speed ranges representing “slow”, “average” and “fast” rates. This shortage, as argued by Rubin (1994), is the cause of the inconsistent and even conflicting conclusions often reported in this field of research. Zhao (1997) elaborated on this shortcoming by giving an example that highlights the dramatic disparity in the values representing average speeds: Griffiths, as explained by Zhao, used two different average SR ranges (150, 180 WPM) with the same participants in (1990a) and (1990b). Similarly, Blau

(1990; 1991) considered 170 WPM and 200 WPM as normal ranges. Apparently, these researchers did not have a uniform reference to observe while assigning the above-mentioned ranges to their treatment groups.

As a result of this phenomenon, two questions arise. The first is “Are there any available standard SR ranges of British or American spontaneous English?”. If these ranges are available, how applicable are they to the EFL listeners in different learning contexts?. The first question is answered in the following section.

The SR Standard ranges of the American and the British talk

The increasing awareness of the STV researchers of the necessity of having validated SR standards of spoken British and American English motivated Tauroza and Allison (1990) to investigate the validity of the ranges reported by Pimsleur et al. (1977). The choice of these specific ranges was justified as “the consensus regarding normal speeds in English was formed upon them” and “they are the most widely known to teachers and researchers in the EFL field” (p.90).

According to Pimsleur et al. (1977), the normal range of SR in American English falls between 130 to 220 WPM (see Appendix A for a detailed table of their ranges). On examining these ranges, Tauroza et al. (1990) found a number of limitations. First, the data used to calculate these values were not representative enough, being drawn solely from the monologues of fifteen radio news announcers. Thus, the ranges represented “reading-aloud” speeds of the scripted talk and so were not generalizable to other spontaneous speech events such as interviews or conversations.

Second, the measuring unit used by Pimsleur et al. (1977) was “word per minute” which is viewed by a number of researchers as unreliable. Rader (1990) explained that the word length mean is not constant across different speech categories. For example, she stated that a word such as the indefinite article “a” is not equal to a word such as “antidisestablishmentarianism” (p.44). This is why Tauroza and Allison’s (1990) investigations included which of the units “word per minute” or “syllable per minute” was more reliable to be used on a table of standardized ranges of SR.

To avoid the limitations found in Pimsleur et al. (1977), Tauroza and Miller (1990) adopted the following data collection procedure. First, the researchers collected an authentic corpus of spoken British English that was readily available for them in Hong Kong. In addition, their data included: read-aloud monologues, informal conversations, interviews, and live lectures.

Their data analysis showed that Pimsleur’s et al. values were not generalizable to other speech categories; the “average” range in Tauroza et al. was 125-230 WPM as opposed to Pimsleur’s et al. “average” of 130-220 WPM. More importantly, based on the SPSS analyses, they concluded that “syllable per minute” rather than “word per minute” was a more reliable unit of measurement. The four data sets were significantly different from each other when word length means were used. Consequently, the researchers had to report distinct speed ranges for each of the speech categories on the finalized table (see Appendix B for the table showing SR ranges measured by “word per minute” unit). Conversely, three of the categories investigated, with the exception of the lecture subset, showed similar speed ranges when syllable counts were used. The finalized table of

ranges adopting “syllable per minute” depicted one set of ranges for each speed across the different speech categories (see Appendix C for the table showing SR ranges measured by “syllable per minute” unit).

Looking at the previously-mentioned “standardized” ranges, one can see that they were not uniform among researchers as they were closely related to the contexts where the speech samples were collected: Pimsleur’s et al. (1977) ranges were only applicable to read aloud scripted monologues. Moreover, the news “readers” spoke different L1s; some readers had French origins. More importantly, the word-length mean (1.7) that was found in the sampled news scripts matched the estimated readability of university written texts only.

On the other hand, despite the fact that Tauroza and Allison’s (1990) ranges were based on more representative speech varieties, a potential margin of error was cautioned against when transferring their ranges to other speaking or learning contexts because the reported values were, again, affected by the research context: According to the researchers, not all speech events were classifiable under the four types they investigated; their focus was directed to the speech categories that EFLs in Hong Kong mostly needed for learning and testing purposes in tertiary-level institutions. Also, only British English samples were included based on availability basis. Another limitation that may have threatened the validity of the results was that extraneous variables such as degree of speech formality, preparedness vs. spontaneity, possibilities of turn taking and holding the floor, and speakers’ characteristics such as age, gender and the sociocultural background were uncontrolled for. Therefore, it could be safely assumed that reaching

standardized SR ranges tends to be unfeasible, given the observed relative nature of the SR construct in the previously- discussed studies.

This emerging evidence that SRs are highly context-bound has impacted the way SRs are investigated and manipulated in different EFL settings. The following section is dedicated to the discussion of the relativity of the SR construct.

The Appropriate SR: EFL Perspective

Despite the considerable effort that has been exerted in validating the SR ranges of the native talk in both American and British English, a number of STV researchers claim that “ the controversy among researchers over what constitutes “normal,” “average” or “slow” is far from settled” (Hayati, 2010, p.108). Zhao (1997) remarked that EFL teachers still lack the criteria to decide whether 200 WPM is perceived by a given EFL learner as “average” or “fast”. Also, researchers are not able to accurately describe different SRs due to missing references. For example, Hayati (2010) defined the moderately fast SR adopted in the posttest as “something in between” (p.110) comparing it to the naturally slowed SR and the spontaneous one.

In an attempt to justify this discrepancy, Zhao (1997) argued that SR perception is the outcome of the interaction between the temporal and prosodic features of the aural text, on one hand, and the listener’s subjective characteristics such as memory capacity, overall language proficiency level, purpose of listening and learning needs, on the other hand. Thus, it could be claimed that finding a uniform reference for a group of listeners is “impossible” (p.52) since “ the reference is inside the learner” (p.60). This internal

reference, Zhao (1997) added, is developed by the listener when assessing the appropriateness of a certain SR to his/her listening objectives. In addition, this subjective SR reference could drastically differ from the standardized ranges and the expectations of the researchers. For example, the speeds perceived by EFLs as normal in a number of studies fell between 95 to 195 (Blau,1991; Zhao, 1997), which are slower than the normal ones (150-260 WPM) reported in (Tauroza & Allison, 1990). Similarly, Griffiths (1992) concluded that his Omani low-to-intermediate participants, contrary to his expectations, perceived 250 WPM as normal while considered 200 WPM in (Griffiths, 1991) as too fast.

This innovative approach of viewing SR as an individual- oriented rather than group-oriented phenomenon has influenced the methodology of the rate specialized research in a number of ways. First, exposing all listeners to unified SRs preset by the researcher and then averaging the LC performance is a procedure that is argued by Zhao (1997) as severely neglecting the listeners' individual differences. Instead, Zhao suggested that allowing the participants the freedom to modify the speeds would yield more reliable results concerning the SR effects on the LC of the listeners. In other words, by considering the listener as the main data source, and by measuring SR effects in terms of the listener' modifications rather than performance, Zhao is assumed to have achieved the double benefit of controlling for the confounding effect of the listener's language proficiency level, and accounted for the subjectivity of the SR construct.

Although Zhao (1997) is considered a pioneer in revolutionizing the SR research methodology to the direction of more qualitative approaches, the one who first coined

the term “appropriate rate” is Higgins (1996). Based on her surveys with Japanese and Omani EFL freshmen, she collected anecdotal data on the different aspects of the internal criteria used by these listeners to decide on the appropriateness of SR.

First, the appropriate rate for most of Higgins’ participants was synonymous to a slowed SR. One Japanese made it clear that “if the speaker speaks too fast, students can’t get the meaning and directions correctly. So I want the speaker to speak slowly so that we understand” (p. 67). Moreover, learners had drastically varied listening objectives that could be fulfilled, according to them, by means of the appropriate SR. One Japanese learner stated that he preferred slower rates to improve his pronunciation while another Omani mentioned that slowing the rate would help him enrich his lexical knowledge. Furthermore, learners emphasized that the appropriate rate is the one that is fine tuned to their developing LC proficiency. A Japanese clarified that “if I get used to fast speed I want the speaker to speak faster” (p.67). As can be seen, “the hidden agenda” (Higgins, 1996, p.66) of each listener tends to shape his/her concept of appropriateness.

Based on the discussion of the appropriate rate, one can roughly define it as the speed(s) that a learner perceives to be the most facilitative of LC and the most effective in meeting one’s unique goals, needs and developing abilities. Despite the fact that the subjective view of SR has partially explained part of the enigmatic nature of SR, and offered a more reliable research methodology, it has added to the complexity of the investigations of the construct of SR being a very individualistic phenomenon.

SR Manipulation Debate

One of the central assumptions upon which this thesis is based is that slowing the natural SR for EFL listeners of low proficiency is positively related to LC. So far, the first two sections have provided some theoretical grounds for the need of the EFL listeners to listen to slower SRs at early stages of acquisition. The first section highlighted the WM restrictions that usually impede the attempts of EFLs to perceive and analyze the native spontaneous input. The second section clarified that EFLs seem to have their own references for evaluating the appropriateness of the SRs to their learning needs.

This section will provide more theoretical support for the adoption of slow SRs in EFL settings. Also, views of opponents and proponents of speech rates manipulation will be used to clarify the middle stance called the “Short Path” Approach that is partially adopted in the current study.

Slowing SR as a Facilitative Characteristic of the Aural Input

The line of LC literature pertaining to LC problem exploration presented a considerable anecdotal evidence of the EFL listeners’ awareness of the importance of an added processing time to effectively comprehend the native input (Flowerdew & Miller, 1992; Goh, 2000; Graham, 2006; Hassan, 2000; Higgins, 1996; Yousif, 2008). A clear example is found in Flowerdew and Miller (1992). The Chinese participants stressed their need of more thinking time during the listening tasks to do three types of LC processing: linguistic, syntactical and conceptual.

As for the linguistic level, a number of these participants were aware that the strategy of mental translation into L1 to deduce meanings of the English texts is time consuming. One student reported “ I have to translate his English into Chinese so it takes many time to catch his meaning” (p.66). In addition, another stated “ I have no time to think if it is a long sentence,” possibly pointing to his inability to process complex sentences while being pressured by a rapidly delivered SR. A third group could not do conceptual processing – to relate the new concepts to their content schemata – as, again, time was not enough. One of them mentioned “ If the lecturer explains something too fast – especially theories which are rather abstract – then I need to have some time to think about it” (Higgins, 1996, p.66). A common feature of these excerpts is that they all point to a unanimous need, on the part of the EFL participants, of an added time to aid their information-processing system to analyze the aural message on different levels.

The above mentioned calls for slower speeds by EFLs are legitimate in terms of both common sense and theory. Zhao (1997) stated that the notion of “if you slow, they understand better” is often referred to as “the conventional wisdom” (p. 50). Also, he concluded that when his EFL listeners of intermediate and advanced LC proficiency were given the freedom to adjust SRs to their preference, a general tendency to slow down the rate was observed.

In terms of theory, according to the *noticing hypothesis*, if learners are deprived of ample opportunities to attend to the different forms of the target language due to reduced saliency, some of these forms become less marked. Higgins (1996) observed a severe decline in the ability of her Japanese freshmen to recall verbs and modifiers which fall in

medial positions in the sentences at a SR of 200 WPM or above. She attributed this phenomenon to the rapid SR that could have limited their attention to initial and final constituents only. Also, bearing in mind that their L1 is SOV, she suggested that their segmentation habits could have put the verbs in disadvantage being in medial positions in English. However, a gradual improvement in their recall patterns occurred when the speed was slowed to 100-120 WPM. Thus, adding more time seemed to have helped these EFLs to overcome their WM deficit.

Rate reduction, in addition, is widely proposed to be positively related to high levels of text comprehensibility (Blau, 1990; 1991; Ishler, 2010; McBride, 2011; Zhao, 1997). Griffiths (1992) concluded that reducing the velocity of SRs was positively related to high listening comprehension mean scores. His 24 Omani elementary teacher participants scored the highest at the slow SR of 127 WPM and the lowest at the fast SR of 250 WPM. McBride (2011), also, reported that the listeners who were exposed to a slow SR condition consistently for ten sessions were more capable in understanding texts delivered at both slow and fast SRs at the posttest.

To conclude, slowing the SRs of the natural native speech for EFLs of developing LC skills is a modification that is congruent with common sense and theory. It has been adopted to mitigate against some problematic features of the aural texts such as the lack of phonological clarity and complicated syntactic forms. If these problematic features were not addressed through SR reduction modifications, this would render the native input a “bunch of meaningless noise” (Higgins, 1996, p.67).

SR Modifications as Distorting Authenticity

Despite the above-mentioned gains of slowing SRs, opponents maintain that rate manipulation is a severe violation of the native input authenticity. While a number of researchers such as Higgins (1996) advocate that presenting unedited authentic input to learners of low LC proficiency is “cruel and unusual punishment” (p.69), others argue that modifying the aural input distorts its natural features such as speech intonation. In line with this argument, Cauldwell (2002) sees it as “a total waste of time and energy” (p.3) to attune the ears of the learners to an unnatural SR which is hardly used by NSs in the real world.

This very statement of Cauldwell’s (2002) precisely describes the dilemma of EFL learners who are used to listening to English at reduced SRs either in fully scripted materials or in the input of non-native teachers. On leaving the EFL class and encountering NSs’ natural talk, these learners usually report a failure to cope with the speed of delivery. A Tanzanian student ruefully described his frustrations with the British English on arriving in England for the first time to study by saying “I have been speaking English for 26 years in Tanzania and now it seems I can’t understand anything” (Lonsdale, 1996, p.46). Another frustrated comment came from a journalism class teacher who reported that her students failed to comprehend the legal English spoken in a real court session due the unusual SR and blamed herself by saying “Maybe I had been doing them a disservice by using a slow, deliberate style of delivery in my class” (Lowe,1996, p.98). These two excerpts seem to indicate that adopting slow versions of

SRs consistently to the exclusion of natural SRs in the EFL classes gives the EFL listeners an unrepresentative sample of the spontaneous native speech.

The “Short Path” Approach

Looking at these opposing arguments, one can see that they are both tenable; slow SRs are touted by a great number of teachers and EFL students for decreasing the cognitive overload imposed on the WM, enhancing the text comprehensibility and so keeping these learners motivated while on task. Nevertheless, they are criticized by others as being unnatural and thus are ineffective in preparing EFL learners for real life listening tasks. It seems that adopting one approach to the exclusion of the other could deprive EFL listeners from potential SLA gains; more proficient learners who are “ready” to be challenged with natural SRs could be “held back” (Rader, 1990, p.38) by slowed speeds. Similarly, beginners would be denied the advantage of being exposed to authentic texts simply because of the rapid speeds.

Given these arguments, a third group of STV researchers who adopt a more flexible attitude towards using purely authentic listening materials with less proficient listeners have investigated different ways of manipulating the temporal variables of the aural speech while retaining input authenticity as much as possible. This middle position is called “ The Short Path” Approach (Hayati, 2010, p.113). As the name indicates, this approach was based on the assumption that adjusting SRs to the needs of the L2 learners should be a temporary procedure to help these learners accumulate solid LC bottom-up and top-down skills. Once these skills have been mastered, the EFL listeners’ need of

slow treatments would eventually diminish, and their efficiency in coping with the speech features of the natural native input would be maximized.

Typical studies following this approach were characterized by the following: the participants were “trained” by means of different speed reduction techniques for weeks or months at maximum. Second, the techniques adopted in slowing the SRs were the ones assumed to distort the naturalness of input the least. Examples of these techniques are inserted empty or filled pauses (Blau, 1990), deliberate articulation (Hayati, 2010; McBride, 2011), and finally allowing listeners to fine tune SRs according to their perceived needs through sound-editing computer programs (Zhao, 1997).

Hayati (2010), for example, exposed two groups of 62 Iranian sophomores to a three-month treatment of deliberate articulation versus natural SR of authentic texts. To test the effectiveness of the treatments, he used a moderately fast SR for the posttest. He reached the conclusion that the authentic SR seemed to help the Iranian freshmen in comprehending texts delivered at moderately fast speeds more than the deliberate articulation technique. Similarly, McBride (2011) tested the LC and the grammatical accuracy of four groups of learners of Spanish as a second language by means of both slow and fast SRs. She wanted to investigate the transferability of the LC strategies developed in the four listening conditions over a treatment period of ten weeks to different SRs. This is why the posttest included both slow and fast texts. Her conclusion was that the exposure to slower rates (135 WPM) tended to enable the participants to attain high levels of achievements in both slow and fast SRs more than the other groups (fast, pause option and choice between slow and fast SRs).

Finally, Zhao (1997), though reported an “overwhelmingly” improved level of LC when his fifteen participants were allowed the freedom to modify SRs to their most preferred ranges, cautioned against the possible negative repercussions of utilizing this technique with EFLs for long periods. He clarified that it would become a “counterproductive” (p. 62) procedure since these listeners may get used to such aiding methods despite their improved ability to comprehend the natural native input. Thus, the exposure to SR manipulation treatments, according to this group of researchers, is viewed as a stage rather than a state, and so should be kept as brief as possible.

As mentioned earlier, the choice of the SR reduction techniques, according to the Short Path researchers, is premised on a naturalness basis. Higgins (1996) summarized the main goal of this line of LC research as being “to investigate how speech rate manipulation can be naturally carried out” (p.67). A typical example of such naturally slowed techniques is found in Hayati (2010). While describing the VOA special English version, he stated that “slowness did not remove so much from its naturality” (p. 109). His instructions to the native reader of the texts before recording were to pronounce deliberately and clearly but naturally “to retain the phonetic features and intonations” (p.109).

To conclude, this approach appears to alleviate some of the problematic aspects of the native talk that are usually reported by EFLs, especially novice listeners, such as blurred word boundaries and unfamiliar lexical items. Striking a sort of a balance between acknowledging EFL learners’ needs of comprehensibility and the realism of SRs used in everyday communication, the Short Path Approach may be of a real potential if

applied in the EFL listening classes. In addition, it tends to mesh with the concept of the “appropriate rate” since it acknowledges and fosters the gradual shift of EFLs from slower to more natural rates as LC proficiency develops. Apparently, more imperial investigations are needed to confirm the efficacy of the Short Path training treatments in preparing EFLs of different LC ability for comprehending the authentic native talk.

Selected Research on the Efficacy of Different SR Reduction Techniques

Even though STV research on SR modifications is characterized by a noticeable dearth in the number of studies investigating this issue, the ones reviewed in this section show that researchers have investigated the efficacy of a variety of SR reduction techniques in targeting the “appropriate rate” of the EFL listeners.

Techniques are presented in the following order. First, SR velocity reduction techniques are discussed. These techniques are done either mechanically by sound editing software (Rader, 1990), by sound pacer recorders (Blau, 1990, 1991) or naturally by deliberate, clear pronunciation (Hayati, 2010). The second section deals with the effects of inserting prolonged empty pauses versus mechanically slowed SR and filled pauses (Blau, 1991; Ishler, 2010). The third section tackles Zhao’s (1997) innovative technique of allowing listeners the control over SR in a CALL (Computer-Assisted language learning) environment (McBride, 2011; Zhao, 1997).

Some of the topics discussed in this section are: the ideal ranges of SR as perceived by lower-intermediate EFLs (Griffiths, 1992; Rader 1990), filled pauses as opposed to empty pauses (Blau, 1991), and how best to control for some confounding variables such

listeners' language proficiency to reliably assess the effect of SR on LC (Blau,1990;1991; Zhao,1997). Moreover, the impact of reducing SRs on noticing specific language forms is tackled by Higgins (1996) and McBride (2011). Finally, techniques that correlate with improved perceptions of difficulty are highlighted (Blau, 1990,1991; Ishler, 2010; Zhao,1997). Worthy to mention is that these topics are not discussed separately, but they will be interwoven with the efficacy results of the SR reduction techniques investigated.

Mechanically time-expanded SR

One of the component variables of SR is the time of articulation (Higgins,1997). Time expansion, as opposed to time compression, is a mechanical way of prolonging the time in which letters are articulated resulting in a decelerated delivery of words per minute (Rader, 1990). It is measured by percentages and is controlled by means of either sound-editing software or sound pacer recorders. The efficacy of this technique is highly questionable especially with advanced listeners who found it unnatural and boring (Blau1990; Rader,1990).

The impact of mechanically reducing the velocity of three narrative Spanish monologues on the LC achievement in a context where Spanish is a second language was the main research question posed by Rader (1990). The three texts were originally recorded at the normal speed of 160, 153, and 155WPM. When time expanded by135%, their speeds became 119, 113 and116 WPM respectively. The150% expansion rendered them to be 108, 98 and 108 WPM.

The participants were low-intermediate freshmen in a university in Chile ($n=153$). Three intact classes were randomly assigned to two experimental groups and a control one. The 0% expansion group was exposed to a SR of 156 WPM which was considered by the researcher as a “floor” average rate according to Pimsleur et al.’s (1977) ranges. Their LC was post tested by a recall task. ANOVA did not suggest statistically significant differences among the three groups regarding the effect of SRs although the overall means were different (0% per cent = 16, 76, 135 % = 21, 04 and 150 % =19, 83). Thus, she concluded that “It appears that the speech expansion of the three Spanish texts did not facilitate the listening comprehension of third-quarter university Spanish students” (Rader, 1991, p.95).

These results were unexpected by the researcher as she mentioned that, even though the 0% expansion group reported rate-related complaints, the difference in performance among the three groups was minimal. In terms of recall ability, the 135 % group outperformed the 150% in one of the three texts as the topic was familiar for the participants. Rader conjectured that in her experiment, topic familiarity may have had more effect than mechanically expanded rate on LC. Also, she suggested that the recall task might have confounded the SR effect on her participants, measuring perception rather than comprehension.

The mechanically reduced velocity of the SR was further tested against empty pauses with intermediate Polish and Puerto Rican EFL freshmen ($n=106$). Blau (1991) reduced the velocity of the normal SR from 200 WPM to 185 WPM. She randomly assigned the subjects into three listening conditions: a) normal, b) slowed mechanically,

and c) empty pauses. Immediately after listening to a task that consisted of three monologues, LC was assessed by means of a short answer completion task done either in L1 or L2. Also, she required them to indicate a percentage of their understanding.

By keeping LC proficiency constant, ANCOVA showed a statistically significant difference in favor of blank pauses. Also, the self assessment percentages paralleled the high scores of the pause group. Blau (1990) concluded that the difference between the mechanically reduced speed and pauses was “dramatic” (p.780). That is, pauses were positively related with comprehensibility whereas the mechanically slowed SR was the least effective. Her results were another strong case against the application of the mechanical time expansion with listeners at intermediate levels.

The Deliberate Articulation Technique

One of the promising SR reduction techniques that seems to have been accumulating theoretical support, yet is applied the least in reported rate specialized literature is the deliberate articulation. Reviewing a number of studies that investigated the segmentation problems encountered by EFLs when listening to the connected native talk, Rubin (1994) concluded that the acoustic effects of the phenomenon called sandhi - “the phonological modification of grammatical forms which have been juxtaposed” (p. 201)- tended to impede LC at both higher and lower levels of LC proficiency. In other words, phonological variations such assimilation, mutation and contraction frequently used by NSs in spontaneous talk made it difficult for these listeners to recognize the different constituents of the aural input. In contrast, when the texts were made clearer in terms of pronunciation, the advanced listeners performed the closest to NSs compared to

the lower level ones. Similarly, Coskun (2008) concluded that the RFs constituted a serious obstacle for Turkish intermediate freshmen when they were assigned to transcribe a segment from an American movie.

To minimize the previously-mentioned segmentation obstacles, LC researchers such as Field (1998) and Rubin (1994) maintained that the aural input should be characterized by perceptual saliency, i.e. clearer articulation of phonemes coupled with the least use of RFs. Cauldwell (2002) added that rearticulating the aural text with clearer enunciation would facilitate LC while still retaining input authenticity.

To examine the efficacy of the deliberate articulation technique versus the unmodified spontaneous SR in preparing EFLs to comprehend moderately fast texts, Hayati (2010) created two homogenous groups of sixty two pre-intermediate/intermediate Iranian English majors based on their LC proficiency test scores. One group ($n=31$) received the deliberately articulated news broadcasts and live lecture monologues, whereas the other experimental group had the authentic version of the above-mentioned materials. To slow down the SR of the monologues in a natural way, the researcher made use of a native American to “read deliberately and clearly” (p.109). After thirteen sessions taught in a three-months time, both groups were post tested on their global LC by a moderately fast text and 20 MCQs.

The statistical analysis of variance showed significant differences between the sets of scores of the pretest and the posttest of both groups. But, the authentic SR difference was high enough to enable the researcher to reject the null hypothesis that spontaneous rates will not enhance LC. Thus, in this research context, the exposure to

natural rates tended to have a more significant impact on preparing EFLs to different rates than the deliberate articulation, a conclusion that contradicts the “conventional wisdom” (Zhao,1997). Also, it agrees with Rivers’ (1981, as cited in Rader, 1990) assumption that EFLs can cope with authentic SRs even at the lower stages of acquisition.

Pauses

One of the major acoustic-temporal variables that directly affects the listener’s perception of the text speed is pauses (Higgins, 1996; Ishler, 2010). Seen as an SR reduction technique, they are viewed as “ideal” (Blau, 1991, p. 3) for slowing the SR due to the double benefit of adding more processing time without distorting the authentic characteristics of the aural text. Furthermore, the frequency, distribution and duration of empty pauses are three primary determiners of the SR speed perception (Rader,1990). Results reported from experimentation with pauses in STV research seem to indicate that they are positively related with enhanced levels of LC and high self ratings of text understanding (Blau, 1991; Ishler, 2010).

Pauses filled with hesitation markers such as “you know” or “I mean” are widely claimed to debilitate LC of novice listeners because of the increased linguistic processing load. Blau (1991) clarified that fillers of self correction, rephrasing and repetition may cause “perceptual problems for NNSs” which “...do hinder their LC”(p. 5). Lam (1996), in addition, explained that EFLs usually fail to recognize that pause fillers are semantically functionless possibly due to underdeveloped pragmatic knowledge of the function of these hesitations to hold the speech floor. However, according to Field

(1998), listeners learn eventually how to “weed these out” (p.6) while constructing the overall meaning by adopting more top-down modes of processing.

The previous argument seems to support a certain advanced LC threshold in order for EFL listeners to make the best use of the extra processing time of the hesitation markers (Rubin, 1994). Though theoretically logical, it has been challenged by emerging empirical evidence that EFLs of low LC levels may perceive filled pauses as aiding their LC more than empty pauses (Blau, 1991). This finding is discussed below in detail.

Filled Pauses Vs. Empty Pauses

To compare and contrast the effect of filled pauses as opposed to empty pauses on the LC of low-to-intermediate EFLs in Puerto Rico and Japan, Blau (1991) randomly assigned 61 Puerto Rican freshmen to three experimental conditions: a) normal speed of 200 WPM, b) three-second pauses inserted every 23 words that slowed the overall SR to 150 WPM, and c) pauses filled with hesitation markers (e.g., “well”, “I mean”, uh”, | “er”) that reduced the SR to 142 WPM. Immediately after listening to each of the three monologues, each group responded to fifteen MCQs testing their global understanding of the content. In addition, the participants responded to a questionnaire of five questions about their perceptions of the text comprehensibility.

The three sets of scores were analyzed for significance of variance using ANCOVA while keeping the variable of language proficiency as a covariate. Blau (1991) concluded that the results seemed to indicate that participants in the filled pause condition scored significantly higher than the other two groups. In addition, empty pauses came slightly

less than hesitations but still significantly higher than the normal SR in terms of task performance and percentages of perceived understanding. Participants in the filled pauses treatment reported an understanding mean of 77% as opposed to 74% in the empty pauses group. Blau (1991) described this result as “puzzling” (p.8) since it contradicted the general trend in STV research that filled pauses do not facilitate comprehensibility of the aural input.

Due to the unexpected results of the previous study, she replicated it with another EFL group in Japan. She randomly assigned 36 Japanese freshmen of an elementary level into three listening conditions. Again the independent variables were empty pauses, filled pauses and a normal SR of 200 WPM. Following the same procedure in (Blau,1991), again, she found that her Japanese participants perceived filled pauses to be “the most effective aid to listening comprehension”(p. 8). She surmised that filled pauses, being a characteristic of informal natural speech, may have contributed to the listeners’ perceptions of the aural text naturalness. That is, EFL listeners were better attuned to filled pauses for sounding more natural and hence facilitating LC. Regardless of the tentative interpretations she offered to explain this unexpected result, it seems that filled pauses may have a high potential of improving the LC of EFL listeners of low levels of LC ability.

Frequency and Duration of Pauses

There is a consensus in STV research that rate perception is negatively related to pause frequency and duration (Higgins, 1996). To further investigate this assumption in the Tunisian EFL context, Ishler (2010) exposed six Tunisian freshmen representing three

proficiency levels of high, intermediate and low to two versions of one easy text. One version had the natural pauses removed while the other retained them. The participants' LC was checked by means of 20 MCQs testing global understanding. Retrospective interviews showed that participants of low LC proficiency perceived the version without pauses as "too fast" and "difficult" while the intermediate and the advanced ones reported that it was normal in terms of speed. On listening to the second normal version where natural pauses were present, less skilled listeners perceived it as "clearer" and "slower" (Ishler, 2010, p.138). Equally, the more skilled ones reported that the task was "easier". Ishler also found a negative correlation between the participants' scores and their perceptions of text length and difficulty level. He concluded that the frequency of pauses has a more significant facilitative effect on novice listeners than on more advanced ones.

To investigate the relation between pause duration and the perception of the difficulty of the task, Ishler (2010) investigated the effect of prolonged pauses on facilitating LC at three different LC abilities. He exposed the same six participants to two versions of a difficult unfamiliar text. One version was enriched with three-second pauses whereas the other had one-second natural pauses. All participants, regardless of LC ability, perceived the prolonged- pause version as "easier" and "slower". Still, the degree of the LC improvement was different in each proficiency level. The less skilled ones did not achieve higher scores on the prolonged pause version. Yet, they reported a positive impact on their morale while on task. As for the more advanced ones, they scored significantly higher on the prolonged pause version than the natural pause one. Ishler (2010) concluded that the additional time of pauses seems to require an LC proficiency

threshold to be well invested. Nevertheless, prolonged pauses tend to alleviate the feelings of difficulty while listening to rapid, unfamiliar aural texts.

Listeners in Control of SR

The implications of Zhao's (1997) assumption of "the reference is inside the learner" (p.60) seems to have resulted in a paradigm shift in the methodology applied to investigate the preferred SRs. He hypothesized that if listeners are given the control over the flow of speech, they would perform better, since they will be better able to adjust the speeds to their internal references when difficulties are perceived. Thus, rate modifications occurring during listening are a much more reliable indicator of SR appropriateness than LC task scores.

To further investigate the influence of allowing listeners the control over the speeds on their LC achievement, Zhao (1997) created four different listening conditions where the amount of learner's control over the speed and the possibility of text repetition were the independent variables. Participants were 15 freshmen from China, Colombia, Korea, Taiwan, Turkey and Venezuela. Their LC levels were intermediate to advanced. These participants were randomly assigned to four conditions.

The first condition was the least in the learner's control as participants listened only once to twenty individual sentences at the SR of 185 WPM and were not allowed to change the speed or to repeat the text. Starting from condition 2 till 4, participants listened to a calibration text to decide on their preferred SR out of six samples of expanded SRs (75%, 100%, 125%, 150%, 175%, and 200%). Once the listeners decided

on their appropriate speeds, Condition 2 participants were not allowed to change the speed or to repeat the text. Condition 3 had the greatest amount of flexibility concerning manipulating speeds once difficulty was perceived. Finally, Condition 4 was used to collect a baseline data on repetitions effect. This is why the speed in this condition was relatively high (194 WPM). Unlike Condition 1 treatment that comprised twenty individual sentences, the listening material used with Condition 2 to 4 consisted of three dialogues. The data collection tools were a MCQ test, a questionnaire with an open-ended section and individual retrospective interviews.

The results tended to show that the more flexible Conditions of 2 and 3 scored significantly higher than the other less flexible ones of 1 and 4. Listeners in Condition 3, in particular, seemed to comprehend “overwhelmingly higher as they were given the control of SR” (Zhao, 1997, p.60). In addition, the qualitative data corroborated the LC results as 79% responded positively that slowing SRs enhanced their LC. Also, interviewees asserted that their comprehension improved dramatically when they had the freedom to alternate SRs during listening. As for their rate choices, 83% slowed the rates down than the preset speeds, whereas the rest kept them unmodified. More importantly, none tended to speed the SRs of the texts up. The appropriate rate as observed in their modifications fell between 95-195 WPM.

The results of this study are significant in a number of ways. The SR choices of the participants tend to support the “conventional wisdom” (Zhao, 1997, p. 50) that slow SRs are perceived by EFL listeners as an aid to their listening comprehension. Also, the observed positive relation between the listeners’ freedom to vary SRs and LC

improvement tends to substantiate Zhao's assumption that, EFL listeners are much more capable in targeting the range of speeds that is "ideal" for their LC than researchers or teachers.

Nevertheless, the validity of these conclusions is questionable due to the limitations admitted by the researcher. Zhao (1997) stated that the participants lacked the ability to alternate the speeds of each sentence "on the fly" while listening; the available software only allowed them to repeat whole segments of the text rather than the individual sentences where difficulties were perceived. The researcher thought that a more sensitive speed-control program would help SR researchers to detect the fine distinctions among the appropriate rates of different EFL listeners.

Two other problematic areas were the listening materials and the instruments used for measuring the level of LC performance. As for the materials, Zhao (1997) utilized a set of 20 individual sentences in Group A while exposing the other three to extended passages. Also, he depended only on the MCQ question technique to measure the LC achievement of the participants. To avoid these shortcomings in future research, he suggested adopting uniform listening materials and a combination of LC measuring techniques (e.g., MCQs and a recall protocol) to minimize the confounding variables.

The results reported by Zhao (1997) were further investigated by McBride (2011) in another EFL context, and the results collected were in favor of slower SRs rather than the amount of SR control. The next section is dedicated to this discussion.

SR Control Vs. Slow SRs

Opponents of using slowed SRs in the EFL classes especially with novice listeners seem to be skeptical about the transferability of the LC skills developed in this listening condition to other faster SRs used in real life listening tasks. McBride (2011) tested the impact of exposing EFLs to four different listening conditions in a 10-session training course on their performance in both slow and fast SRs. The dependent variables were their global LC achievement and grammatical accuracy. Recognizing the advantages offered by computers in facilitating access to authentic materials and in elucidating pausing, repeating and speed control options, she conducted the experiment in a computer lab. Despite the fact that the skills at play in such a CALL task may differ from those used in a usual listening class, McBride reached positive conclusions concerning the effectiveness of utilizing slowed SRs in training EFLs to understand the authentic native talk.

The participants were native Spanish speaking freshmen and graduates in Chile ($n=122$). They were pretested on their LC by means of a 40-item MCQ test. Using the ACTFL scale, she concluded that their LC proficiency ranges were intermediate-mid to advanced. The texts used for the training were recorded by native speakers from the USA. The slowing of the texts was done following the deliberate articulation technique applied in Hayati (2010). Surveys were used consistently following each session to explore the listeners' impressions on the effectiveness of the treatments.

During the training course, all groups had the chance to listen to each dialogue twice but differed in the amount of control over the speed. Group A listened to texts recorded at a fast rate operationalized at 180 WPM. Group B listened to a slower rate at

135 WPM. Group C always listened to faster SRs the first time. Then they were given the choice either to listen to the same fast SR again or to a slower one at 135WPM. Finally, Group D listened to fast SR of 180 WPM but were given the choice to pause. The length and the frequency of pausing were not specified.

At the end of the training, they were post tested by means of a 20-item MCQ test and a maze test (a comprehension task where they had to choose words that combine together to form grammatically correct and relevant sentences found in the aural input). The maze task was used to measure the extent to which the different listening conditions had enabled the participants to notice the syntactical and the lexical forms used in the aural input.

Results tended to show that the slow condition (Group B) “fared the best from the training” (p.143) whereas the fast condition (Group A) scored the lowest. The other two groups scored in between. McBride’s (2011) interpretation was that the WM of the participants in the slow condition was not overtaxed by a fast SR, and so they could do “additional mental processing of form and meaning which are both required for successful SLA” (McBride, 2011, p.144).

The fast rate, in Group A, on the other hand, seemed to have negatively affected their bottom-up processing, and did not enhance a significant strategic transfer to other fast or slow texts. Group D (pause option) made minimal use of the pause button although they listened to the fast rate used in Group A. Still, they tended to show some evidence of LC improvement in the post test at both speeds. Group C (slow or fast option) showed a unique pattern of performance as they scored significantly high in fast

texts but had a drop in scores in slowed texts. McBride (2011) suggested that this pattern may have resulted from development of fast processing skills that were not functional at slow SRs.

One possible reason why the participants in the slow condition outperformed their counterparts in the SR choice one could be attributed to the limited choices the latter were offered. McBride (2011) allowed them to listen to either a fast speed or a slow speed. Zhao (1997), on the contrary, offered his listeners a range of six choices. This may explain the difference in the results of these two studies concerning the assumed efficacy of the listener's SR control in improving LC.

Conclusions Drawn From the Literature Reviewed

Looking at the construct of the “appropriate rate” within the scope of the studies reviewed, a number of insights could be drawn. The question raised by the majority of rate specialized literature regarding whether there are recommended appropriate or threshold SRs to be generalized to different proficiency levels is clearly unresolved. Based on the dramatically different ranges reported as facilitating LC and decreasing the cognitive load of SR, Zhao's (1997) conclusion that reaching objective SR references is “impossible” (p.52) receives more support.

This result tended to be recurrent in the ranges reported in different EFL setting around the world. The Japanese participants noticed more grammatical forms at 100 WPM (Higgins, 1996); the Spanish listeners comprehended the aural texts the highest at 119-135 WPM (McBride, 2011; Rader, 1997); the Puerto Ricans and the Polish

freshmen mentioned in their self assessments that they understood at least 80% of the aural input at 140 WPM (Blau, 1991); the Omani elementary teachers scored the highest at 127 WPM. Finally, the appropriate speeds chosen when listeners of different L1s were given the control ranged between 90 WPM to 195 WPM (Zhao, 1997). This disparity seems to support the assumption that transferring SR ranges of appropriateness to different EFL settings is inapplicable. Accordingly, the appropriate SR remains a construct that is challenging to define and operationalize as it is highly context-bound.

Furthermore, defined as the result of the interaction between the temporal features of the text and the listener's most personal characteristics (Zhao, 1997), the construct of the appropriate SR, thus, lends itself more to the qualitative approach. The researchers who made use of the participants' self reports seemed more efficient in revealing the subtlety of this internal interaction while listeners were on task. Blau (1991) could further confirm the statistically significant results that filled pauses tended to facilitate LC of her Polish and Japanese participants more than empty pauses by means of the listeners' self assessments of understanding. Their estimations enabled her to better decide on the efficacy of the filled pauses as a speed deceleration technique. Similarly, Zhao (1997) confirmed the hypothesis that slow rates do aid LC by means of retrospective interviews. Finally, McBride's (2011) surveys were valuable sources of the participants' impressions as she found that they rarely used the pause option because it had a distracting effect on them.

Conversely, Rader (1990) could not explain why there were no statistically significant differences among LC scores of the participants who were exposed to 0%,

135% and 150% time expanded texts. She conjectured that the lack or the presence of familiarity of the topics included in the texts might have precluded the effect of the mechanically decelerated SR. Also, the phenomenon that the 0% expansion group informally reported several SR problems yet did not perform significantly less well than the other two groups was hard to interpret. To overcome these limitations, she recommended “more qualitative assessments” in further SR research (p.119). Evidently, more SR research integrating qualitative data collection tools would result in better understanding of the appropriate rates as perceived by the EFL listeners.

A third conclusion is that the SRs that were positively related to high LC performance and recall were generally relatively slower than the normal standardized SR ranges reported in Tauroza and Allison (1990); the preferred ranges of the participants in the reviewed studies ranged between 95-195 WPM as opposed to normal ranges of 150-260 WPM in Tauroza and Allison (1990).

In addition, participants assigned to slow SR conditions were found to outperform other groups in successfully completing the listening tasks ,whether global LC or recall ability (Griffiths, 1992; Ishler, 2010; McBride, 2011; Rader, 1990), and in producing more grammatically accurate sentences (McBride, 2011). Furthermore, when slow SRs were adopted in training EFLs to cope with different SRs, they tended to help listeners of different abilities to develop sound bottom-up skills that were transferrable to both slow and fast speeds (Hayati, 2010; McBride, 2011). It seems that adopting slow rates as a transitional phase is of high importance for listeners of low proficiency levels as they are

in dire need in having enough time to reflect on the comprehensible input in terms of form and meaning as well.

These results may further substantiate the “*conventional wisdom*” (Zhao, 1997, p. 50) that slowing SR will result in better understanding. The EFL participants were found to slow the speeds when given the control as they perceived it as a facilitative procedure. More than 75% of the respondents stated in the retrospective questionnaire that “slower speeds helped their listening comprehension” (Zhao, 1997, p.61). However, this conclusion, though adding support to the rationale of SR reduction, should not be taken too far. Surveys on preferred SRs by Japanese and Omani participants showed their preference of faster SRs as they progressed in their developmental stages (Higgins, 1996). Also, a clear limitation with the studies supporting slowed SR is that they dealt with EFL participants of low to intermediate levels of LC proficiency. Thus, it remains unclear whether listeners of more developed levels of LC automatization would perceive the slowing techniques the same way as the intermediate and low LC proficiency levels do.

There is emerging evidence that techniques of SR reduction may have deferential impact on listeners of different LC ability. Blau (1991) concluded that a mechanically reduced SR seemed to improve the LC performance at low levels but had a dysfunctional influence on more advanced participants even with a relatively rapid SR (200 WPM). By considering similar results in previous research on the inefficacy of the mechanically reduced SR at advanced LC levels, Blau concluded that her results constitute a strong case against the implementation of this technique with more proficient listeners.

Empty and filled pauses, on the other hand, were found to have a positive impact on more advanced listeners who seemed to be more concerned about the naturalness of the text (Blau, 1991). An example that may support this argument is found in Hayati (2010). The group that was exposed to the normal authentic speech for three months scored significantly higher than the naturally slowed SR group. This phenomenon was attributed to the participants' rich exposure to the authentic input, being English majors in translation. The researcher concluded that these Iranian EFLs were more concerned about the "naturalness" of the input (p.112). In addition, Hayati conjectured that one possible explanation why the mechanically slowed SR technique was not preferred by more skilled listeners may be that it negatively affected the naturalness of the SR by removing some critical features from the speech such as intonation. Blau (1991) also interpreted the significant performance of her Japanese participants while listening to a text enriched with hesitation markers as the aural input could have sounded more "natural" to them. In short, authenticity does not seem to be a challenge per se for the EFL listeners; the real challenge is how to adjust it to their LC levels.

Although the listener's level of LC seems to be a major determiner of the appropriateness of the SR, it has been marginalized in the research reviewed above. Some kept it as a covariate by using ANCOVA to interpret the impact of SR while controlling for other confounding variables (Blau,1990,1991). Others controlled for it by limiting the experiment to one level of proficiency (Griffiths, 1992; Ishler, 2010). Another created homogenous experimental groups by randomly assigning them according to their LC scores (Hayati, 2010; McBride, 2011). Finally, Zhao (1997) excluded it from the analysis

since he argued that listeners' speed alterations are more reliable indicators of appropriateness than LC scores.

Ishler (2010) seems to be one among few who examined the impact of empty pauses on EFL listeners of different LC proficiency levels. He concluded that prolonged pauses aided LC at all levels. Also, less frequent pauses had a more negative effect on novice listeners than the advanced ones. Apparently, it is still vague how different SR slowing techniques interact with the different LC levels.

The Significance of the Proposed Research Questions Within the Framework of the Literature Reviewed

The current study aims to examine the efficacy of the rate reduction techniques of empty prolonged pauses versus the deliberate articulation in facilitating LC of Egyptian high school students in terms of task scores. More importantly, it investigates the participants' perceptions of the slow SRs appropriateness at three LC proficiency levels . The significance of proposing these questions is clarified based on the insights derived from the literature reviewed as far as the choice of rate reduction techniques and the data collection tools are concerned.

Empty pauses tend to be perceived by EFLs in a number of learning settings to render the audio-taped input comprehensible (Blau, 1991; Ishler, 2010; Rader,1990). Blau (1991) asserted that there is a consensus among a number of SR researchers that inserting empty pauses at information unit boundaries is the least disputed SR modification in terms of disturbing the natural features of the “normal” flow of speech

while allowing for additional silent processing time. Still, there are some mixed results concerning their impact on EFLs of different LC abilities. Ishler (2010) concluded that more skilled listeners were positively affected by pause length more than pause frequency. Also, McBride (2011) reported that the participants who were given the option to pause while listening to a text delivered at 180 WPM did not use it much. Later in their surveys, the participants clarified that pausing sometimes interrupted the flow of the aural input, and caused them to lose track of the sentence sequence.

Moreover, it is not clear how listeners of different LC proficiency levels invest the added processing time of empty pauses. Rubin (1994) reported that pauses distracted less skilled listeners who were expecting a completion to formulate an overall picture of the meaning. Equally, more skilled ones reported that longer than needed pauses caused them to lose concentration. Evidently, whether and how the added processing time is invested by listeners of different LC abilities merits more research.

Worthy of mentioning is that the efficacy of empty prolonged pauses has not been tested against the deliberate articulation technique in the reported literature. Examining these two techniques with EFLs of different levels may further clarify their efficacy in reducing some of the typical fast SR comprehension problems.

Furthermore, participants in the majority of the studies reviewed were not given the chance to experience more than one LC condition (Blau, 1991; Hayati, 2010; McBride, 2011; Zhao, 1997). The novel approach to be adopted in the current study is to allow the two experimental groups the chance to experience both techniques. This is viewed as serving the main goal of the study which is to compare and contrast the efficacy of both

techniques from a listener's perspective. To further help the participants detect pros and cons of each technique, they will be interviewed immediately after each listening task over the period of five weeks to reflect on the differences, if any, among the different SRs they are exposed to.

Moreover, the proposed thesis is predicted to fill a research gap by investigating the dynamics of interaction between the SR reduction techniques and the listeners' relative listening abilities. The inclusion of three different proficiency levels (low, intermediate and advanced) is a contribution to SR research since these levels have rarely been included in one study in the Egyptian context. The choice of examining the two SR reduction techniques on three levels of LC ability is premised on the hypothesis that "Input features might have different effects at different stages of SLA" (Blau, 1991, p.8). Hence, this research aims at discovering the criteria adopted by listeners of three different LC abilities when evaluating the effectiveness of the decelerated SR in minimizing their SR-related problems. The ramification of such investigations is of high importance when targeting each level as far as material design and testing are concerned.

Finally, the qualitative approach is implemented in the study as it is recommended for investigating a highly subjective construct as the appropriate SR (Goh, 2000; Rader, 1990; Vandergrift, 2007, Zhao, 1997). One advantage, among others, of utilizing qualitative data collection tools is to provide the researcher with dependable data on the LC processes taking place inside the listener during a listening task. Using scores as the only indicator of comprehension is assumed to fall short in accounting for the subtle moments of setback or success encountered by a given listener in the very same text.

Semi-structured interviews, in particular, are adopted to help interviewees reflect and negotiate instances where SR could have been blocked or facilitated. Uncovering these innermost operations helps the researcher better interpret the listeners' perceptions in case the differences among their sets of scores were not statistically significant.

Summary of the Chapter

This chapter presented the theoretical foundation of the study in question. First, it clarified the nature of the cognitive load that L2 learners, in particular, experience while performing the listening tasks, and explained how added processing time is crucial for these learners due to less automatized LC processes. Second, the construct of the appropriate rate was discussed in the light of Zhao's (1997) subjective definition. Third, the advantages of implementing the "Short Path" Approach in the study in terms of the choice of the SR reduction techniques and the exposure to different SRs were highlighted. Fourth, the efficacy of different rate reduction techniques was reviewed in the LC research. Finally, the significance of the proposed questions was clarified as far as the techniques investigated, the inclusion of three LC levels and the implementation of qualitative data collection tools are concerned.

CHAPTER THREE

METHODOLOGY OF THE STUDY

Introduction

This chapter presents the research methodology that was adopted to answer the three research questions in the current study. The main sections included are:

“Participants,” “Materials/Instruments,” “Data Collection Tools,” “Data Collection Procedure,” and finally “Data Analysis.”

To answer the first two questions about the immediate impact of applying the two SR reduction techniques on the participants’ LC task performance, the raw scores the participants received in the listening tasks were collected in five consecutive weeks. These weeks included two occasions of the SR reduction techniques administration in addition to three intervening exposures to the normal SRs. The collected sets of scores were analyzed for the significance of variance among the mean scores in each of the three SR conditions.

As for the third question pertaining to the participants’ perceptions of the reduced SRs appropriateness to their LC needs and task completion, data-collection tools of class observations and semi-structured interviews were utilized. Interviewees representing three LC levels were randomly selected and interviewed five times shortly after the listening class. The interviewees’ input was examined for themes that explain how each interviewee envisioned the efficacy of the reduced SRs in enhancing the comprehensibility of the aural texts, and in minimizing the obstacles that impeded their

LC processes while completing the listening tasks. To analyze the qualitative data, hermeneutical analysis, thematization and tabulation were utilized.

Participants

The target sample of the current research is a group of native Egyptian high school students ($n=72$) enrolled in the tenth grade in an IGCSE school in Giza, Egypt. They were admitted to this system on the merit of receiving a percentage of 90% or higher in the Preparatory Certificate Standardized Exam. The level of their overall language proficiency is not clearly known to the researcher. This is because, according to the Egyptian Preparatory Standardized Exam, they are “advanced”; based on Cambridge admission test to the IGCSE that assesses their reading and writing skills, they are “intermediate/upper intermediate”; and the English curriculum they are taught is designed for upper intermediate level. As for their LC proficiency, the only indicator used in this context is the scores they receive in the weekly listening tasks.

The Egyptian EFL context where these students received their foreign language education has some unique characteristics that have shaped both their language abilities and beliefs about English as a foreign language. First, they have been used to hearing the input of their non native teachers which is slower than the natural native speech. Coskun (2008) reported that the SR of some Turkish teachers was found to be 30% to 50 % slower than the native SR, thus lacking many of the rapid speech features such as RFs.

A second characteristic is the unenlightened practices applied in teaching LC skills in the IGCSE context. Students are usually viewed as test takers more than active

listeners of L2. Accordingly, test taking skills such as using the key words of the questions to guide the listeners while expecting to hear the answers are given priority while learning top-down skills such as using the contextual cues to inference the intended meaning is secondary. This purely structural approach of teaching listening has been a subject of criticism as it focuses on the linguistic component of the listening text, and marginalizes the communicative skills involved in the process of meaning deduction (Field, 1998).

Another teaching weakness that is assumed to have intensified the segmentation problems of these students is the way vocabulary has been introduced to them. These students are accustomed to hearing lexis in the standard pronunciation the same way they are spelt in a dictionary. Goh (2000) highlighted the importance of developing L2 learners' sound-to-script automatization skills to enable them to recognize vocabulary when rapidly pronounced in the stream of connected speech. For example, "government" for these learners in standard print may sound different from /gʌvmt/ in the aural texts in terms of meaning representation. As a result, they usually report the symptom of "the acoustic blur" (Ishler, 2010, p.139) which causes them either to fail to segment familiar lexis from the stream or to mishear words due to unclear, blurred word boundaries.

Taking the previously-described EFL context into consideration, it can be understandable why these students usually report a number of rate-related listening difficulties on first encountering the authentic audio-taped texts in the IGCSE system. This is why one main goal of interviewing a group of these students was to elicit their impressions concerning the effectiveness of the reduced SRs in alleviating their word

recognition problems, given their unique LC background. Also, since the study was administered four months after their first exposure to the recorded native talk, the interviewees were also asked, based on their experiences with the listening tasks, to suggest how best to modify the SRs of the recorded texts to train students who join the IGCSE without receiving LC instruction in the Egyptian language schools. These suggestions were elicited to enlighten the teachers in this context when introducing students who are used to slow SRs to more authentic ones.

Selection of Participants

The researcher recruited three intact classes out of a total of six classes in the tenth grade. The classes selected for the study showed homogeneity in their LC background as most of the participants received their preparatory education in the Egyptian language schools. These were labeled in this context as the “national” students, and were assumed to have poor LC skills. The other three classes included all the students who had the Pre IGCSE education. These “Pre IG” students were excluded from the study as they were previously trained in taking the IGCSE listening tasks.

Moreover, the three classes targeted were similar in terms of their overall language ability. Students admitted to this school are randomly assigned to six classes based on their scores in the Cambridge admission exam. Therefore, all classes have almost an equal share of advanced, intermediate and low proficiency levels. This is why the researcher did not reassign the three classes included in the study, taking the advantage of this random assignment. These three intact classes were, consequently, randomly assigned as a Control class, Experimental 1(10A) and Experimental 2 (10E).

To classify the participants into three levels of LC ability, the following standardization procedure was adopted. The scores obtained by these students before the application of the treatments were ordered in a descending order. The highest third was assumed to represent the “advanced,” the middle third as the “intermediate” and the lowest third as the “low.” A clarification should be made here concerning the implications of these three classifications. Students labeled as “advanced,” for example, were not considered by necessity “the most proficient in LC” since the scores could indicate successful task taking skills in addition to listening comprehension. Therefore, an “advanced” student could be “the most successful” in completing the listening task.

Following the classification of students into three LC levels, the researcher randomly selected three from each level for the interviews. But, because more students expressed their willingness to be interviewed, the researcher ended up with interviewing 14 interviewees representing the three LC levels mentioned earlier. Later, the researcher found that the inclusion of a relatively larger number of interviewees than what was planned enriched this research with qualitative data that clarified a number of interesting issues concerning the interaction between the level of the listeners’ LC ability and their need of reduced SRs.

Materials/Instruments

The Listening Task. The LC task adopted in the research context is a forty five-minute exam practiced on a weekly basis. Two types of listening exams are used to prepare the students for the final one, EDexcel and Cambridge standardized exams. Each exam is defined by the year in which it was administered. For example, “EDexcel June

2010” means that the exam was used as the official final test in the summer semester in 2010. Both exam types are spoken in the standard British Received Pronunciation. Topics included, in addition, usually center on world celebrities, news, sports and environmental issues. The language teachers are required to train their students in both types as the students have the freedom to choose the type of the final exam.

Worthy to mention is that these two types are not equal in their SRs or their question types. A Cambridge exam consists of ten sections the first six of which are short exchanges between two speakers. The rest are short monologues or dialogues of about 300-500 words delivered at the SR range of 120-150 WPM. The question types require the testee to write short answer completion or long responses such as summaries. Lastly, test takers would lose points if answers were written in wrong spelling. On the other hand, an EDexcel exam consists of three long texts of about 800-1500 words delivered at the SR range of 140-180 WPM. The question types are both MCQs (the best answer variety) and sentence completion. Finally, test takers are not penalized for making spelling mistakes as long as the mistakes do not affect the intended meaning. For example, if the test taker wrote “organize” instead of “organizer,” still, the response would be counted as correct.

The task, regardless of the exam type, is presented in a graded manner starting with the easiest items and ending with the most difficult ones (see Appendix D for a sample Cambridge exam). Each text is played twice and there is a one-minute pause before each text to allow the test taker to skim the questions and predict the relevant details of the topic before listening. Test takers are not allowed any breaks during the 45

minutes. Checking answers takes place right after the task is over by teachers reading aloud the answer key and writing the different spelling forms of the short answers that are considered correct. Meanwhile, students do the corrections, grade the texts and calculate their final scores on the spot then they hand in the task papers.

Data Collection Tools

This study is a descriptive experimental research that adopts a mixed design approach. Therefore, both quantitative and qualitative types of data were used to answer the three research questions. Triangulation of data collection tools was achieved in this study. That is, LC tasks, retrospective semi-structured interviews and class observations were used to elicit data. Moreover, data sources were also triangulated by depending on the participants' task performance, the reported perceptions of the participants with regard to the efficacy of the SR reduction techniques and finally the researcher's observations of the experimental classes while on task.

The Modified Tasks

Prior to the administration of the study, the researcher randomly chose two EDexcel exams to adapt according to the two techniques under investigation. EDexcel exams were chosen in particular to be slowed since the students and the teacher reported that these exams are perceived in this context as being faster in their SRs than Cambridge. Therefore, two EDexcel exams were slowed by inserting 3-second pauses at sentence boundaries and by rearticulating the texts in a deliberate way. This process resulted in two different slow versions from each exam. In addition, three Cambridge

exams were randomly chosen to represent the NS condition. Important to mention is that unifying the task type in this study for five weeks was unfeasible since the participating teachers had to switch between both exam types. Table 1 shows the types of exams used in the study, their duration after editing and the SR ranges of each per minute.

Table 1

The Five Tasks Used in the Study

Week #	task type	Duration	speed (WPM)
week1	June Cambridge 2010	45 mins	126:142
week2	June Edexcel 2010 (DA)	1 hr.9	95: 124
	June Edexcel 2010 (3-SP)	58 mins	133:136
week3	June Cambridge 2009	45 mins	133: 145
week4	November Edexcel 2010 (DA)	57 mins	70:114
	November Edexcel 2010(3-SP)	56 mins	120: 130
week5	November Cambridge 2010	45 mins	124:150

Treatments

The 3-second Pauses. The researcher inserted a three-second pause at the end of each idea unit in three texts, using a computer sound editing program called Camtasia. This editing was also applied in the same way to the repetition of the texts. The choice of the pause length is based on Blau's (1991) and Ishler's (2010) recommendations concerning the reasonable duration of longer than normal pauses. Pauses that are longer than three seconds were reported to have caused the listeners to lose track and to feel bored (Blau, 1991).

The Deliberate Articulation. The researcher invited two native speakers of American English to read three texts with clear pronunciation. Clarity here meant

stressing word boundaries and avoiding reduced forms as much as possible. The implementation of this technique was meant to reach a balanced input in terms of authenticity and comprehensibility. Again, the deliberate articulation treatment was applied to the replay of the texts.

The treatments were assigned to the two experimental classes in a reversed manner in Week 2 and Week 4. As for week 1, 3 and 5, the two experimental groups were exposed to the NS condition where they listened to unedited texts.

The Semi-structured Interviews

Thirty six individual interviews were administered with fourteen participants from the two experimental classes during the first five weeks of the spring semester. The average duration of each interview was 10 minutes. Although the interviewees were given the choice to speak either in L1 or L2, most of them felt more comfortable speaking in L1 except for a few who code switched. All interviews were audio taped using Audacity, and were saved on the personal laptop of the researcher. Later, the researcher translated and transcribed the interviewees' input to be able to interpret it in accordance with the study research questions.

The interviewees, as mentioned earlier, represented three levels of LC proficiency. The procedure that was followed to classify them was standardized by using the scores of the listening task in week 1 in the following manner: The advanced interviewees scored from 30 to 25; the intermediate from 24 to 20, and finally the low scored from 19 to 15. The researcher noticed that none of the three participating classes

included scores that were less than 14/30. Next, the interviewees from the three ranges were randomly selected and invited to share in the interviews for five weeks. This procedure resulted in five advanced, six intermediate and three low interviewees. These participants provided the researcher with first-hand data about their rate-related problems and perceptions of the different SRs appropriateness. The questions that were used during these interviews are found in Appendix E.

Class Observation

The researcher used this tool to further clarify the impact of the SR reduction treatments on the participants while taking the task. Four observations were done in the experimental classes during the administration of the treatments. While observing, the researcher jotted some comments on how students reacted to the treatments. These notes included the participants' facial expressions, their behavior and comments during the modified tasks.

Data Collection Procedure

The researcher started the data collection process during the spring semester by obtaining the permission of the school administration. Next, each participant in the two experimental classes was given a take home copy of the informed consent to be signed by both the participant and the parent/guardian. In addition, the researcher briefed the participants in class on the main objective of the study, which is exploring their appropriate SRs by means of two techniques. Also, they were told that there was a possibility that their scores might rise drastically during the SR reduced treatments due to

the benefits of clearer pronunciation and extra thinking time. Finally, the researcher made it clear that their reported impressions would be of crucial importance in making decisions concerning the most effective SR reduction techniques to be implemented in training newly admitted students the following years. For this reason, they were gently directed to be up to the responsibility and to take it serious when reporting their evaluations.

Next, the researcher started the procedure by calculating the mean scores of the listening task done in Week 1 by the three participating classes to formulate an initial idea about their LC performance prior to the experiment. These scores were also used to select interviewees at three LC levels from the two experimental classes. In addition, the scores received by the participants in the NS condition during Week 1, 3 and 5 were used by the researcher, while examining the scores acquired during the slow treatments, to discern whether there were any different patterns that could be attributed to the effect of the reduced SR conditions.

Prior to the administration of each treatment, the researcher alerted the participants to the necessity of monitoring their performance especially at times of difficulty. Raising their metacognitive awareness of their LC performance in the slow conditions was crucial to gather data that were as credible as possible on the effectiveness of the techniques in addressing their LC problems. This procedure was premised on the assumption that, while listening, their WM would be so occupied with the continuous input that very “little space” would be available to concentrate on instances of difficulty or ease (Rubin,1994).

The procedure followed this schedule:

Week 1: The researcher collected the LC scores of the task done in Week 1 by the three participating classes. Then, she started interviewing participants representing the targeted proficiency levels from the two experimental classes to familiarize herself with their typical LC problems, either those related to the task of the week or the previous ones.

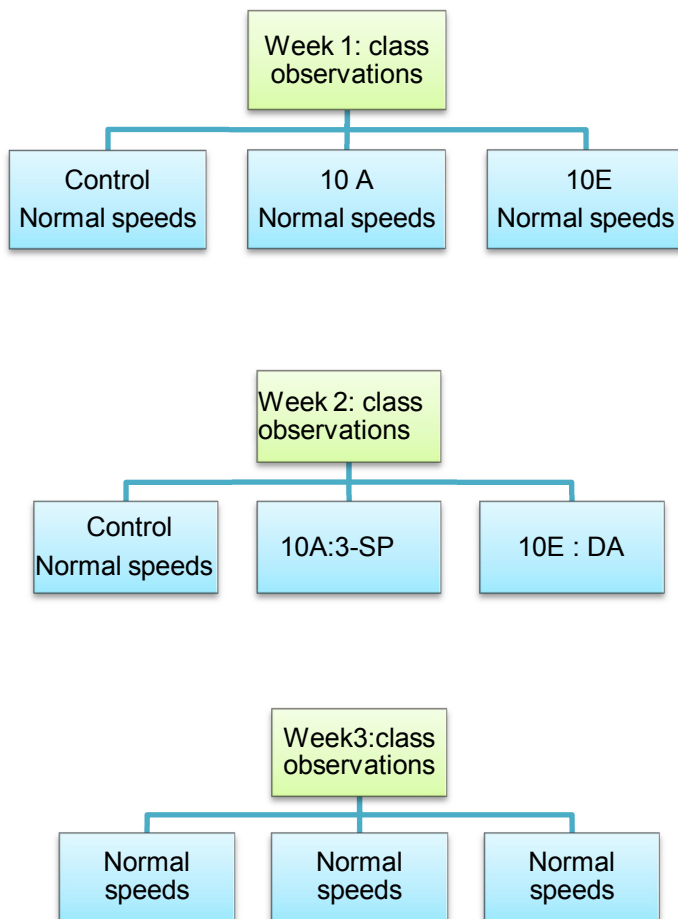
Week 2: The treatments were administered to the two experimental classes while the Control one took the usual task. The Experimental class (10A) was assigned to the 3-SP whereas the Experimental class (10E) had the DA. Immediately after the task, interviews with the participants were administered. Examples of questions directed to them are:

1. What is your general impression today about the task? Was it easy or difficult?
Why?
2. Was it easier than the one you had last week? Why?
3. Could you give a percentage of your overall understanding of the texts today?
4. Was the speaker slower this time? How?
5. Do you still feel some difficulties while listening? Give examples.

Week 3: the researcher collected the scores received in the NS condition. The same interview procedure was repeated with the same interviewees to gather data on any perceived positive or negative differences when they switched to the normal speeds again.

Week 4: The SR reduction treatments were applied in a reversed order. Thus, 10A had the DA whereas 10E had the 3-SP. Retrospective interviews were done the same way described above.

Week 5: the researcher gathered the scores of the three groups in the NS condition for the last time. Retrospective interviews investigated, beside the usual SR-related questions, any perceptions of metacognitive awareness. Figure 1 shows the procedure of the study.



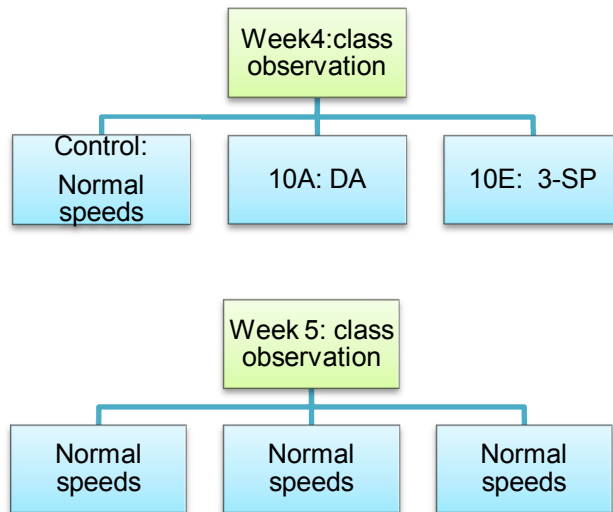


Figure 1. The data collection procedure

Data Analysis

At the end of week 5, the researcher had two types of data to analyze: The numeric data were five sets of scores of 72 participants gathered in five weeks. The qualitative data included the audio-taped interviews in addition to the researchers' observation notes.

To analyze the numeric data, mean scores were calculated to compare and contrast the task performance of the three groups in the three different SR conditions (DA, 3-SP and the NS). Statistical analyses of significance of variance were run to check whether the observed mean differences among the groups were statistically significant. These analyses were used to infer whether the SR reduction techniques were of any positive influence on the participants' task performance.

On the other hand, the qualitative data derived from the interviews were analyzed both quantitatively and qualitatively. Similar to Flowerdew and Miller (1992), a

psycholinguistic approach was adopted while interpreting themes from the transcribed data of the interviews. Meaning, data that were related to the impact of the SRs -whether positive or negative- on the participants' processing of the aural input were considered relevant. Others related to LC strategies, for example, were classified as irrelevant.

Accordingly, the transcribed scripts were examined for themes such as text speed and task duration perceptions, easiness/difficulty of LC, rate-related problems, and finally advantages and disadvantages of each SR condition. As the LC level of the interviewee was one of the independent variables in this study, the above-mentioned themes were classified under Advanced, Intermediate and Low interviewees. The results collected from these analyses were used to answer the third question on the listeners' impressions of the facilitative effect of the two techniques. Also, the data were examined with regard to whether and how listeners of different proficiency levels invested the added processing time of the reduction techniques.

The quantitative analysis of the interviewees' input included examining the correlation between the interviewees' task scores, their reported self-ratings of the text comprehension and task difficulty level. Also, the frequency of LC problem types reported at the three LC levels in the NS conditions vs. the DA and the 3-SP was calculated.

Finally, the researcher picked excerpts of the interviewees' input and compiled fourteen interviewee profiles that shed light on the phenomenon of the appropriate SR from the perspective of each interviewee. These included the interviewees' LC background, their preferences and challenges in the different SR conditions.

The class observation notes were also examined for the participants' interaction with the SR reduction techniques during the task. For example, the students' and the teacher's comments on the deliberate articulation were coded as speed perceptions, task duration problems, need of the replay, and classroom management challenges.

Summary of the Chapter

The research methodology implemented to answer the three research questions was discussed in detail. First, the rationale of targeting Egyptian students practicing LC in the IGCSE context was highlighted. Next, procedures followed in editing the listening materials and collecting both types of data were stated. The data collection tools were triangulated by depending on LC scores, interviews and class observations. The quantitative data were analyzed using SPSS for statistical significance of variance. And, finally, the qualitative data were thematized under SR appropriateness, speed perception, task management and perceived LC problems.

CHAPTER FOUR

RESULTS

Introduction

This chapter reports the results that were aggregated from both the quantitative and qualitative data to answer the research questions. The first section presents the statistical analyses of variance among the LC mean scores of the three participating groups in the three SR conditions. The second section includes the themes that were interpreted from the researcher' notes recorded during class observations in the slow conditions. Lastly, the third section is dedicated to the presentation of the results pertaining to the participants' input in the semi-structured interviews. As will be seen below, the results are presented in accordance with the order of the proposed research questions.

RQ1: What is the immediate impact of applying the SR reduction technique of the 3-second pauses (3-SP) on the LC performance of the Egyptian students preparing for IGCSE?

In Week 1, prior to the administration of the SR reduction techniques, the mean scores of the three classes in the normal speed (NS) condition showed that the Control class performed the highest followed by 10A and then 10E. Table 1 shows the mean scores of the three classes during the five weeks of the study.

Table 1

Mean Scores Received by the Three Participating Classes in the Five Weeks

Class	Control	10A	10E
Week 1	27.4	24.7	23.7
Week 2	22.3	20.7	17.4
Week 3	26.9	24.7	23.6
Week 4	24.05	22.6	17.9
Week 5	25.9	17.8	19.3

Nevertheless, the statistical differences among the three score means in Week 1 were not significant at the probability level of 0.05 ($F= 1.009, p< .371$). On exposing 10A and 10E to the 3-SP during Week 2 and Week 4, the mean scores of the two experimental classes were found to be less than those received in the NS condition in Week 1 and 3. In addition, the Control class was still ahead of the two experimental classes in terms of mean scores. Table 2 shows the mean scores of the Control class compared to the two experimental classes in the 3-SP.

Table 2

Mean Scores of 10A and 10E in the 3-SP Condition Compared to the Control Class

Group	Control	10A	10E
week2	22.3	20.7	
week 4	24.05		17.9

Note. The mean scores received in the DA condition were excluded from this table.

The Multiple Comparisons Test among the three groups during the five weeks showed that the mean differences between the Control group and 10A, on the one hand, and the Control group and 10E, on the other hand, in Week 2 and Week 4 in the 3-SP condition were all significant negative values. Also, the differences were observed to have become

bigger in the 3-SP than in the NS condition. Table 3 depicts the results of the multiple comparisons among the three groups in Weeks 1, 2, 3 and 4.

Table 3

Mean differences among the Three Participating Groups in the NS vs. the 3-SP Condition

Week#	Control vs. 10A	Control vs.10E
week 1	-1.19213	-2.18915
week 2	-1.79861*	
week 3	-2.23009	-3.31972
week 4		-6.19763*

Note. The differences pertaining to the DA condition were excluded from this table. The SR condition adopted in Weeks 1 and 3 was the NS, while in Weeks 2 and 4, it was the 3-SP. The asterisk * is used to indicate the mean differences pertaining to the 3-SP condition. (See Appendix G, Table 2 for more details on the statistical significance and standard deviation values)

Looking at Table 2 and 3 above, 10A was found to score higher than 10E in the 3-SP though both still received poorer mean scores compared to the Control class. As a result, the mean difference between the Control class and 10E was -6.19 whereas it was just -1.79 with 10A.

To summarize, the mean scores received by the two experimental classes in the 3-SP condition were less than those received in the NS condition by the Control class. As a result, the order of the three classes observed in Week 1 was not changed in the subsequent weeks when the 3-SP was applied. Additionally, the mean differences between the Control class and the other experimental classes remained negative values, and the mean difference became bigger, especially with class 10E.

RQ2: What is the immediate impact of applying the SR reduction technique of the deliberate articulation on the LC performance of the Egyptian students preparing for IGCSE?

The mean scores received by the experimental classes in the DA condition in Week 2 and Week 4 were, again, less than the ones the two classes got in Week 1 and 3 in the NS condition. More importantly, the Control group remained ahead of the two experimental classes followed by 10A and finally 10E. Table 4 demonstrates these results.

Table 4

The Mean Scores Received by the experimental classes in the DA Condition Compared to the Control class

Group	Control	10A	10E
week2	22.3		17.5
week 4	24.05	22.6	

Note. The 3-SP mean scores were excluded from this table.

Further, the Multiple Comparisons among the mean scores of the three group in Week 2 and Week 4 resulted in mean differences that were again statistically significant negative values. Also, compared to the mean differences among the three groups in the NS conditions, the differences calculated in the DA condition were found to have become bigger, thus widening the gap between the Control class and the two experimental classes. Table 5 manifests these mean differences.

Table 5

Mean differences among the Three Participating Groups in the NS vs. the DA Condition

Week#	Control vs. 10A	Control vs.10E
week 1	-1.19213	-2.18915
week 2		-5.07639*
week 3	-2.23009	-3.31972
week 4	-1.61785*	

Note. The 3-SP data were excluded from this table. The asterisk * is used to indicate the mean differences pertaining to the DA condition.

Based on the mean differences stated above in Table 5, the gap between the Control group and the experimental class 10E became wider in the DA condition than in the NS. Class 10A, on the other hand, was still the closest to the Control class.

With regard to the overall impact of the two SR reduction techniques on the two experimental classes, mean scores received by both classes in the reduced SR conditions in Weeks 2 and 4 were consistently less than those obtained in the NS conditions in Weeks 1 and 3. However, each of the two experimental classes interacted differently with the techniques in a way that made it hard to decide, based on the score means, which technique was more effective. That is, the DA led to better results than the 3-SP in the experimental class 10A (DA=22.6, 3-SP=20.7). Conversely, the 3-SP yielded a slightly improved score mean than the DA in the experimental class 10E (DA =17.5, 3-SP =17.9). Finally, 10E consistently experienced a noticeable score failure in the reduced SRs, regardless of the technique applied, as evident in the negative mean differences of -5.07639 in the 3-SP and -6.19763 in the DA between this class and the Control. 10A, on the other hand, was found to keep rather more stable mean differences with the Control class that did not exceed -1,79 in the slow conditions.

Finally, two statistical results were also found. First, similar to the two experimental groups, the Control group showed a pattern of decreased score means in Weeks 2 and 4 (Pair 2= -4.12, $p < .000$, Pair 4= -2.11, $p < .001$), and increased means in Weeks 1, 3 and 5 (Pair 1=4.10, $p < .027$, Pair 3=2.96, $p < .001$). Second, in Week 5, the experimental classes 10A and 10E showed a pattern of performance in the NS condition that seemed inconsistent with the pattern traced in Weeks 1 and 3. This finding was based on two results. First, both classes received score means that were poorer than those found in Weeks 1 and 3. Second, the order of the three participating classes (10E < 10A < Control) traced in the first four weeks of the study changed in Week 5 to be (10A < 10E < Control). This is because 10E outperformed 10A in the terms of task performance (10A= 17.8, 10E=19.3).

To conclude, the statistical analyses of variance among the score means of the three classes in the NS versus the SR reduction techniques showed that the exposure of the two experimental classes to the DA and the 3-SP did not change the pattern of the score means of these groups that was found prior to the treatment administrations. In other words, the Control group remained superior to the other groups despite the fact that they had slower SRs. More importantly, dramatic score failures were observed in the slow treatments in the experimental class 10E while 10A was consistently the closest to the Control, especially when it was exposed to the DA condition.

RQ3: How do Egyptian students preparing for IGCSE perceive the impact of the DA and the 3-SP in terms of text comprehensibility and task completion?

Findings pertaining to the participants' perceptions of the efficacy of the SR reduction techniques in question were interpreted from the qualitative data that were collected by means of class observations and interviews. The following section presents the findings based on the class observations.

Findings from Class Observations

Table 6 below demonstrates the themes that were inferred from the researcher's observation notes concerning the participants' perceptions of the two techniques.

Table 6

Themes Interpreted from the Researcher's Observation Notes

The 3-SP	The DA
<p><u>Speed perception</u></p> <ul style="list-style-type: none"> • “Weird” and disruptive • Relaxing to some students • Reported as sounding more natural when applied after the DA 	<ul style="list-style-type: none"> • “Too slow” and “ridiculous” compared to the 3-SP and the NS. • Unnatural
<p><u>Novelty of the technique</u></p> <ul style="list-style-type: none"> • Caused a noisy environment during the first minutes of class. 	<ul style="list-style-type: none"> • Caused class management problems during the whole task especially towards the end: reluctance to stay on task and feeling fidgety.
<p><u>Need of the technique in the replays</u></p> <ul style="list-style-type: none"> • The prolonged pauses were not preferred in the replays by a number of students. 	<ul style="list-style-type: none"> • The adoption of the DA in the replays generated general feelings of boredom.
<ul style="list-style-type: none"> • Prolonged task duration 	<ul style="list-style-type: none"> • Prolonged task duration
	<ul style="list-style-type: none"> • Noticing the target pronunciation

Findings from the Semi-structured Interviews

The following section presents the themes that were interpreted from the interviewees' input concerning the efficacy of the DA, the 3-SP and the NS. As mentioned earlier, exploring the impact of the LC proficiency levels of the interviewees on their perceptions of SR appropriateness is one of the main objectives in this study. Therefore, findings pertaining to each SR are reported at three levels: Advanced, intermediate and low. In addition, the interviewees' perceptions of task difficulty and text comprehensibility are used as additional indicators of the SR efficacy beside the interviewees' comments.

The following section tackles the efficacy of the DA as reported by the interviewees at the three LC levels

The DA Efficacy

Advanced Interviewees

The advanced group members ($n=5$) were considered the most proficient listeners in this context since they consistently received the highest scores in the weekly LC task. Generally, during their first interview, they appeared to be concerned about the difficulty level of the questions in the task more than the speed rates of the recorded speech. When asked about their SR-related challenges, they clarified that their need of slower SRs was often perceived when answers were indirectly stated, or questions were not in the same order of ideas in the text. According to them, reducing the SRs "a little bit" at these instances was assumed to facilitate both LC and task management.

Table 6 displays their task scores in the DA condition versus the NS, their reported perceptions of the task difficulty and text comprehensibility. Adv# is used to refer to the advanced interviewees for confidentiality reasons.

Table 6

Advanced Interviewees’ Perceptions of Task Difficulty and text comprehensibility in the DA Condition

Student #	NS Scores	Task Difficulty	Text comprehensibility %	DA scores	Task Difficulty	Text comprehensibility %
Adv 1	29.5	easy to medium	90%:95%	27	Very easy	95% or higher
Adv 2	28	medium	80%	25	Medium to difficult	90%
Adv 3	28.5	medium	75:85%	21	Medium to difficult	90%
Adv 4	29	easy to medium	90: 95%	24	Confusing	90:95%
Adv 5	28.5	medium	80:85%	21	Confusing	95%

Note. NS scores: scores received in the normal speed condition, DA scores: scores received in the DA condition

Examining the results shown in Table 6, the DA was found to improve the advanced interviewees’ perceptions of text comprehensibility than the NS. However, the task scores and the interviewees’ reported impressions of task difficulty were negatively affected; all interviewees scored lower than usual. Also, with the exception of Adv 1, all interviewees perceived increased difficulty in managing the LC task, and even reported feelings of confusion about the evaluation of the task difficulty. Figure 1 shows the observed discrepancy between the interviewees’ reported self ratings of text comprehensibility and their task scores.

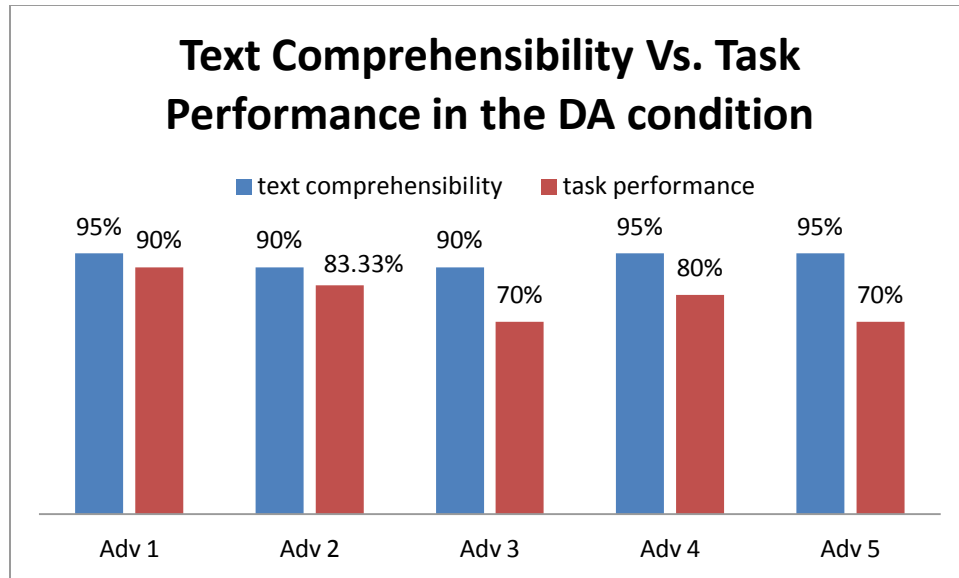


Figure 1. The discrepancy between the interviewees’ self ratings of text comprehensibility and their task scores at the advanced LC level

Moreover, the interviewees reported conflicting perceptions of the DA appropriateness (i.e. suitability of the reduced SRs to their LC needs). While the majority of the group members (4 out of 5 members) perceived the DA as “too slow” and “boring”, Adv 1 was the only member who reported that it was “medium” in terms of rapidity and “helpful.” Although her score was slightly less than that in the NS, she appeared to be the least harmed task taker by the DA among them all.

The following section presents the interviewees’ comments on the DA in terms of advantages and disadvantages.

Advantages

1. Word recognition was maximized

Word clarity seemed to be the most prominent advantage of this technique according to all advanced interviewees.

Adv 2: Pronunciation was clearer this time. It solved my problem as parts of the words are “eaten” sometimes by the speakers.

2. Decreased review load in the replay

The number of the questions that used to be missed in the first play due to fast speeds was decreased.

Adv 4: During the replay, I had nothing to do. Before, I used to miss 2 or 3 questions and had to wait for the replay. This time, no! I did not need it.

3. The simultaneous task management

The slow SR was reported to have allowed the listeners some added processing time to do higher cognitive activities such as guessing relevant details before hearing them.

Adv 5: It even gave me time to guess what would come next. For example, when he said “students bring their bed sheets,” I expected to hear “pillows” and fortunately it was the answer.

Also, they had time to write long answers.

Adv 2: I could write the long answers in correct spelling.

Despite the above-mentioned advantages, the interviewees still reported severe LC problems due to the DA. These are reported below.

Disadvantages

1. Negative attitudes and feelings of boredom

Adv 2: ...compared to pauses, this is terrible. I felt as if I am mentally retarded.

2. Global comprehension was badly affected

The interviewees spoke about their inability to maintain a logical line of thought among the details of the text despite the fact that they heard words clearly.

Adv 4: I did not know what he was talking about. I could not relate “the garden class” to “building materials.” I could not understand.

Another student described the discrepancy between clear input and her inability to deduce the overall meaning as “paradoxical.”

Adv 5: For me, it is quite paradoxical that I heard clearly but did not know whether it is the answer or not. I heard words clearer, but I could not deduce the whole meaning of the text. I was confused.

3. The simultaneous task management

Despite the reported high percentages of text comprehensibility, and the recurrent comments that most of the questions were answered in the first play, the process of task completion was negatively affected. The interviewees mentioned feelings of uncertainty concerning the correct answers.

Adv5: when I lost track, I could not decide whether the answer was mentioned already or yet to come.

4. Artificiality

Finally, the DA sounded unnatural to some interviewees.

Adv 3: It is not natural. People never talk this way in real life.

In view of the disadvantages that were reported in the DA condition by advanced interviewees, it was concluded that the DA was perceived by almost all of this group as inappropriate to their needs when completing the introspective task.

The next section presents how the intermediate interviewees reacted to the DA.

Intermediate interviewees

Similar to the Advanced group, the Intermediate interviewees ($n=6$) experienced a drastic drop in their scores in the DA, except for two interviewees. One of them (Int 5) made a dramatic progress in her performance. Her task score was described by her as “the highest score” she got since the beginning of the year. Another student (Int 6) showed a level of task performance in the DA that was almost identical to the NS. Table 7 shows this group’s scores in the NS versus the DA in addition to their perceptions of task difficulty and text comprehensibility. The abbreviation Int# is used to identify interviewees.

Table 7

Intermediate Interviewees’ Task Scores, Perceptions of Task Difficulty and Text Comprehensibility

Student #	NS scores	Difficulty	comprehensibility %	DA scores	Difficulty	comprehensibility %
Int 1	22.5	medium to difficult	95%	13	easy/ boring	90:70:40%
Int 2	24.17	medium to difficult	60:70%	14	Boring	50:40%
Int 3	21.7	medium to difficult	50%	11	medium to difficult	60: 50:40%
Int 4	23	medium to difficult	75:80%	17	medium to difficult	75%
Int 5	21	medium to difficult	85%	28	easy/ boring	85%
Int 6	22.5	Manageable	80:85%	23	easy/ boring	80:70%

Unlike the Advanced group, percentages of text comprehensibility here seemed to show three patterns: First, four students reported a gradual deterioration of

comprehension that reached its lowest levels towards the end of the task. In addition to this, the interviewees who reported this deterioration belonged to the class 10E that received the lowest mean in the DA condition. Finally, Int 5 reached an advanced level of task performance that by far exceeded her perceived rating of text comprehensibility. As for the task difficulty, based on the reported impressions of the interviewees, it appeared to be generally minimized, but was coupled with feelings of boredom.

What follows is the interviewees' reported perceptions on the pros and cons of the DA.

Advantages

1. Word clarity improved

Int 6: ...clear enough to recognize each word...best for those who needed clarity of the words.

2. Less review load in the replay

Int 4: Three questions only were missed this time.

3. Decreased nerve tension

Int 4: I think it is easy for beginners. They should feel relaxed.

Disadvantages

1. Negative attitudes and feelings of boredom

The DA was generally perceived as "too slow" and "boring." Many interviewees were reluctant to listen to three texts slowed in this way. Boredom led to loss of concentration especially at the end of the task.

Int 1: At first, we were attentive; next we became bored and disconnected. When we reached the third text, we became sleepy.

2. Local/global understanding was negatively affected

The novelty of the DA distracted the attention of some of them to focus on the speaker's way of articulation instead of listening to form meanings.

Int 3: There were many words that I heard clearly but could not understand their meaning. I was distracted by the new slow speed. My understanding fell to 40%.

Others mentioned that they forgot parts of the input due to the unusual slow articulation, and, hence, could not establish logical relations among the details of the text.

Int 1: what I heard at first was forgotten. I could not connect parts to each other.

3. The task management

One student pinpointed the reason why many could not pick the answer although the flow was slower than usual.

Int1: I kept waiting for the answer and lost concentration. When I attended again to the speech, I discovered that I missed it.

Another lost the connection between questions and their answers in the stream.

Int 2: Though he spoke slowly, I could not connect answers to the questions.

4. Longer task duration

Int 2: I knew it will take me longer. So, I left the task.

To conclude, the DA was reported by the intermediate interviewees to have improved the text comprehensibility at the beginning of the task. But, eventually, it generated serious feelings of boredom. Also, it interfered with the process of picking answers from the speech flow, resulting in decreased task scores.

Low Interviewees

Unlike the other two groups, this group ($n=3$) did not experience any drops in their scores; they either sustained their usual level of achievement (Low 3), or showed some improvement (Low 1 and Low 2). Also, their perceptions of the task difficulty were positively changed in the DA. Table 8 presents the percentages of text comprehensibility and task difficulty as reported by the low group.

Table 8

Low Interviewees' Task Scores, Perceptions of Task Difficulty and text comprehensibility in the DA

Student #	NS Scores	Difficulty	Comprehensibility %	DA scores	Difficulty	Comprehensibility %
low1	17.8	Medium to difficult	60:65%	20	Medium	80%
low2	14.17	Medium to difficult	60:70%	17	manageable	80%
low3	16.67	Medium to difficult	70%	17	Medium	80%

As can be seen in Table 8, the three interviewees reported the same moderately raised level of text comprehensibility. However, Low 1 was the only interviewee whose task performance seemed adequate to her perceived percentage of text comprehensibility. It appeared that the rest of the group could not achieve improved task performance although they had slower speeds. Except for this observation, no discrepancies were traced between text comprehensibility and task performance in this group.

The following section presents the interviewees' perceptions of the DA appropriateness in detail.

Advantages

1. Decreased segmentation problems

Again, this group reported that the most important “gain” from this technique was word clarity.

Low 1: Before, I used to face difficulty in recognizing word boundaries. They used to merge into each other. Today, it was different. I heard most of the words in a clearer way, and could understand their meanings.

2. Improved perceptions of the SR

There seemed to be a consensus that the speed was appropriate to their needs.

Low 1: The speed today was good. I felt that I can catch up with it. The speed I heard today was medium, not too fast and not too slow.

3. Improved perceptions of task difficulty

Interviewees reported that the slow speed reduced their feelings of being challenged while on task.

Low 1: the task was $\frac{3}{4}$ easy and $\frac{1}{4}$ difficult. Nice!

4. Improved task management

The added time facilitated managing the multiple mental activities of the introspective task. One student spoke about how the slow speeds made it easy for her to read and understand the question requirements while listening.

Low 1: I could read the questions at ease and choose the answer I think to be right. I could have the time to understand the questions and decide on the answer. This time I was more certain of the answers. I wish to have this technique in the class task, especially in the dialogues as I feel lost in them.

5. Decreased review load in the replay

The DA tended to help them answer most of the questions in the first play.

Low 2: Here, I did not need the replay as before. Today it was 2 or 3 questions only. Before, I used to miss 5 or 6.

Also, students were able to better invest the replay time in double checking their answers.

Low 1: This time I could double check my answers in the replay. Before, I used to be rushed in the replay to answer the missed questions. I used to write any answer as I was not sure of it. This time, I could review my answers.

6. Improved feelings of self-confidence

The DA made them feel more relaxed while completing the LC task. And their improved scores helped them regain their self-confidence.

Low 2: my scores in the exams you brought were higher than before. It was good.

7. Naturalness

Interviewees perceived the deliberate way of talking as being natural.

Low 2: In real life, when you talk to a slow speaker, it helps you understand more than talking to a fast speaker.

Despite the numerous perceived benefits of the DA, the Low interviewees still reported few disadvantages.

Disadvantages

1. The SR is too slow

One interviewee felt bored as the speed was slower than the ones she was used to. As a result, she became reluctant to continue.

Low 3: I did not want to think about the difficult topic. I got bored.

2. Prolonged task time

Another interviewee had headaches due to a prolonged task duration. As a result, his concentration deteriorated gradually towards the end of the task.

low 2: My concentration decreased at the end. The first text was good; the second, I got bored; the third, my brain was blocked. I left question 5 and 6, not because I

did not know them, but because my brain was blocked. I could not keep focused all the time. I even got headaches the last 5 minutes.

3. Not effective with understanding unfamiliar topics

The slow speed did not facilitate their LC when the words were unfamiliar.

Low 1: The last text was difficult. The topic was unfamiliar, and the new words were numerous. I could not understand and answer the questions.

Table 9 presents a summary of the interviewees’ reported perceptions of the DA appropriateness.

Table 9

The Efficacy of the DA Technique as Perceived by the Three LC Levels

	Advantages	Advanced	Intermediate	Low
1	Improved segmentation	√	√	√
2	Improved feelings of task difficulty			√
3	Improved feelings of SR		√	√
4	Improved task management	√	√	√
5	Improved self-confidence		√	√
6	Less review load in the replay			√
	Disadvantages			
1	Prolonged task duration	√	√	√
2	Boredom and loss of concentration	√	√	√
3	Decreased local/global comprehension	√	√	
4	Inability to spot answers	√	√	
5	Artificiality	√	√	

The following section presents the interviewees’ opinions regarding the efficacy of the 3-second empty pauses. Similar to the previous section, the views will be presented in the order of advanced, intermediate and low interviewees.

The Efficacy of the 3-SP

The Advanced Interviewees

The poor scores received in this condition indicated that the advanced interviewees did not benefit from the pauses in terms of task performance. One student (Adv 2) showed a level of task performance in the 3-SP that was identical to the NS while the other four scored less than usual. Nevertheless, three interviewees reported that the 3-SP alleviated some of their task-management problems. Table 10 shows these details.

Table 10

The Advanced Interviewees' Scores, Perceptions of Task Difficulty and text comprehensibility in the 3-SP

Student #	NS Scores	Difficulty	Comprehensibility %	3-SP scores	Difficulty	Comprehensibility %
Adv 1	29.5	easy to medium	90%:95%	28	Easy	90%
Adv 2	28	Medium	80% max	28	very easy	95%
Adv 3	28.5	Medium	75:85%	27	Easy	85%
Adv 4	29	easy to medium	90: 95%	25	Medium	90%
Adv 5	28.5	Medium	80:85%	21	Medium	85%

Further, a number of findings were deduced from the interviewees' self ratings of text comprehensibility. First, one student (Adv 2) reported dramatic progress in her text comprehensibility that was also coupled with highly positive impressions about the task difficulty. Another two students (Adv 3 and Adv 5) perceived no significant improvement in their comprehension although Adv 3 seemed more capable of investing the pauses in completing the task more successfully than Adv 5. Finally, Adv 4 reported a

slightly decreased level of text comprehensibility and experienced a score drop. Again, interviewees belonging to class 10E were the ones who showed a noticeable score failure in the 3-SP.

Below is the advanced interviewees' reported impressions on the strengths and weaknesses of the 3-SP.

Advantages

1. The task management

A number of the interviewees mentioned that the pauses gave them the chance to think more deeply of the intended meanings without losing track of the aural input.

Adv 3: When he said two things that were opposites "...none is better or worse," I could think of them during the pause and get the meaning. Also, I could get prepared for the next question.

4. Less review load in the replay

Adv3: it helped me finish most of the questions in the first play, unlike other speeds. During the replay, I double checked my answers. I kept alerted to the spot of the answers that I missed.

5. Improved self-confidence

Adv 2: the highest I could score in Edexcel is 26. This time, it's 28!

6. More natural than the DA

Adv 3: It is more natural, like the usual speeds.

7. Improved speed perception

Adv 3: I felt relaxed. I did not feel pressured as before.

Disadvantages

1. Increased memory overload

The interviewees felt sometimes cognitively challenged to recall the segments that preceded the pauses to be able to understand the following details of the text.

Adv 3: when the pause was over, and the following segment started, I forgot what was said before.

2. Prolonged task duration

The inserted pauses prolonged the overall duration of the task time from 45 minutes to be almost one hour. This resulted in feelings of boredom that were intensified in the replays.

Adv 5: I was reluctant to listen to the text again with pauses in the replay.

3. Interference with the answer spotting process

For most of the interviewees, the pauses negatively affected the process of spotting answers in the flow of speech, and hence led to poor performance.

Adv 1: It confused me. When the pause occurred, it made me feel that the answer was mentioned, and that the next section will address the next question. But, in fact, it stopped many times before the spot of the answer. So it interrupted my attention.

4. Less effective in addressing segmentation problems

Adv 6: I still had my usual problems with the native way of pronunciation. The speed was the same.

5. Unnatural

Adv 5: It is not like the normal speech. When people talk, they do not have such intervals

6. Not effective in noticing linguistic features of the aural input

Adv 4: My main focus was to pick answers. Even in the replays, I was thinking of my answers only.

Though there seems to be a balance between the perceived pros and cons of the 3-SP in the advanced group, the technique did not lead to significant levels of LC achievement.

The Intermediate Interviewees

Table 11

Intermediate Interviewees' Scores, Perceptions of task Difficulty and text comprehensibility in the 3-SP

Student #	NS Scores	Difficulty	Comprehensibility %	3-SP scores	Difficulty	Comprehensibility %
Int 1	22.5	medium to difficult	95%	21.5	medium to difficult	85%
Int 2	24.17	medium to difficult	60:70%	16	very difficult	60%
Int 3	21.7	medium to difficult	50%	16	Difficult	85%
Int 4	23	medium to difficult	75:80%	25	Medium	85%
Int 5	21	medium to difficult	85%	24	Manageable	85% or higher
Int 6	22.5	Manageable	80:85%	16	still difficult	70:75%

Compared to the advanced, this group showed a slightly improved level of task performance. Two interviewees (Int 4 and Int 5) received better scores in the 3-SP than in the NS. These two students, in addition, reported that the task was perceived as

“manageable” (Int 5) and “medium” in difficulty (Int 4). The rest, especially those belonging to class 10E (Int 2 and Int 3) experienced a drastic score failure, compared to their usual performance in the NS. As for their perceptions of task difficulty, some interviewees mentioned that the pauses treatment rendered the task “very difficult” (Int 2, Int 3 and Int 6) whereas others did not perceive any positive or negative changes (Int 1).

The interviewees’ ratings of text comprehensibility indicated slightly better comprehension levels (Int 3, Int 4 and Int 5). But this finding was not always accompanied by high task scores. For example, Int 3 thought he understood about 85% of the intended meanings of the audio texts although he performed poorly in answering the comprehension questions. Finally, Int 2 seemed to be the most harmed by the pauses as far as his task performance, his perceptions of task difficulty and text comprehensibility are concerned.

The 3-SP Appropriateness

Advantages

1. Improved comprehension of input

Some interviewees reported that the silent intervals allowed them to reflect on the details that were said prior to the pauses.

Int 4: These silent moments helped me to understand the ideas. When they stopped, I kept thinking about them.

2. Improved perceptions of the SR

INT5: Before, the speed was too fast. I could not catch up with answers. It is easier now.

3. The introspective task management

Four interviewees (66, 7%) reported that they invested the temporal spaces in mental activities such as recalling, checking, revising and predicting the coming answers.

INT 6: During pauses, I wrote the long answers. In the last text, I kept thinking about the different answers in my mind and kept waiting to hear any different answers. When the speaker started again, I checked my answers and then chose. The main benefit I got from this technique is more time to think about the right answer. It did help me many times. It helped me to get prepared to the following questions better than the one-minute pause.

4. Less review load in the replay

Three interviewees (50%) reported that the number of questions answered in the replay was reduced in the 3-SP.

Int1: Most of the questions were completed before the replay.

Disadvantages

1. Less effective in reducing the perception of a fast SR

Int 6: For me, adding pauses did not slow down the speed. The exam was still too fast.

2. Less effective in reducing segmentation problems

INT 6: There were some instances where I could not guess the spelling of some words as the pronunciation was the same. I kept asking “ which word was it?,” “what is it composed of?,” and “How is it spelt?”

3. The pauses interfered with the answer picking process

A recurrent complaint among almost all of the interviewees was that they mistakenly connected between stops and answer positions.

Int 1: The stops gave me the impression that one question was ended and that I had to think of the next one.

Others felt nervous because of the pauses

Int 1: The speaker stopped where I expected him to continue. I kept waiting to the continuation and missed some answers as a result. I got nervous.

4. More cognitive load on the short-term memory

Another recurrent complaint was that the interviewees felt they had to recall the details mentioned before the pauses to be able to understand the subsequent ideas.

Int 6: I was afraid during the pauses list I should forget the details mentioned previously. When I could not remember some of them, I could not answer some questions.

The Low Interviewees

Table 12

Low Interviewees' Scores, Perceptions of Task Difficulty and Text Comprehensibility in the 3-SP

Student #	NS Scores	Difficulty	comprehensibility %	3-SP scores	Difficulty	comprehensibility %
low1	17.8	Medium to difficult	60:65%	12	A little bit easy	60%
low2	14.17	Medium to difficult	60:70%	Absent	0	0
low3	16,67	Medium to difficult	70%	20	Medium	80%

The results concerning the efficacy of the 3-SP at the low proficiency level were derived from the input of only two interviewees; the third student was absent. Despite this limitation, the analysis of the interviewees' scores and their perceptions shed some light on the appropriateness of the pauses to the interviewees' needs. For example, Low 1 received a poor score, compared to her performance in both the NS and the DA. Her

reported perceptions of task difficulty and aural input comprehensibility showed that her task management problems were not effectively addressed. In contrast, Low 3 scored the highest, and reported more positive perceptions of the task.

Advantages

1. Decreased feelings of boredom and task duration

Low 3: I prefer 3-SP technique as I hated the long time in the DA. I got bored.

2. Improved perceptions of the SR

Low3: The speed is medium. I could follow.

3. Improved task management

Low 3 invested the pauses time in managing the multi-processes of the introspective task.

Low 3: It helped me concentrate in the speech and spot the answers better than before. I had the time to read the next question, and had the chance to catch up with writing while listening. My scores used to be the worst in the listening task.

4. Decreased review load in the replay

Low 1: I finished $\frac{3}{4}$ of the questions in the first play.

Disadvantage

1. Pauses still interfered with the introspective technique

Low 3: If you got distracted and came back, you would find a pause, so you miss a part.

2. Unimproved SR perceptions

Low1: I did not have the same feeling of certainty of my answers as I did in the DA. The speed was still fast.

Below is the summary of the strengths and weaknesses of the 3-SP as perceived by interviewees at the three LC levels.

Table 13

The Efficacy of the 3-SP as Perceived by the Three LC Levels

Advantages	Adv	Int	Low
1. Less boredom and less reluctance to complete the task than the DA	√	√	√
2. Improved feeling of task speed	√	√	
3. Improved task management	√	√	√
4. Improved segmentation	√		
5. Decreased reliance on the replay	√	√	√
6. Recommended for test preparation	√	√	√
7. Improved understanding of the details	√	√	√
Disadvantages			
1. Disruptive to concentration	√	√	
2. Added recall load	√	√	√
3. Prolonged task duration	√	√	
6. Interfers with the answer picking process	√	√	

So far, the interviewees' perceptions of the efficacy of the two SR reduction techniques were reported. The next section will address how each of the three groups perceived the appropriateness of the normal speeds (NS) of the audio taped texts used to prepare the IGCSE students for the final exam.

The advanced interviewees

The scores of the advanced interviewees in the three NS conditions were found to be systematically higher than those in the slow conditions except for rare instances where interviewees such as Adv 2 and Adv 3 showed some improvement in the 3-SP condition. Adv 1 was atypical example in this group as she appeared to maintain her usual high

performance in the different SR conditions with no drastic positive or negative changes in her scores. As for the rest, they scored consistently low in all the slow conditions, and significantly high in the NS conditions. Table 13 shows the scores of the interviewees in the three SR conditions during the study.

Table 14

Advanced Interviewees' Scores in the NS Conditions Vs. the Reduced SR Conditions During the Five Weeks

Student no#	NS	DA	NS	3-SP	NS
Adv1	29.58	27	Absent	28	28.33
Adv2	27.92	25	25,83	28	27.5
Adv3	28.33	21	26.67	27	26.67
Adv4	29.17	24	28.75	25	absent
Adv5	28.33	21	26.25	21	26,25

Advantages

1. Improved concentration habits

When asked which advantages of the NS they missed during the slow SRs, the recurrent answer was their ability to concentrate.

Adv 5: My concentration was better. I could remember what was mentioned at the beginning, and relate it to the following sections of the texts.

2. More suitable for the simultaneous task management

Adv 5: when the speed is faster, spotting answers was easier to follow. It was really hard in the slow task to follow and find answers.

3. Better preparation for the final exam

Adv 2: I don't want the slow treatments again. I wasn't happy to receive very high grades. They are fake. This is not like the final exam. I am afraid list I should get used to such slow speeds, and lose the ability to cope with faster

speeds. I am not sure whether these techniques would help me in the real test situation.

4. Improved perceptions of speed

Adv 4: This time, the speed was better except for some few places where it was a little bit fast.

Disadvantages

1. Increased segmentation problems

Adv 5: I lost scores for my spelling mistakes. This is a problem that happens all the time. In the DA, my spelling improved as I heard words clearly. This time I made silly, stupid spelling mistakes as I felt time pressured.

2. Interfered with the simultaneous task management

All interviewees complained about their challenge to catch up with the rapid flow when faced with questions that required long or complex answers.

Adv 2: My major problem this time was the questions that required two points. They were said right after each other.

3. Increased reliance on the replay

Adv 4: This time, the replay became crucial. I even needed a third play. I could not cope with the fast speed when I was writing long answers. I used the first play to know where the answers were. Then, I wrote them in the replay.

Table 15 presents a summary of the challenges encountered by the advanced interviewees in the NS conditions.

Table 15***Advanced Interviewees' LC Problems in the NS Condition***

LC problem Sources in the NS condition by Advanced Interviewees (<i>n</i> =5)		
1	Tricky questions	100%
2	Non sequential order of questions	100%
3	Segmentation	80%
4	Extended dense texts	60%
5	Spelling	40%
6	Task type (EDexcel/Cambridge)	40%

The Intermediate Interviewees

Table 16 depicts the interviewees' scores in the three NS conditions.

Table 16***Intermediate Interviewees' Scores in the NS Conditions Vs. the Reduced SR Conditions During the Five Weeks***

Student #	NS	DA	NS	3-SP	NS
INT 1	22.5	13	18.75	21.5	19
INT2	24.17	14	25.83	16	Ab
INT3	21.67	11	24.16	16	18.5
INT4	22.92	17	Ab	25	18.75
INT5	20.83	28	22.8	24	21.67
INT6	22.8	23	26.67	16	24.17

This group was found to be similar to the Advanced one; most of the intermediate interviewees (66.7%) consistently received higher scores in the NS conditions more than the slow ones. Two students (Int 4 and Int 5) did not conform to this pattern since they obtained higher scores in at least one of the reduced SR conditions.

Advantages

1. Improved perceptions of SRs

Int 2: The speed this time was excellent. I never wished to go back to the DA, never!

2. Facilitated concentration

Int 3: I regained my concentration. Before (in the DA), I was about to fall asleep. Most of the questions were left to the replay as I got bored. Today, only 5 questions were missed. I am happy with the speed I am used to.

3. Less boring and decreases the feeling of task duration length

Int 2: The DA was good for the clarity of words. But clarity is not everything. It does not mean that I will understand the meaning. If clarity is mixed with boredom, it becomes a disadvantage. Boredom caused me to be reluctant to finish the task.

4. Effective in developing test-taking skills needed for passing the final exams

Int 2: I started with the score 17/30. Now I usually get 26 or 27/30. I feel I can now quickly recognize words in the fast speech, and guess their meanings from context. Also, I acquired some valuable time-management skills. I learnt through practice to manage, for example, writing long answers by dividing writing over the two plays; I write one answer in the first play and postpone the other to the replay.

Disadvantages

1. Causes an initial “shock” due to unfamiliarity with the speed and the introspective task.

Int 5: At the very beginning, I felt shocked at the speed as I needed to listen, pick the answer and read the next question. I used to feel lost.

2. Increases perceptions of task difficulty

Int 4: Fast speeds with unfamiliar topics makes the task terrible.

3. Increases segmentation problems

Int 6: My main challenge is understanding the native pronunciation. Speed can be handled as we got used to it. But the British pronunciation is still a

problem. I feel as if parts of the words are “eaten”. They talk as if talking to natives, not second language learners.

Given the reported perceptions of the intermediate interviewees concerning the advantages and disadvantages of the normal speeds, it could be concluded that they perceived the more authentic SRs as being “more appropriate” to their needs to get prepared for the final test. Nevertheless, they were aware of serious segmentation and task-management challenges in this condition that were not alleviated after four months of regular LC practicing. Table 17 presents a summary of the LC problems of the intermediate interviewees in the NS conditions. As can be seen, problems related to segmentation came on top of the list.

Table 17

Intermediate Interviewees’ LC problems in the NS condition

LC problem Sources in the NS condition by Intermediate Interviewees (n=6)		
1	Segmentation	100%
2	Task management	100%
3	Spelling mistakes	83.3%
4	Limited lexical knowledge	66.7%
5	Topic familiarity	16.7%

The Low Interviewees

Table 18 demonstrates the scores of the low interviewees in the NS conditions.

Table 18

Low Interviewees’ Scores in the NS Conditions Vs. the Reduced SR Conditions in the Five Weeks

Student #	NS	DA	NS	3-SP	NS
low1	17.8	20	18.33	12	21.67
low2	14.17	17	Ab	Ab	Ab
low3	16.67	17	21.66	20	18.5

The overall pattern of scores suggested that all participants at this level were gradually making “slow but sure” improvement in their task performance in the NS conditions. For example, Low1 was found to score consistently high in all the NS conditions. Also, she appeared to have benefited from the DA more than the 3-SP. Similarly, Low 3 showed the same pattern of development in the NS, and received one of her highest scores in the 3-SP condition. Thus, both interviewees made progress in the NS and in one of the slow conditions. As for the third interviewee, it was hard to infer the pattern of his performance in the NS conditions as he was absent for three weeks.

Advantages

1. Gradual improvement in segmenting words from the rapid flow of speech

Low1: Words are clearer now than before. I can spell some of them correctly if I listened carefully.

2. Gradual improvement in coping with spontaneous SRs and keeping focused during the task.

low 2: I got used to the speed, and I am slightly better now in picking answers from the speech.

3. Gradual improvement in guessing the meaning of new words in fast speech

low 2: I usually rely on my “smartness” to guess the meaning of new words in the fast exams. Sometimes it works.

Disadvantages

1. Causes initial shock and loss of self-confidence

Low2: ...better to train the newcomers by the DA than to leave them to experience the first shock. We used to suffer. It took time.

2. Increased perception of task difficulty

Low 1: In the normal fast condition, I can't read the questions and concentrate in the paragraphs at the same time. I have never had the chance to read the next question.

3. Decreased the level of content understanding

Low 1: I understand about 55% to 60% of what I hear.

4. Decreased levels of task performance

Low 3: My scores in the listening task were the worst, compared to reading and writing.

5. Increased review load in the replay

Low 2: The replay is crucial. If it were cancelled, I could score C or D. I usually use it to hear the new words again.

6. Required more preparation time before listening

Low 2: The one-minute pause given before each text is never enough to read the questions, and to know what the text is all about. I need more time to get prepared.

7. Increased segmentation problems

Low 3: Some parts of the words "are eaten," I mean hidden.

8. Too much input to be processed

Low 2: Sentences come after each other with no time in between. I can't think of them.

Table 19 presents a summary of the LC problems as reported by the low interviewees in the NS. Similar to the intermediate interviewees' problems, the top three here were rate-related problems: word segmentation, the task management and spelling.

Table 19

LC Problem Sources in the NS as Reported by the Low Interviewees

LC problem Sources in the NS condition by low Interviewees (n=3)	
1 Segmentation	100%
2 Introspective task management	100%
3 Spelling	100%
4 Limited linguistic knowledge	66.7%

Finally, Table 20 shows a summary of the appropriateness of the NS as reported by interviewees in the three LC levels.

Table 20

The NS Appropriateness as Reported by the Three LC Groups of Interviewees

Advantages	Adv	Int	Low
1.Improved perceptions of task duration	√	√	√
2.Improved perceptions of task speed	√	√	
3.Improved task performance	√	√	
4. Gradual segmentation improvement	√	√	√
5. Gradual test-taking improvement	√	√	√
6. Recommended for test preparation	√	√	√
Disadvantages			
1.Too much input for processing	√	√	√
2. Increased acoustic blurs	√	√	√
3. Increased reliance on text replays	√	√	√
4.Increased task difficulty	√	√	√
5. Causes initial shock and loss of confidence	√	√	√
6. Requires more pre-listening preparation	√	√	

CHAPTER FIVE

DISCUSSION

This chapter presents the interpretation of the findings previously-presented in Chapter Four. The first section deals with the possible interpretations of the mean score patterns of the experimental classes as far as the immediate impacts of the 3-SP and the DA techniques are concerned. The second section tackles the unique experiences of fourteen interviewees at three LC proficiency levels while listening to three different SRs. As well as highlighting a number of conclusions drawn from the input of the interviewees, this section is focused on areas of agreement and disagreement between the findings deduced from the qualitative data and the LC literature.

Interpretation of Findings Drawn From the Quantitative Data

This section discusses the interpretations of the mean score patterns traced in the five weeks of the study. More specifically, the main goal is to explain why the SR reduction techniques investigated did not result in any significant improvement in the LC task scores while the “normal” speeds were related, most of the time, to higher levels of performance. The interpretations offered below are used to answer the first two RQs regarding the efficacy of the DA vs. the 3-SP in improving the LC task performance of the targeted students. Figure 1 depicts the mean scores of the three participating classes during the five weeks of the study.

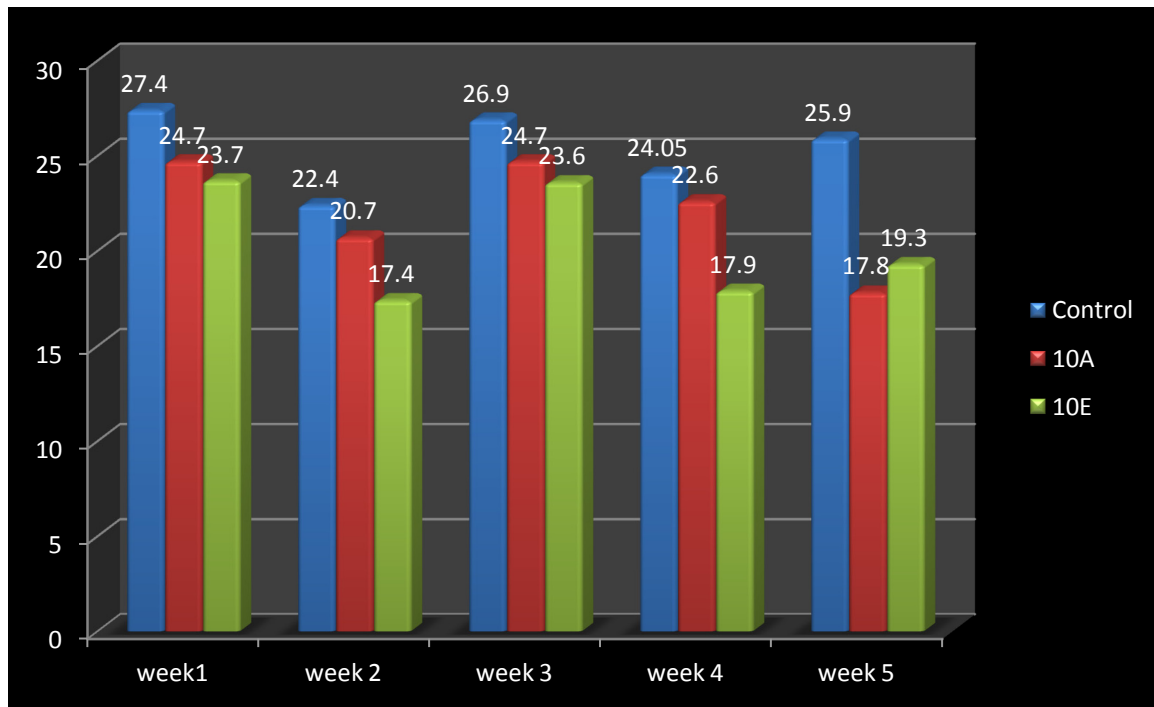


Figure 1. Mean scores of the three classes during the five weeks of the study

To begin with, prior to the administration of the two slow treatments, the mean scores of the three participating classes indicated that the Control group showed a relatively higher level of performance than the other two experimental classes (Control= 27.40, 10A=24.69, 10E=23.69). This may be attributable to the fact that the Control class had six students who received the Pre-IGCSE education. These six students may have developed expertise in areas of LC task-management skills and familiarity with the British pronunciation. However, because the differences among the three groups were not statistically significant ($F=1.009$, $P<.371$), the researcher assumed that the three groups started on equal footing, and so conclusions based on the differences in the pattern of their performance starting from week 2 could be made. The order of the groups in terms of mean scores in week 1 was the following:

10E < 10A < Control

In Week 2, opposite to the positive effects reported in the LC literature of the empty pauses and the deliberate articulation, both of the two experimental classes performed worse in the slow conditions than in the NS condition. This finding was detected despite the fact that the Control group witnessed a similar significant decrease in their mean score as well. As for the reason of the recurrent mean score failure of the Control group in week 2 and week 4, it was explained by the LC teacher as being the result of the Edexcel exams, which are known in this context to be “faster” in their SRs than Cambridge exams. Still, the administration of the slow treatments in the two experimental classes did not enable the participants to either outperform or to reach, at least, the same level of performance of the Control class. What is more is that the gap in mean scores among the three groups was observed to be wider in weeks 2 and 4, based on the mean differences reported in the Multiple Comparisons Tests (See Appendix G, Table 3 for Post Hoc Tests). These mean differences, being all negative and statistically significant, suggested that the slow techniques were not effective in enhancing the task performance of the participants in the classes 10A and 10E.

Another finding was that the experimental class 10E showed a significant negative interaction with the slow speeds more than 10A. This was premised on three statistical results: first, 10E received the lowest means in the slow conditions in general (10E/3-SP=17.9, 10E/DA=17.4). Second, the mean differences between 10E and the Control class became bigger with the application of the SR reduction techniques. Third, the mean differences within 10E group over the first four weeks showed a significant

score failure in Week 2 and 4, and a significant mean score improvement in Weeks 1 and 3 (See Appendix G, Table 6 for the Paired Samples Test of 10E).

In contrast, 10A was found to systematically obtain higher score means in the slow conditions than 10E, especially in the DA. This improved task performance of 10A was found to have widened the mean difference gap between the two classes in the first four weeks. For example, the mean difference between 10A and 10E in Week 1 was (.99). In Week 2, the difference became (3.3) possibly due to the impact of 10A's exposure to the 3-SP. In Week 3, the difference fell to (1.08) in the NS. Finally, in Week 4, the difference became even greater (4.57) after 10A had the DA technique. Given this pattern of performance, it could be safely assumed that 10A class benefited from the slow techniques in stabilizing its performance levels more effectively than 10E. This may explain why 10A did not experience score mean failures that were as dramatic as those experienced in 10E.

One possible interpretation of the differential impact of the SR reduction techniques on the two experimental classes may be that the number of participants who were in need of the slow SRs to address certain LC problems was greater in 10A. These participants seemed "ready" to invest the added processing time in the slow conditions in improving their task performance. In contrast, 10E participants were systematically found to receive higher scores in the NS conditions only, and to be negatively affected by the slow treatments possibly because they could have developed advanced LC skills. These skills were effective in more authentic SR conditions rather than in reduced SR ones.

Finally, the order of the three classes in terms of means was found to be changed in the fifth week when the three groups were finally back to the NS condition ($10A < 10E < \text{Control}$). That is, 10E outperformed 10A in the LC task ($10A=17.8$, $10E=19.3$). This finding was attributed to the fact that a number of participants in 10A were forbidden to attend the listening class because they were disruptive. The task, as a result, was administered in a tense atmosphere, and the number of students who completed it was less than usual.

To summarize, with regard to the answers of the first two research questions, the pattern of scores of the two experimental classes over the four weeks- with the exception of the final week- showed that the SR reduction techniques were of a detrimental influence on the overall level of performance of these two classes. However, the negative impact of the techniques was found to reach its worst degrees in 10E more than 10A. Given these findings, it has been concluded that the NS is the most appropriate SR available to these participants as it systematically aided them in the task completion.

At the first sight, these findings seem to be conflicting with the consensus in the LC literature that spontaneous SRs are negatively correlated with LC scores if compared with slower SRs (Blau, 1990; 1991; Higgins, 1996; Ishler, 2010; Zhao, 1997). In fact, evaluating this finding as being inconsistent, or seemingly suggesting a violation of the “conventional wisdom” (Zhao, 1997) is a real misunderstanding of the situation, given the type of speeds that these participants were exposed to over the period of four months before the study. McBride (2011) reported a similar score pattern where native Spanish participants of intermediate LC proficiency exposed solely to a 10-week training of

natural SRs failed to comprehend texts delivered at slower speeds. Therefore, by considering the nature of the first exposure of the participants in this research to semi-authentic speeds prior to the slow treatment applications, their interaction with the slow speeds in terms of scores becomes by no means an exception. The interpretation proposed by McBride of this pattern of interaction was that training her participants by means of natural speeds helped them develop a set of compensatory top-down skills that were not applicable to slow SRs. This assumption, albeit sounding logical, can be ungeneralizable to the findings of the current research as scores fell short in clarifying the specific LC skills that the participants employed while listening in the slow conditions.

What follows is the discussion of the themes pertaining to the interviewees' perceptions of the efficacy of the two experimented techniques in enhancing their LC and task performance. As interviewees were classified into three LC levels, this section consists of three parts. The first is dedicated to the advanced interviewees followed by the intermediate and the low ones. Worthy to mention is that each of the three "Discussion" sections found below is based on the data compiled in the interviewees' profiles. These profiles are found in Appendix F.

Discussion of the Advanced Interviewees' Profiles

Examining the comments of almost all the advanced interviewees concerning the detrimental impact of the two rate reduction techniques on their LC performance, one can conclude that the interviewees' perceptions provide more evidence of the reported negative correlation between an advanced linguistic threshold and the listeners' need of SR modifications. This conclusion fits with Blau's (1991) generalization that "Beyond a

certain level of language proficiency, one can comprehend the natural input better. NNSs at this level no longer need these modifications, and might even find them “bothersome” (p.752). This quotation seems applicable to the current study in a number of ways: First, the advanced interviewees did not report serious comprehension problems in the NS conditions; on the contrary, most of them could cope with the unmodified SRs due to rich linguistic knowledge that facilitated their LC. Second, the interviewees reported negative perceptions of nervousness and disruption when the slow techniques were administered. Third, all of them asserted that they do not need the reduction techniques as they felt more adapted to natural SRs. The problem sources that were interpreted from their input were found to be more related to the task management rather than to decoding the auditory message. This is why they needed more “planning” time either before or during the real time listening to better manage the LC introspective task.

Moreover, Flower (Profile 5, Appendix F) referred to one of the essential components of the LC proficiency, which is the linguistic “readiness.” She stated that adopting reduced speeds in developing the LC skills of EFLs may have negative effects on those who show “readiness to be challenged by the natural speeds.” According to Ishler (2010), in order for LC proficiency to be developed, a certain threshold of linguistic knowledge (i.e., lexis, syntax, semantics and pragmatics) is needed. But, though considered a strong predictor of LC ability as maintained by Vandergrift (2007), the linguistic knowledge is but one component among others that constitute the LC proficiency. Other components are: skills of L2 segmentation and sound-to-script automatization, familiarity with the phonological characteristics of the connected native talk such as reduced forms, and most importantly, LC strategies to analyze the target

input. These components, according to Ishler (2010) are examples of the skills prerequisite for the EFLs to acquire in order to become proficient listeners. Given this conclusion, LC proficiency has been recently defined as representing skills and strategies that are by nature unique to the skill of listening (Ishler, 2010).

Further, the LC task in this research constituted a real challenge for the advanced interviewees to manage while comprehending the recorded speech. All interviewees remarked that achieving successful perception and parsing of the aural message was not a sufficient condition for receiving high scores in this task. For them, mastering test-taking skills of the introspective task such as spotting answers from the flow and writing them at the same time in correct spelling was equally needed to complete such types of tasks. Therefore, the task used in this research examines the test taker's ability to comprehend the unidirectional aural message while being busy reading and writing. As such, the nature of the task in this study may have impacted the criteria adopted by the participants in evaluating the efficacy of the rate reduction techniques examined.

The repeated comments of the advanced interviewees that their frequent exposure to the natural SRs assisted them in developing fast automatization habits further substantiate the argument of the rate reduction opponents that natural speeds seem more efficient and less time consuming in preparing EFLs for comprehending the spontaneous native talk (Cauldwell, 2002). In addition, the fact that the advanced interviewees were able to develop some familiarity with the speech features of the native talk over time without any explicit instruction in this area adds more support to the effectiveness of the

“osmosis” approach (Mandelsohn, 1994) in assisting EFLs in acquiring some of the LC skills by themselves due to an excessive exposure to the aural input.

Despite the LC gains reported by EFLs trained in natural speed conditions (Cauldwell, 2002; Hayati, 2010), spontaneous SRs have been recently criticized for limiting EFLs’ ability to adapt their automatized LC processing habits to slower speeds (McBride, 2011). This finding has been further supported in the current study. Three advanced interviewees reported concentration breakdowns while listening to deliberately articulated texts or prolonged pauses, and even perceived negative attitudes towards completing the task especially in the replays. This emerging evidence that adopting natural SRs in training EFLs may lead to adaptability challenges to different SRs may constitute a strong case for adopting a variety of SRs in training EFLs to become proficient listeners.

Finally, the advanced interviewees were divided among themselves concerning the most appropriate SR reduction techniques; two preferred the 3-SP, another two could not cope with the reduced speeds at all, and finally one recommended the DA. These findings seem to mesh with Zhao’s (1997) conclusion that SR preferences are not generalizable among homogenous EFL groups because each learner has a unique reference of the ideal speeds.

Discussion of the Intermediate Interviewees Profiles

All interviewees in this group, similar to almost all of the advanced ones, perceived the empty pauses as “distracting” and “disruptive” to their concentration. This finding is

by no means atypical to the reported perceptions of EFLs in the Specialist Temporal Variables literature. Blau (1990), contrary to her expectations, found that her EFL participants from Puerto Rico, Poland and Japan perceived monologues modified by means of pauses filled with hesitation markers as being more comprehensible than those modified by empty pauses. Because her findings were based solely on quantitative data (task scores) and subjects' self-ratings of understanding, she suggested that this finding could have been the result of the principle of input naturalness. That is, hesitation markers preserved the continuity of the speech flow more than the empty pauses while still allowing the listeners added seconds to make sense of the aural input.

Looking at the impressions of the interviewees in this study concerning the inefficacy of the 3-SP, the naturalness principle appears to be at the crux of their evaluation of the technique appropriateness. All intermediate interviewees viewed the prolonged empty pauses as unnatural. For example, Int 1 said " In real life situations, it would sound really weird to talk this way." Moreover, the interviewees' recurrent complaints that the prolonged pauses interrupted their LC processes while expecting to hear answers can be explained by Blau's (1990) suggestion that " Pauses could be distracting if listeners waste the processing time waiting for something meaningful to follow" (p. 8). In addition, the intermediate interviewees were intuitive enough to foresee the extra recall load that the prolonged empty pauses imposed on the short-term memory of the listeners while they were trying to establish a logical line of thought among the different segments of the text. Int 3 stated " I think students will have to make another replay inside their heads to remember the parts said before the pauses"(Profile 8).

As for the DA inappropriateness, Valerie's (Profile 6, Appendix F) explanation that the relatively longer "wait time" they had to spend in the DA while attending to answers led to distraction and a poor performance is theoretically grounded. Blau (1991) stated that "Too slow an input rate can impair comprehension by prolonging the time a pattern must be held in the short-term memory, and allowing time for memory traces to fade" (p.752).

Again, the intermediate interviewees seemed convinced that their inability to invest the extra thinking time of the reduced SRs was the result of their first exposure to the semi-authentic SRs. Comprehending slow texts, they argued, may require "a change" in their processing habits. But the nature of this change was not clearly defined. McBride (2011) assumed that EFLs accustomed to be challenged by natural SRs in terms of time may become more liable to be distracted by external factors in the surrounding environment if the speeds were reduced.

It may be that listening to slow dialogues requires a special kind of concentration- for example, not allowing one's mind to wonder off topic when not being fully challenged by the speed of the dialogue, nor having distracting thoughts about how the actor's voice sounded slightly affected- that the fast speed group failed to muster (p.145).

The above excerpt pinpointed the factor that might have led to the poor performance in the slow conditions in this study. When the SRs were reduced, the usual temporal pressure was minimized allowing the listeners' minds to wonder off.

Discussion of the Low Interviewees Profiles

The LC problems recurrently mentioned at this level of LC proficiency were mainly related to perception, namely: word recognition (both familiar and unfamiliar lexical items), blurred word boundaries, on-line processing challenges, and uncontrollable SR. These problems are viewed by consensus in the LC literature as being the typical features that render the audio-taped native talk incomprehensible for less skilled listeners (Renandya & Farrell, 2011).

Based on the reports of the low interviewees in this study, their perception problems have not been effectively alleviated through the excessive exposure to the natural speeds for four months. This finding weakens the validity of the “osmosis approach” (Mendelsohn, 1994, p.10) with EFL listeners of low LC proficiency. According to this approach, EFLs are assumed to eventually overcome their perception challenges with comprehending the spontaneous native talk through the rich exposure. This assumption was partially supported by the low interviewees’ feedback concerning their perceived gradual familiarity with the speech features of the native talk. But, their reported “immediate” successes in the slow conditions as far as word recognition and facilitated LC processes are concerned indicated that adopting slower speeds with these low proficiency interviewees yielded short-term LC gains.

Contrary to the generalization that “...more proficient listeners tend to show greater use of help options” (McBride, 2011, p.146), all low interviewees showed a better sense of instrumentality than the other two higher levels in utilizing the extra processing time in the two techniques. The low proficiency participants seemed aware of the benefits of the

slowed rates, especially the DA technique, and hence invested them in solving their rate- and task-related problems than the advanced ones. During the interviews, these less proficient listeners expressed their pressing need of input rate and word clarity manipulation treatments to achieve comprehensibility. They suggested some aiding methods such as more text replays, extra-preparation time prior to listening, and clearer articulation of input to cater for their slow automatization and limited lexical knowledge.

Finally, the LC training that these low proficiency interviewees received through the LC tasks seemed to have affected their adaptability to the reduced SRs, similar to the other higher levels. Marina and Mansour (Profile 13 and 14 respectively) appeared to have developed fast processing habits over time that they felt mentally challenged to listen to slower speeds. Mansour reported having headaches during the last ten minutes of the task in the DA condition. Similarly, Marina was discouraged to complete the task because of the prolonged task time in the 3-SP condition. One possible conclusion that can be drawn from these reports is that drastic changes in the SRs tend to disturb automaticity dynamics of EFL of low LC proficiency causing them to develop negative attitudes towards the listening task.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter sheds light on the major conclusions reached in this study. The first section presents a summary of the insights that were reached concerning the efficacy of the reduced SRs in facilitating LC in EFL contexts. The second section tackles the implications of the findings of the current study as far as the “conventional wisdom” (Zhao, 1997) is concerned. The third section includes a tentative list of the factors assumed to have impacted the participants’ SR perceptions. Then, the fourth part deals with the pedagogical implications of the study. Finally, the chapter ends with the limitations of the study in addition to suggested recommendations for further research.

Insights Drawn from the Current Research Study

This research study is an attempt to contribute to the LC literature in resolving part of the complexity of understanding the construct of the “appropriate rates” of the audio-taped native talk in EFL contexts. A number of factors were concluded to have impacted the participants’ perceptions of the inefficacy of the rate reduction techniques of DA and the 3-SP in facilitating their LC processes and in completing the LC task. Some of these were the effect of the participants’ previous training by means of natural speeds, the level of LC ability, the introspective task and the final-exam requirements. These factors, among others, seem to have led to a significant drop in the LC scores at the advanced and the intermediate LC levels. As such, these findings may possibly indicate

that the reduced speeds interfered with these students' fast automatization habits leading to poor task performance.

On the other hand, natural speeds were found to yield more improved levels of performance, to maintain attentiveness and to facilitate the acquisition of effective test-taking strategies needed for passing the final exams. It is evident that consensus is yet to be reached concerning the best speed(s) to adopt in training EFLs to understand the natural native talk. Consequently, the hot debate over adopting slow techniques with EFLs of different LC proficiency levels is still unresolved, given the results of this study.

Triangulation was instrumental in gleaning the discrepancy between interviewees' reports of improved overall understanding during the slow SR conditions and poor task performance. All interviewees at the three LC levels reported perceptions of improved word recognition and less SR challenges while managing the introspective task. But, due to a prolonged task duration and the listeners' awareness that their fast processing strategies were not effective in the slow conditions, almost all the participants, regardless of their LC level, experienced feelings of boredom and reluctance to stay on task.

As well as providing insights in the area of SR appropriateness, the results of the current study have implications in clarifying the types of LC problems that are minimized and/or increased in different SR conditions. By comparing and contrasting the problems perceived by the interviewees on joining the IGCSE with those that persisted over time, the researcher concluded that the exposure of these EFLs, at the three levels, to natural speeds did hone their LC task management, sensitize their ears, to some extent, to the speech features of the British talk, and enriched their linguistic knowledge. As for the

problems that still impeded their LC, these were mostly related to rapid speech segmentation and the introspective nature of the task. Worthy to mention is that interviewees in the intermediate and low levels perceived “slow but sure” improvement in developing fast LC processing skills than the advanced interviewees. This may explain why they were found to have benefited the most from the added processing time, and scored exceptionally high during the slow treatments reaching a percentage of text comprehensibility of 80%.

The “Conventional Wisdom” Revisited

Recent studies geared towards investigating the SRs that are most effective in preparing EFLs to understand the spontaneous native talk have yielded conflicting results. Hayati (2010), though concluded that both slow and spontaneous SRs led to improved post-test scores, clarified that the exposure of the Iranian intermediate freshmen to an unmodified natural SR was more effective in facilitating their LC of texts delivered at moderately fast speeds. McBride (2011) took this conclusion a step further by investigating the nature of the LC gains obtained in both slow and natural SRs. She found that natural speeds appeared to be highly effective in aiding EFL listeners to develop fast processing automatization skills that were not transferable to the slower SRs. In addition, she concluded that reduced speeds, in contrast, resulted in noticeable LC benefits in both natural and slow texts.

Having these findings in mind, the contribution of this current research lies in the finding that observing the order of speeds when training EFLs of different LC levels is tremendously important for the slow speeds to be instrumental in enhancing

comprehensibility. In addition, this research has drawn the attention to the negative correlation between LC ability and the need of slow speeds. Lastly, the learning context where this research was conducted seemed to recommend the use of more authentic speeds rather than slow ones as the former are used in the “final exam.”

All of the above-mentioned findings, if combined, seem to indicate that the conventional wisdom “You slow down the speed, they understand more” (Zhao,1997) should not be taken for granted. There is emerging evidence in this research that slow speeds tended to hamper LC processes of the Egyptian participants, and caused them negative attitudes because of their initial exposure to natural speeds. All advanced and three intermediate interviewees, though reported some gains in their overall comprehension and task management, generally felt “delayed” and “bored.” However, slow speeds still benefited the participants at low and intermediate LC levels even if they had been trained in natural speeds for a semester. These findings, if seen within the bigger picture of SR appropriateness, are not in controversy with the conventional wisdom, but rather present a slight modification to the way this wisdom is understood in EFL contexts. A possible restatement of it may be, “ You slow down, they will understand more if they are not at advanced LC levels, and have not been exposed to natural speeds before.”

Factors Affecting the Students’ Criteria of the SR Appropriateness

The semi-structured interviews enriched this research with valuable input about the participants’ subjective criteria of the SR appropriateness. The researcher compiled a tentative list of the factors that might have been at play when these EFL listeners were

evaluating the efficacy of the two SR reduction techniques in their context. These factors are context-bound, and may prove to be inapplicable to other EFL listening contexts.

They are listed below.

- The learning context, being a test-driven one, seemed to shape the way the students and the teacher judged the effectiveness of the techniques investigated. The final-exam requirements seemed always at the crux of their evaluation. It was interesting that the advanced students undervalued their relatively improved performance in the slow conditions mainly because the techniques were not similar to the speeds of the final exam. They appeared to have come to a conclusion that the speeds that would best prepare them for the final exams are the natural ones. The initial shock they had with the natural speeds at the beginning of the year was even considered as “a healthy symptom” since if overcome, would effectively aid them to cope with the task in the final exam.

Further, when choosing one technique as the appropriate for them, again, the final exam seemed to be their main criterion. The 3-SP was perceived as more “effective” than the DA for final-test preparation purposes as it kept the typical final-test speeds with the added advantage of the silent pauses. In the same vein, the DA was unanimously viewed as “ideal” for training novice listeners as meeting, according to the interviewees, the basic needs of EFL beginners such as word clarity and slow processing.

- The students’ first exposure to the natural speeds encouraged the development of more top-down strategic approaches/habits in them when processing the native

talk. These approaches proved to be dysfunctional when transferred to slower speeds, causing these listeners, across the three LC levels, to face concentration problems. Had their first LC training experiences been done in slower speeds, their handling of both slower and natural native talk could have differed, based on the emerging evidence from recent studies (Hayati, 2010; McBride, 2011).

- The novelty of the techniques was repeatedly mentioned by the interviewees as negatively affecting the way they responded to the slower speeds. Many times, interviewees reported that they were not “used to” listening to such ways of deliberate articulation or long pauses. Had these students been exposed to a variety of SRs in their initial exposure to the task, their adaptability to speeds differing from their “usual” ones could have been enhanced. In addition, the fact that the administration of the techniques was an intervention rather than an extended training treatment could have deprived these listeners of having ample opportunity to reliably assess the advantages and disadvantages of the tested techniques according to their needs during the LC task.
- The LC ability was concluded to be a strong predictor of the listeners’ perception of the efficacy of the slow SRs. At the lowest level, regardless of the type of the technique deemed as appropriate, all interviewees asserted that the slow speeds improved their score level and reduced their feelings of task difficulty and time pressure. At the advanced level, on the other hand, slowing the speeds proved to be of adverse impacts on the students’ concentration habits, leading to boredom and decreased scores. More interestingly, the impression of the lack of utility of the techniques persisted even though the scores were dramatically improved,

simply because the techniques were not applied in the final exams. For these advanced listeners, to be challenged by the natural speeds is more “effective” than to be artificially relaxed in the slow SRs. As for the intermediate listeners, although few of them showed exceptionally improved patterns of performance, and expressed their willingness to have these treatments in the LC class practice, the majority seemed content with the NS as more supporting their comprehension and the introspective task management. In doing so, they were more similar to the advanced more than the lower ones.

Further, LC ability was not always a consistent predictor of the preferred SR reduction techniques in this research. Across the three LC levels, prolonged pauses yielded higher scores, and were perceived as being more appropriate than the DA in preparing beginners to the IGCSE listening task. The DA, in contrast, was almost unanimously perceived as serving basic needs of novice listeners, and so proved to be suitable to almost all low-level interviewees. Nonetheless, an advanced listener and two intermediate ones reported that the DA aided their LC while listening to deduce the meanings and to answer the questions. This comment may add more support to the assumption that SR perception is a highly subjective phenomenon, and is not necessarily determined by the LC level of the listener as much as by his/her perceived needs.

- The LC introspective task was an important factor in forming students’ reactions to the techniques. It was evident that the efficacy of the techniques in aiding these students in managing the simultaneous task was of higher priority than in decoding the aural input and encoding meanings. This finding was evident in the

DA condition in particular; although students reported that the DA alleviated many of their segmentation problems, the technique was undervalued as it interfered with their fast processing habits causing reluctance to complete the task. This is why the dependent variable in this study turned to be a double-faced one, the students' LC and the task completion.

Based on this finding, it can be concluded that the IGCSE task measures the listeners' ability to comprehend the aural message in addition to test-taking management skills such as writing answers in correct spelling while listening. As such, it is even a more challenging listening task than those found in real life communication. This nature of the task may explain why the added time during replays in the slow conditions was not invested to "notice" the linguistic features of the slowly-delivered input; spotting and writing the correct response absorbed the students' whole attention.

Moreover, the task duration was another factor that intensified the students' feelings of boredom. Originally, the 45-minute task was perceived by all the interviewees as being "long and cognitively demanding" as it had no breaks, and they had to pay high levels of attentiveness to manage multiple mental activities of reading, listening and writing in a very limited time frame. This duration was made even longer during the treatments, and so many students experienced distracted attention and headaches because they were required to maintain unvarying concentration for at least 55 minutes.

- Finally, the principle of input naturalness appeared to be one of the crucial requirements of appropriateness to the EFLs in this context as well as in other EFL contexts. It was evident that the interviewees at the three levels adopted this principle when evaluating the efficacy of the DA and the 3-SP. For example, Adv 5 and Low 2 mentioned that DA sounded more natural than the pauses as the flow of speech was uninterrupted. They said:

Adv 5: I think DA is more natural. Even in real life, I can understand someone speaking slowly, but I never saw people speaking with these pauses.

Low 2: Yes, the DA is good. When you talk to someone speaking slowly is better than talking to someone speaking fast.

Based on similar reported findings in Iran (Hayati, 2010) and Japan (Blau, 1991), naturalness appears to "...make the biggest difference" (Hayati, 2010, p.112) in the comprehensibility of input from an EFL perspective.

Pedagogical Implications

Though examining an IGCSE context, this study is claimed to bear wider implications regarding teaching and testing LC in EFL learning settings from a temporal perspective. The following section presents the proposed pedagogical implications of the study at the levels of the LC task, the use of interviews in raising students' metacognitive awareness, and suggestions for LC proficiency development.

The LC Introspective Task

According to all interviewees, managing the introspective task was perceived as an added cognitive load to the main task of processing the aural input. Most of the problems detected across the three levels were closely related to the nature of the simultaneous task, namely: segmenting answers from a rapidly-delivered speech, concentration/attentiveness, and managing questions by reading, picking and writing answers simultaneously. This finding suggests that the nature of the tasks used to assess the ability of listening comprehension may have a confounding impact on the test takers. Ishler (2010) mentioned that some tasks used for assessing LC suffer four drawbacks that threaten the validity of the scores interpreted by them. These four are discussed briefly below.

First, these tasks were originally developed for assessing reading comprehension and writing skills. Since the speed of writing is not congruent to the speed of listening, these tasks demand memorization of the information and a special ability to listen and write at the same time. These tasks should be modified in a way to allow EFLs enough time to process and write with no interference.

Second, the interviewees described how cognitively challenging it was for them to pick answers that were not following the same sequence of questions in the task paper. This problem was made more serious as the text is transient, causing the listeners to miss questions and to rely more on the replays.

Third, some questions required either long responses or had too many parts. This is also coupled with the necessity to spell the answer correctly to get the score. Penalizing them for spelling mistakes confuses assessing listening comprehension skills with writing skills.

Fourth, the reliance on one type of LC practice tasks has a long-term negative repercussion on the listeners' ability to handle different listening tasks outside the limits of the class. According to Mendelsohn (1994), learning to listen should take three consecutive phases: pre-listening, on-line processing and post-listening consolidation. Introspective tasks are claimed to "strait-jacket" the minds of the EFLs to on-line processing modes of listening only. Thus, adopting a variety of introspective and retrospective tasks will allow EFLs to develop a wider range of listening skills that are needed for accomplishing different listening tasks in the real world communication.

Considering the perceived long duration of the task with no intervening breaks, the adolescent participants in this study faced concentration/attention problems as they were required to maintain unvarying attention over a duration of 45 minutes. Flowerdew and Miller (1992) reported that their Chinese subjects benefited from adding short breaks during lectures in keeping focused and in gaining more time to reflect on the input.

One final recommendation has to do with the topics included in the LC tasks. Interviewees at the two higher levels highlighted the importance of topic familiarity in aiding them to both deduce an overall meaning of the text, and to make informed choices in the MCQs. Two of them spoke of how they could relate unfamiliar topics such as "Nomadic life" to their schemata based on their Social Studies classes; others felt they

were fortunate to have studied the physique of the camel in the Science class as it helped them make sense of a topic dealing with desert animals. These comments reflect that EFLs rely on integrating new information in unfamiliar topics to well-established schemata to enhance their LC. According to Flowerdew and Miller (1992), this tendency demonstrates that “LC is not an autonomous process in isolation from other branches of knowledge” (p. 77). This conclusion is useful in making a case for designing content-based listening programs for beginners to further support their meaning-deduction processes.

The Impact of the Interviews in Raising the Metacognitive Awareness

A number of researchers have argued for the positive impact of involving EFL students in LC reflection activities such as sharing in interviews or writing listening diaries in minimizing LC problems (Goh, 2000; Graham, 2006; Renandya & Farrell, 2011). These reflections are assumed to enhance the listeners’ metcognitive awareness by activating the self-monitoring strategies while being on task. Teachers can provide guidance to their students by suggesting a set of questions addressing the students’ problems and how they encounter them. These would eventually enhance the students’ autonomous learning and sense of instrumentality, i.e., knowing which solutions solve which problems (Graham, 2006).

This research, being geared towards problem exploration, made use of this effective tool; interviewees were aided by a set of questions addressing their problems, their SR perceptions, their self-ratings of understanding in each test, the pros and cons of each listening condition, and their suggestions for training beginners. Over the period of

five weeks, the interviewees were made to reflect. In the fifth week, a few of them reported improvement in the way they approached the usual task.

Initially, most of the interviewees, regardless of their LC ability, seemed unaware of their problems or the degree of improvement that took place in their understanding of the native talk. The only indicator used by them was their scores. Some of them ruefully reported that they were never encouraged to reflect on their learning process, and that their impressions were ignored:

INT 2: I cannot decide whether my problems increased or decreased since the beginning of the year as we don't practice much on a weekly basis, and we are never asked these questions by the teacher.

In the fifth interview, some interviewees talked about how they started to face their problems:

INT3: Before the interviews, I used to lose hope very quickly when I missed a word or could not guess its meaning or spelling. Yesterday, I concentrated more and decided that I should solve my problem in the fast speeds. The other slow ones did not improve my understanding. I have decided to exert more effort to deduce the meaning and recognize the words. I am now aware that the speeds we have here have become appropriate to my understanding. I am ready now to exert more effort since I don't have any excuses.

Another started to evaluate her understanding of the details while listening:

Adv 4: After talking with you during the interviews, I started to pay attention to the different details in the text. I keep asking myself whether I understand the whole text or not. I say, “What is the percentage of my understanding?”

A third student perceived better task management:

Low 3: I noticed that I heard the words in a clearer way. Also, I felt some improvement in the way I found answers; I concentrated better and could spot more answers than before.

In fact, the interviews were of benefit for both interviewees and the class teacher. As far as the interviewees are concerned, these reflection sessions worked as an eye opener to the weak areas in their learning process in listening. As a result, they chose to take up the responsibility of addressing them as quickly as possible before the final exam. The teacher, on the other hand, got valuable feedback by means of this needs-analysis activity that was enlightening in clarifying the inner LC struggles of her students, their needs and expectations.

The following part addresses some common misconceptions that often lead to ill-practices while teaching LC.

LC Proficiency vs. Language Proficiency

While the researcher was asking the teacher about the LC level of the interviewees, she noticed that the teacher confused the overall language proficiency with listening comprehension proficiency. This confusion of concepts seems to be prevalent among language teachers in different EFL settings. Two poor teaching practices are

assumed to have resulted from this confusion: first, listening skills are not teachable but rather developed over time with overall linguistic proficiency. Second, language teachers adopt the “osmosis” approach in listening (Mandelsohn, 1994). Meaning, EFLs, if practice listening tasks continuously, will eventually become LC proficient due to increased familiarity with the native talk. Though these practices are considered as theoretically unenlightened (Cauldwell, 2002; Mendelsohn, 1994), they seem to be true on a surface level, given the findings of this research.

The first exposure of the advanced interviewees to fast speeds, due to well-developed linguistic knowledge, was not as “shocking” as it was at the lower levels. Also, the nature of the LC problems perceived at the advanced level were mainly associated with the introspective task management and rapid speech segmentation. Two of the advanced interviewees seemed convinced that their rich vocabulary wealth enabled them to comprehend texts with unfamiliar topics, and to process meanings faster. Interviewees at the lower level, on the other hand, were characterized by lexical knowledge limitedness that hindered their attempts to represent meanings.

As for the impact of the weekly training in decreasing the students’ challenges with the native pronunciation, word segmentation, and task-taking skills, the three levels seemed to have gained expertise over time in spotting answers from the fast stream. Also, they became more familiar with the speech features of the British talk. However, segmentation problems were the least to be alleviated by the weekly practice as reported by interviewees at the three LC levels. That is, many of them still experienced acoustic blurs owing to the phonological modifications in the connected rapid speech. In addition

to this, the input rate continued to be “critical” for most of them to write long answers, to guess the meaning of new vocabulary, and to manage questions that are tricky or not following the order of ideas in the texts. This situation seems typical to EFLs in different learning contexts. Both Renandya and Farrell (2011) and Flowerdew and Miller (1992) clarified that the consensus in the LC literature tends to support the conclusion that EFLs have shown a limited ability to resolve their perception challenges by themselves.

The above mentioned realities seem to suggest that a developed linguistic proficiency, if combined with a regular LC practice, may contribute to the acceleration of acquiring some LC skills. However, the product learners of such conditions of LC “practicing” are not fully-fledged proficient listeners. These students still need intensive instruction on “rapid speech phonology” (Caldwell, 2002) to be able to recognize phenomena such as reduced forms, elision, collision, and the weak schwa. Further, EFLs, regardless of their LC proficiency levels, need to acquire skills of L2 segmentation and sound-to script automatization to cope with the on-line meaning processing (Goh, 2000). In addition, EFLs need to acquire both top-down and bottom-up LC strategies and skills to cater for their limited linguistic resources. Only two out of the five advanced interviewees in this study showed advanced LC skills in addition to excellent linguistic abilities. These two were praised by their mates for being able to sing English songs in the typical native pronunciation and speed of the native singers. During the first interview, one of them (Adv 4) mentioned that she was so used to hearing the spontaneous native American talk that she did not always need to read the subtitles to understand the meanings.

Limitations

This current research is not without limitations. This part presents limitations pertaining to the context where this study was conducted, the task, and the techniques investigated.

The IGCSE Context

The scope of this study was restricted to a context where LC is practiced only by means of British audio-recorded texts contrived for pedagogic purposes. Listeners had no access to different varieties of audio or video authentic native talk. Also, the LC is measured only by introspective tasks. Most importantly, the students' and teachers' beliefs about listening comprehension are shaped by the "final test" expectations. EFLs are trained as test takers more than effective listeners. This being the case, transferring results of this study to other EFL learning contexts where listeners perform a variety of tasks, are exposed to natural input, and the teaching practices are directed to enhancing LC skills through pre- and post- listening activities, is inapplicable.

The task type was not controlled in this research. It was unfeasible for the researcher to modify the syllabus plan in the school by having students work on the same task the five weeks of the experiment. Given that one of the main objectives of this study was to assess the efficacy of slow SRs by means of the British exams adopted in the IGCSE context, it was determined to slow down two EDexcel exams as they were unanimously reported by the teacher and the students to be "very fast". Cambridge exams are perceived to be "slower" as they require test takers to write long answers. These were

used to represent the normal speeds. This limitation may have led to inconsistencies in the score patterns.

Another drawback of the task is that it was usually corrected by the students in class at the end of the test. During the experiment, after the students finished the exam, the teacher would ask each two to exchange papers. Then, she would write the answer key on the board. Students checked with her on the different spellings that were considered acceptable and gave the score. In this experiment, the students did the correction of three tasks. This drawback could have resulted in inaccurate grading of some participants.

Another limitation has to do with the nature of the techniques investigated in this study. It may be that the participants chose the NS as their appropriate not because it is “the most” appropriate but rather “the most appropriate available.” This could be the case as the NS was compared to the too slow DA and the disruptive 3-SP. It is not quite known how these students would perceive the appropriateness of the NS if it were put in comparison with a different variety of slow SRs techniques such as pauses filled with hesitation markers, or if they were given the choice to adjust the speeds according to their needs. This limitation is premised on the contrasting results that were reported in two studies (Blau, 1990; 1991) regarding the efficacy of the empty pauses. When compared with mechanically slowed SRs and syntactical simplifications, empty pauses were perceived as the most facilitative modification (Blau, 1991). Conversely, when compared with filled pauses, though still resulting in some LC improvement, empty pauses were perceived as “ interrupting” to the process of meaning deduction (Blau, 1990). Thus, it

could be argued that the limitedness and the nature of the choices that were available to the participants in this study could have led to results that are not quite representative.

Finally, the nature of the exposure of the participants to the treatments bore two weaknesses: first, it took place only once. This interventional nature could have intensified the novelty of the techniques and consequently led to perceptions that are in reality inaccurate, nervous “first impressions.” Second, the timing of the exposure was after four months of LC training by semi-authentic speeds. Had this study been administered at the beginning of the year before these participants had been exposed to the natural speeds, more credible data regarding the efficacy of the slow SRs could have been collected. Also, adopting ethnographic research approaches are assumed to enable researchers to trace the problems that are minimized due to the rich exposure to the target input. In addition, examining SRs as related to developing needs from an individual perspective would bring about more insights regarding the SR needs of EFLs to accomplish comprehensibility of the native talk.

Recommendations for Further Research

The current research had its limitations in terms of the types of techniques investigated. Based on the advanced and the intermediate interviewees’ reported perceptions, the slow SRs fell short in targeting their appropriate rates. For further research, allowing the participants the freedom to modify SRs according to their learning objectives is assumed to yield more accurate results concerning the rates that are perceived as appropriate by the participants. Such techniques are recommended to be

tested in computer labs in order for the participants to be able to manage these modifications easily.

Moreover, pauses filled with hesitation markers were found to be less disruptive and more natural than empty pauses (Blau, 1991). Given that the interviewees in this study perceived an added recall load during listening to texts modified by 3-second pauses, examining the efficacy of the filled pauses in this context may further clarify the advantages and disadvantages of both types of pauses in facilitating LC in EFL contexts.

The DA technique was unanimously described by the almost all interviewees as being “ideal” for beginners. There is emerging evidence in this study that it was preferred by two out of three low proficiency participants. More empirical investigations are needed to further confirm the efficacy of the DA in building the LC bottom-up skills of EFL novice listeners.

Finally, one possible explanation of the perceived difficulty by the interviewees in this study to comprehend slow texts may be attributed to strategy use. Although this study is geared towards LC problem investigation in slow vs. fast SRs, the discussion of LC strategies is unavoidable since LC problems are viewed by a number of researchers as being the result of either misuse or lack of use of LC strategies (Ishler, 2010; Vandergrift, 2007). In trying to account for the observed failure of EFLs to transfer LC strategies fostered in natural speeds to slower ones, McBride (2011) offered explanations that were vague in nature. She hypothesized that maybe slow speeds require “a special kind of concentration.” Also, she hinted at a set of LC strategies and skills that are not transferrable to slower speeds but she could not name them.

If seen from this strategy use perspective, the decrease in the participants' score means in this current study could be a case of strategy use conflict. That is, the introspective task may have encouraged an excessive utilization of the selective attention strategy. The rate reduction techniques of the 3-SP and the DA, on the other hand, may have required the listeners to adopt more recalling/rehearsing strategies. This change in strategy use habits could have added to the cognitive load of the working memory leading to the listeners' inability to manage the simultaneous task. Apparently, investigating the efficacy of the DA and 3-SP in terms of strategy use would clarify more precisely why they did not lead to a significant progress in task score levels. Also, investigating whether and how certain slow techniques ensure the smooth shift of EFLs from slow to more natural speeds or the opposite would enlighten teachers when choosing training materials to prepare EFLs to understand the native talk.

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APPENDIX A

The Speech Rate Ranges of the American English as Presented by Pimsleur et al. (1977)

Fast	=	above 220 w.p.m.
Moderately fast	=	190 to 220 w.p.m.
Average	=	160 to 190 w.p.m.
Moderately slow	=	130 to 160 w.p.m.
Slow	=	below 130 w.p.m.

Note: Adopted from Tauroza & Allison (1990, p.91)

APPENDIX B

Speech Rate Ranges of the Four Speech Categories (WPM)

	Radio	Lecture	Interview	Conversation
Faster than normal (above)	190	185	250	260
Moderately fast	170–190	160–185	210–250	230–260
Average	150–170	125–160	160–210	190–230
Moderately slow	130–150	100–125	120–160	160–190
Slower than normal (below)	130	100	120	160

Note: Adopted from Tauroza & Allison (1990, p.102)

APPENDIX C

Estimates of Standard Rates of Speech (syllable per minute)

STEVE TAUROZA AND DESMOND ALLISON

Table 9: Estimate of standard rates of speech (syllables per minute)

Fast	=	above 320
Moderately fast	=	280–320
Average	=	230–280
Moderately slow	=	190–230
Slow	=	below 190

Note: Adopted from Tauroza & Allison (1990, p.103)

APPENDIX D

A Sample Cambridge Exam

1. Instructions prior to the exam administration:

“ Welcome to the exam! In a moment, your teacher is going to give out the question papers. When you get your paper, fill in your name, center number and candidate number on the front page. Don't talk to anyone during the test. If you would like the recording to be louder or quieter, tell your teacher now. The recording will not be stopped while you are doing the test. Teacher! please give out the question papers and when all candidates are ready to start the test, please turn the recording back on.”(pause)

The series of exchanges provided are used to answer questions 1- 3.

“ Now, you're all ready! Here is the test. Look at questions 1 to 3. For each question, you'll hear the situation as it's described in your exam paper. You'll hear each item twice.(pause) questions 1 to 3. For questions 1 to 3, you will hear a series of short sentences. Answer each question on the line provided. Your answers should be as brief as possible. You'll hear each item twice.

Question 1: where will the tour meeting take place?

Speaker 1: “ This letter says that all parents are requested to attend the meeting about the sports tour on the 21st of the month.”

Speaker 2: “ Oh! Where, dad? In the sports hall?”

Speaker 1: “ No! in the main school sports hall at 6:30 PM. We have to supply a photocopy of your passport and medical details too.

Question 2: How will teachers know who wants to attend their revision classes?

Speaker : “ Have a look at the revision timetable for the coming three weeks. It's on the wall by the door. Write your name next to the lessons you want to attend, please. There are workshops during lunch breaks. For all, science subject this week. Extra classes for languages next weekend. Others the week after that. All between 12 to 2 O'clock each school day.” (pause)

Question 3: What is Lili's problem and how should that be resolved?

Shanaya: What are you going to do during the holidays, Lili? Are you free from the 5th to the 7th of January? If so, you can be my partner in the doubles tennis tournament.

Lili: Well, Shanaya! I'm going to stay with a friend but I'll be back in the evening of the 4th. So, yes! I'll do that. I haven't played much tennis recently though. The weather has been so bad, Shanaya. Let's do some tennis practice now then to prepare ourselves.” (pause)

A sample extended listening text

Question 7: listen to the following interview about songbirds in Thailand and then complete the details below. You will hear the interview twice.

Interviewer: Welcome to our weekly program which looks at nature around the world. Today we are going to hear about singing doves. Here's our expert, Mrs. Smith to tell us more about it.

Mrs. Smith: Well! Ever since a dove brought an olive branch back to Noah, this bird has become a symbol of peace and good fortune all over the world. Households in Europe traditionally used to keep doves in their gardens. In the Far East, a turtle dove singing sweetly is still an essential feature of their family lives.

Interviewer: Oh! That sounds lovely.

Mrs. Smith: Yes. In southern Thailand, one particular bird is very famous for its singing. It's called the zebra-striped dove.

Interviewer: Are there lots of them?

Mrs. Smith: Yes! And their breeders always try to get a perfect bird that can sing just right. You see. The birds are trained to sing by their owners and there are even competitions and festivals for this.

Interviewer: Who are the breeders?

Mrs. Smith: Farmers living mainly in the southeast of the country.

Interviewer: How do they teach their birds to sing?

Mrs. Smith: Each family has a dove that which accompanies the master of the household all day. even, he takes it on trips to the market. He attaches the cage with the bird inside to the handle of the delivery bicycle, and he sings to while he rides.

Interviewer: So, they have intensive singing teaching, right?

Mrs. Smith: Exactly that. They learn to sing and are given little sweet supplements and tasty food in return. This is to ensure they look good and sing well only when commanded to do so.

Interviewer: Certainly they can win competitions.

Mrs. Smith: Yes! Every year, there are huge competitions. If you visit them, you'll see hundreds of birds in cages help up in the air on bamboo poles being assessed for the quality of their songs. Judges move from pole to pole, listening and comparing before announcing the winner bird. Often the results and the winning prize which carries a lot of money can bring a complete change to the lifestyle for the lucky bird's owner.

Interviewer: Because of the win?!

Mrs. Smith: Exactly. Wealthy people will pay hundreds and thousands of dollars for birds with previous successes. A single egg from one of these birds might be worth more than what the owner would earn from his farming for ten years.

Interviewer: So, it is not enough for these birds to sing melodiously. They have to sing in a very particular, well trained way.

Mrs. Smith: Yes! And only when told to do so by their owners.

APPNDIX E

The Interview Schedule

Retrospective interviews with participants from the two experimental classes were administered immediately after the exposure to the weekly listening task for 5 weeks. Accordingly, questions used for probing the interviewee's perceptions were related to the type of the treatment to which the interviewees were recently exposed.

Week 1: Following the exposure to the normal speech rate (SR)

1. How was the task today? difficult or easy?
2. How would you evaluate your understanding of the texts today by percentage?
For example, you understood 90% ,70% or 50%?
3. How fast was the speaker(s)?
4. Did you have any specific problems to understand the text because of the speed of talk? Give examples.
5. Which were the most difficult to follow in terms of speed, dialogues or monologues?
6. Did you lose track of the text while listening? If yes, could you describe how this took place? how did you overcome this difficulty while listening?
7. Could you recognize all the words or some were unclear? How?
8. Did you face any difficulty understanding the overall meaning?
9. Could you answer all the comprehension questions, or some were difficult? Why do you think?
10. Do you think the problems encountered today could be minimized? What are your suggestions? If you are given the freedom to edit these tracks using a computer software? What would you do to make this task easier?
11. Would you like the speaker to be slower or clearer? Or do you think adding pauses would allow you to think and understand?

Week 2: The first administration of the treatments

Questions posed to Group B following the three-second pause insertion:

1. How did you find the speed of the texts today in comparison to the task you had last week? would you describe it as too slow or appropriate to your preferred speed?
2. Evaluate your understanding: --%

3. How did you find the silent periods? Were they too long, appropriate or still short?
4. What were you doing during these intervals? thinking about the topic, waiting for the next sentence, guessing the intended meaning or reading the comprehension checks?
5. Do you think inserting these pauses have helped you to comprehend the texts better this time? Justify.
6. Did you have more time to notice other text features that you have not noticed before? for example, the way words are pronounced, new words, new structures...etc.?
7. Which of the following was easier this time in comparison to the previous normal one? Examples: Word recognition, meaning deduction, answering the comprehension questions?
8. Would you recommend editing all the coming tasks using these pauses? Justify

Questions posed to Group C following the naturally slowed speech rate:

1. How did you feel the speed of the task today? Too slow, appropriate or still fast for you?
2. Percentage of understanding:--%
3. Generally, did you have more/less problems this time than the previous normal task?
4. Which of the following aspects were better this time: word recognition, guessing meanings from the context or answering the comprehension questions?
5. Do you prefer to have this slowing treatment again? Justify.
6. Would you prefer other slowing techniques? Specify.
7. Do you think this technique may help other students? Explain.

Week 3: Following the exposure to the normal SR

1. How fast is the task today?
2. How difficult is the task today?
3. Percentage of understanding: --%
4. Did you feel the same problems this time? Explain.
5. Would you prefer the application of the previous technique again?
6. Which aspects of the previous treatment did you miss today?
7. Is there any trace of improvement in the way you answer the comprehension checks?

Week 4: reversed administration of the two treatments:

1. How fast is the task today?
2. How difficult is the task today?

3. Percentage of understanding:--%
4. So far, you have been exposed to two speed reduction techniques. Which one did you perceive as the most facilitative to understanding the overall meaning and answering the questions? Elaborate.
5. Which one of the two would you recommend to be adopted in the future listening tasks? Why?
6. What aspects did you like in each technique?
7. What aspects did you dislike in each technique?

Week 5: Exposure to the normal speech rate

1. How difficult was the task today?
2. How fast was the task today?
3. Percentage of understanding: --%
4. Compared to the previous slowing treatments, which problems do you still have?
5. Generally, do you feel any improvement in the way you recognize the words or answer the questions?
6. Were you better able to follow the speed of talk today?
7. Which slowing technique would you recommend to be applied all through the rest of the semester? Why?

APPENDIX F

Interviewees' Profiles

To more reliably assess SR manipulation effects in LC conditions where listeners lack control over the speed, Zhao (1997) recommended that LC researchers should examine these effects on an individual basis to be able to uncover the unique “internal reference” (p. 62) of SR appropriateness.

In other words, in order to better understand how speech rate is related to listening comprehension, researchers should consider students as unique individuals, who operate with different perceptions and internal references (p.62).

To apply this individualistic approach, the researcher compiled fourteen profiles for the fourteen interviewees based on their input during the retrospective interviews. These profiles were meant to shed light on the unique individual experiences of each interviewee while struggling to comprehend the recorded British talk in three SR conditions. The data included are not generalizable since they are closely related to the context of the experiment. Still, they could be suggestive as far as EFLs' LC problems and criteria of SR appropriateness are concerned.

The profiles are presented according to the three LC levels investigated in this study. The first section presents the Advanced group, the second the Intermediate group, the third the Low group. Table 1 shows the three LC groups of interviewees and their pseudonyms.

Table 1

The Interviewees Included in the Profiles

Group	Student's pseudonym	Total #
Group A: Advanced	Wessam Lamees Mona Suzan Flower	5 students
Group B: Intermediate	Valerie Shaggy Ahmed Fayza Hayam Mostafa	6 students
Group C: Low	Yasmine Mansour Marina	3 students

Group A: The advanced interviewees

1. Wessam is a national graduate with exceptional listening abilities as seen in her near perfect LC scores. she is usually referred to by her mates and the language teacher as the “top student.” Her ability to sing English songs in the typical native pronunciation is received with amazement and the appreciation of her colleagues who view this specific ability as the reason why she always gets the highest scores in listening, and does not have serious segmentation problems. During the experiment, Wessam did not experience drastic drops in her score levels; she missed 2 marks at maximum in the slow conditions due to concentration problems. Also, she reported that the DA was not “bothering” or “too slow” for her during week 4 task. She was the only advanced interviewee who recommended adopting it in training students graduating from the national system.

Examining her reported LC problems in the NS condition, the researcher was able to explain why she expressed this unpredicted SR preference.

Initially, the speed of the recorded native talk was not a problematic aspect for her. She said, “ Generally, they don’t speak too fast.” In addition, she reported that she never experienced the problem of the blurred word endings. But, her major concern was spotting answers from among many distracting details in the extended texts; she seemed particularly bothered by the indirectly stated answers. She stated, “ My problem is not the speed. It is the way the answer is stated. It is not explicit. I have to pay attention while listening, turn around the intended meaning until I catch my target.” Another LC hindrance is her feeling of time pressure when she is required to summarize answers in her own words. This caused her to lose track of the aural text temporarily.

One point of strength of hers as a successful test taker is that she tended to set a plan prior to listening to each text. In other words, she learnt through practice to invest the one-minute pause given before each text to read the questions thoroughly, to refresh the relevant schemata, and to underline the key words to better direct her attention to answer locations while the text is played. This may justify why she wished to have longer pauses “prior” to texts rather than “during” real-time listening.

Because of her tendency to plan, she perceived the 3-SP treatment as disruptive. She preferred the continuous slow flow in the DA more, especially in the dialogic texts, as her targets as a test taker were made clearer. Her scores in the 3-SP, though slightly higher than in the DA, did not reflect that her planning was seriously hampered by the frequent stops. During the 3-SP, she reported concentration problems such as distraction

and inability to be attentive to the spot of the answers. In short, the silent intervals were perceived by her as “nuisance” as they did not support her “hidden agenda” of targeting specific answers.

Her recommendations to adopt the DA in training beginners who, according to her, usually “freak out” because of the fast speed and the complex questions, were premised on a number of arguments. First, the DA minimizes blurred word endings due to slower and clearer manner of pronunciation. Also, the added time will enable these novice listeners to pick answers easily, to write complete answers in correct spelling, and finally to better process the auditory input.

Again, surprisingly enough, she could foresee that the 3-SP would be more cognitively demanding as, according to her, it requires more “recalling” during the stops in order for the listener to establish a connection between segments heard before and following the stops. She explained that “3-SP may allow for more thinking, but it is difficult to remember all what he said and spot the answer. This is too much mental work.” In addition, she directed the researcher’s attention to the risk of “losing” some students during these stops as they may waste the stops in chatting.

2. Lames is a very hardworking student whose LC scores are usually 26/30 or higher. According to her, her first encounter with the British talk was not shocking as she knows a lot of English vocabulary. Moreover, she is a knowledgeable person who reads a lot and uses these readings in understanding unfamiliar topics in the listening classes. Managing the introspective task is what mainly challenged her. More specifically, she was always afraid of losing track of the text. This could result from non sequential or

tricky questions, texts that are too dense with information, and of course the speed of delivery that allowed her too little time to think and write answers while attending to the continuous input simultaneously.

Her ideal SR, as described by her, is the one that minimizes her challenges with a divided attention between reading questions and picking answers. She said, “It is the speed that best helps me concentrate, think deeply, read and write.” Unlike Wessam who perceived the one-minute pause as enough period to set a selective-attention plan, Lames lacked these planning skills; for her, the one-minute pause was not enough as she never completed reading the questions. Usually, the hypotheses formulated by her about the topic before listening in this tense atmosphere would turn to be wrong during listening. By taking into consideration her poor planning skills combined with her fear to miss parts of the text which include the target answers, it may be understandable why she felt very “relaxed” and scored the highest in the 3-SP condition than the DA. The DA had two negative aspects that interfered with the way she managed the task: First, it presented a continuous flow that still confused her attention while doing a number of mental activities simultaneously. Second, it sounded too slow and boring, and thus disturbed her LC fast processing habits to the extent that she felt “mentally-retarded” while listening to it.

Conversely, she highly appreciated the 3-SP because of the frequent stops which she seemed to use as milestones to manage answering the questions. Thus, by freezing the flow for her on a frequent basis while retaining the speeds she is used to, the 3-SP seemed to effectively address her urgent need to manage the task, to read the next

question, to have a chance to think of previous details, and to prepare and direct her selective attention on a local level as opposed to the global approach applied by her mate Wessam. Although she noticed that other students perceived the 3-SP as disruptive, she asserted that she liked it. She explained,

I felt my understanding was facilitated this time. I could understand better his words. These seconds helped me to relate the words I heard to the questions. Before, I sometimes answered although I was not sure of my answers. Today, I was 100% sure of my answers. I felt that it particularly enhanced the way I answered the questions. The highest I could score in Edexcel was 26. This time, it is 28!”

Despite the remarkable improvement that Lames achieved in this slowed condition versus the NS, she was against applying it in preparing the national graduates to the IGCSE task; she had a counterargument against adopting slowed SRs in general in training novice listeners. Below is her argument.

I think the very “shock” we had at the beginning of the year is what really made us feel that the task is challenging, and that we have got to be fully concentrated. We knew we had to exert more effort because it was not easy. Had it been made easier, we would have scored high. But eventually, when it becomes faster (i.e. more challenging), the scores will fall, and students will keep wondering, “what has gone wrong with our scores? We used to score higher than this!” I think it is psychologically far better to have a gradual progress from lower to higher scores, and not the opposite. In the slow

treatments, they may feel relaxed and confident for sometime because of the high grades. But, soon they will discover that these high scores are ‘fake’. Like me, today, deep inside me, I am not happy with my score. The slow speeds I had today are not applied in the final exam.

Being a test taker in an IGCSE context, the criterion that she adopted in evaluating the effectiveness of the tested slowed SRs was the final-exam typical speed. She even underestimated her progress in the slow conditions as the reduced speeds are not typical to those used in the final test. She also seemed skeptical about the efficacy of the slow SRs in preparing beginners for coping with the spontaneous native talk. Techniques such as the DA, according to her, would create “stupid listeners” who have slow listening habits that may later stand against forming new habits in faster speeds. Moreover, she maintained that the IGCSE task requires maximum degrees of quickened processing and unvarying alertness to pick answers. Because of this, she reiterated that, despite her high scores in the slowed SRs, her preferred speeds are, still, the ones used in the final exam.

3. Mona is a typical example of Egyptian national graduates whose language skills are not equally developed. Speaking about her reading and writing scores in the IELTS, she mentioned that they were by far higher than her listening ones. Her first exposure to the IGCSE task was a “tearful” experience. Describing these sad moments, she said:

I wish I had one of these slowing techniques at the beginning of the year. Surely, it would have made a big difference in my performance. I would not have scored 20/30 and gone home crying to my mum thinking that I would fail the final exam. I was always upset in those days.

According to her, the causes of her initial poor performance were all fast SR-related, namely: an inability to segment adjacent lexical items from the speech stream due to blurred endings. Though interviewed after 4 months of her exposure to the fast speeds, she was still wishing for a third play of the texts to be able to segment some unrecognized strings of sounds. In addition, she mentioned that she would resort to the time-consuming strategy of mental translation to L1 to represent the meaning of the segmented words. This caused her to miss some questions, and to do more work in the replay. Similar to Lamees, she seemed unable to invest the one-minute pause given prior to each text to construct a relevant background about the topic, nor could she finish reading the questions to set listening targets. As a result, once the speech was on, she could not predict locations of answers or catch up with writing answers and attending to the flow in a simultaneous manner. Her scores never exceeded 24/30 in the “fast” EDexcel exams as a result of these problems.

Based on her reported LC challenges, the researcher predicted that she would find the DA the most appropriate for her specific segmentation and speed needs. But, her poor score in the DA which she described as “the second worst grade since the beginning of the year,” and her reported impressions of boredom tended to indicate that the 3-SP would be more appropriate for her task-completion needs. Her high score in the 3-SP (27), compared to the DA (21) was another piece of evidence that she preferred the empty pauses more than the deliberate articulation. She explained,

For me, these pauses were “unusual” as I am not used to such a fragmented flow. If I were exposed to it before, maybe, it could have sounded more natural to me.

But it worked. I had the chance to think of the meaning of the segment that preceded the pause. Also, when he said two words that were opposite to each other ‘...none is better or worse...’, still, I could deduce the intended meaning. Answering questions including confusing options was easier this time. And, of course, I was much more relaxed in the replay as I had nothing to do.

Despite the benefits of the 3-SP perceived by her, the empty pauses seemed to have disturbed her processing habits. When asked about the time investment of the pauses, she referred to moments where these stops sounded “interruptive” and “illogical” to the process of spotting answers; She would expect to hear the answer when all of a sudden a pause occurred causing her to feel “disconnected.” So, she stated that one drawback of the inserted pauses was that they did not match the locations of answers. In addition, she referred to her feelings of a memory overload as she could not always keep in mind the piece of information heard before the pause. Thus, compared to Lamees who did not report these memory difficulties, Mona could not recall and retain the aural message temporarily in her working memory. This is why she described her score development as not being “dramatic.”

Finally, similar to Lamees, she viewed such rate reduction techniques as “artificially relaxing,” and believed that these are not practical in preparing beginners for the final exam. The following excerpt includes an important factor that influenced the way this student evaluated the efficacy of the 3-SP, which is the effect of the order of speeds on her SR perceptions.

Although I faced difficulties today to spot answers, I did not wish to have the 3-SP again. It is true it helped me last time but it was not that dramatic. Also, sometimes, it distracted me. As I said before, it was applied late after we got used to faster speeds. Had it been done earlier, I think it would have helped a lot.

4. Suzan is described by her language teacher as one of the most skilled listeners in her class who has an exceptional wealth of vocabulary. Speaking about the reasons of her high performance, she explained:

My good performance goes back, I think, to my rich vocabulary; I know a lot of words and I know how they are spelt. Also, I am used to hearing the native talk. I listen to English songs and movies, and I do not usually need to read the subtitles.

Still, her first exposure was “hard, of course,” as she faced a difficulty in orchestrating three skills at a time in a task that is long in duration and cognitively demanding. The unusual high speed, again, caused her to miss answers in the extended texts, and to lose marks for misspelling words pronounced in the British accent. Eventually, she could overcome most of her segmentation and test-taking problems, and the fast speed became “normal.” This development seemed to have enabled her to “soar” over the usual demands of the task by “noticing” new vocabulary and by using them to understand different topics.

Generally, Suzan seemed efficient in investing the one-minute pause in predicting the relevant details of the text, and in rehearsing the questions in her working memory to recall while listening. Also, most of the problems faced in the first play such as missing

or writing incomplete answers could be remedied in the replay. But, she still wished to have slower speeds to write long answers in the correct spelling without losing track of the text, and to overcome her “very few” segmentation problems. This, for her, is ideally achieved by slowing down the usual SR “a little bit.” She said:

The high speed is still a problem. New vocabulary is not, as I read a lot and I have learnt many new words from the texts we listen to. Slow down the speed but keep the same way of articulation. I want it to sound natural as it is. Let it be a little bit slower than the normal one.

Based on the criteria of the appropriate speeds she described before the slow treatments applications, predictions were made that she would significantly improve in the 3-SP condition. But, her actual performance in this treatment was significantly poorer than in the normal ones. The positions where the silent intervals were inserted did not serve the question-driven approach that she was used to adopting while listening to the texts. She explained that the pauses gave her a false impression that one question was answered and the next part addresses the following question. Thus, the inserted pauses confused her while trying to spot answers to the questions, and increased the review load in the replay.

Equally, it was not a surprise that the DA was a real challenge for a listener of her advanced level of automatization; it was boring to the extent that she laid her head on the desk during the replay out of boredom and became reluctant to listen and to answer. During the final interview, she was keen on stressing the fact that the normal fast speeds have become appropriate for her. In addition, she clarified that the task becomes

challenging for her only when topics are unfamiliar, otherwise, it is manageable. The following excerpt clarifies this idea.

It is true that the 3-SP was less boring and much faster than the DA, but it is not my preferred speed. I am used to a continuous flow of speech. When I restored the normal speed I am used to again, I could concentrate and analyze the text much easier. Also, the task duration was reasonable. As for the speed, it was manageable except for very few instances where it was too fast for me to listen and write. But, I could address these in the replay. I only missed 1 and ½ marks in the normal speed.

One positive change in the way she performed the LC task was reported by her in the last interview. She told the researcher that the type of questions directed to her during the series of the retrospective interviews raised her metacognitive awareness concerning the level of her understanding of the texts; she started to monitor the way she understood the details of the texts and whether she could establish any logical relations among them.

5.Flower: In her first interview, she asserted that the fast speed of the recorded texts has always been an obstacle for her managing the LC task. This negative effect reached its worst degrees in three instances: First when the sequence of the questions was different from that of the answers, second, if many answers are heard right after each other allowing very little time to write them, and third, similar to Lamees, if texts contain too many details to process instantly. The nature of her perceived problems suggested that she would achieve dramatic progress in the slow conditions. But, she tended to behave in the opposite direction.

She was predicted to benefit the most from the 3-SP since her problems were task-related rather than segmentation-related. Contrary to this prediction, her scores tended to drop consistently in all the slow conditions, and to rise significantly in the usual ones. What is more interesting about her performance is that there was a discrepancy between her reported level of understanding in the DA (95%) and her score (21), possibly suggesting that the DA technique was not effective in terms of meeting her needs of task completion though it worked effectively in word recognition. Speaking about this discrepancy, Flower said:

I felt more privileged listening to the slower speeds. This technique (DA) gave me extra time to guess the answers before I hear them. For example, when he said “students bring their bed sheets...,” I expected to hear “pillows,” and fortunately, it was the answer. So I wrote it at once. Also, words were easy to distinguish this time. I had fewer spelling mistakes. But, when it was that slow, I lost track as I forgot what was said earlier. At these moments, I could not really decide whether the answer was mentioned already or not. It is really paradoxical! I can hear the words clearly and the speed is very slow, but I am unable to recognize the answer.

Examining the previous excerpt, the researcher could deduce that Flower seemed to mix the overall understanding with word clarity. The very high percentage she mentioned during the interview described her understanding of words in isolation. That was evident to the researcher as, later in the normal speed conditions, she stated that the DA made it hard for her to construct an overall picture of the intended meanings. Word clarity helped her to deduce the intended meaning on a local level. But due to feelings of

boredom and prolonged task duration, the DA seemed to be harmful to her LC. she explained that she perceived longer “wait time” between the reading of the question and the hearing of the answer. As a result, she forgot what was previously said, and consequently could not represent the text as a whole meaningful unit.

Similarly, the 3-SP seemed to increase her concentration challenges as the frequent pauses were considered by her as interrupting her attention to spot the answers. In addition, Flower’s short-term memory was again overtaxed as she could not recall the sections mentioned before the stops or relate them to subsequent ideas. These problems made her too nervous to complete the task successfully. She explained:

I hated this technique. It had many interruptions. It is not natural , I can accept people speaking slowly but not speaking with pauses. I could not relate the text sections to each other or to the questions in front of me. During these pauses, I could write the answers while not feeling pressured. But it is not helpful. It is not natural. I did not like the idea of stopping. Whenever it stopped, I said “oh! I hate that.” The DA was boring but it did not make me nervous as I was today. When the interval occurred, sometimes I did not know what to think of. I kept recalling the previous section because I was afraid to lose track. In the third text, I could not concentrate any more as I could not follow that way. I missed 5 questions this time, and could not solve them in the replay as the pauses were also inserted in the replay.

Like her other advanced mates, she preferred the normal speed. The comprehensibility of the texts, according to her, was improved drastically. She could

quickly process the details and create a logical line of thought among the main ideas. Hence, the process of spotting answers in the normal speeds was, for her, much more feasible despite her being challenged by very limited time and information-loaded texts. This indicated that the order of her appropriate SRs was first the usual speeds, followed by the DA and finally the 3-SP which she described as “boring.” By choosing this order, she tends to be an EFL listener who is concerned about the “naturalness” of the aural input, and who showed limited ability to adapt her fast LC processes to slow texts.

Finally, while speaking about her suggestions concerning which slow techniques to be adopted in training EFL beginners, she made two intuitive comments that are worth examining. First, she argued that , for techniques such as the DA to be effective in building beginners’ listening skills, it is recommended that they are applied in a tension-free atmosphere where scoring and formal evaluations are relaxed. This, for her, could guarantee that trainees’ main focus would be targeted towards acquiring LC skills more than accumulating scores.

Another suggestion of hers was to apply the principle of “readiness” when deciding which students really need the slow techniques. She stated that not all national graduates would benefit from the application of the slow techniques. Some of them have advanced linguistic knowledge and so are “ready to be challenged.” Listening to slow speeds may make them feel delayed in pursuing their LC skill building.

Group B: Intermediate Interviewees

6. Valerie's pattern of scores over the five weeks of the experiment was bewildering to the researcher to interpret. Her scores in the NS conditions showed a systematic decrease. Equally, her score in the DA was dramatically less than the other two conditions. The only improvement was found in the 3-SP although the score was still slightly less than the usual ones. This pattern may indicate that Valerie's exposure to the fast speeds did not seem to lead to significant improvement in the way she completed the task. In addition, her ability to invest the added time in the 3-SP still did not lead to noticeable changes. This could imply that she was a slow-paced learner in terms of adaptability to speeds. Despite this assumption, her input during the semi-structured interviews reflected a deep analysis of a number of SR phenomena.

Her reported problems in the NS conditions were mainly: a fast SR, limited vocabulary, and slow writing habits that interfered with the task completion. For her, topic familiarity was a real LC obstacle as she could not guess the overall meaning by means of few familiar words. Besides, recognizing answers among unfamiliar lexis in a rapid flow of speech was a big challenge that caused her to lose points. Lastly, she complained about her inability to write complete, correctly spelt answers within the time limits of the introspective task. These problems were not completely addressed by her in the replay as she always felt pressured by the speed. It was assumed that allowing her more silent seconds would make a positive change in her task performance. But her score pattern did not support this assumption.

Valerie's performance in the DA was exceptionally low. Her explanation of the discrepancy between her very high level of understanding and her very poor score merits

contemplation. She clarified that, although the speed was slow enough for her to spot the answers easily without feeling pressured, the “wait time” during which she had to stay attentive to spot the answers was prolonged, which made her liable to distraction and loss of focus. This caused her to miss the answers of many questions. As for her reported high percentage of the overall understanding, she explained that she meant the clarity of words, and not the global comprehension. She added that the slow articulation rendered the sentences too long, which made her unable to represent the sentence constituents together to deduce the overall meaning. This prolongation of the task duration made her feel “sleepy” in the third text, and she was unable to complete the task anymore. She summarized this paradoxical situation by saying, “... my understanding was high, but my psychological state was terrible.”

Another insightful comment of hers was the fine distinction she made between test-taking skills and effective listening comprehension skills. Similar to Flower, the advanced interviewee, Valerie was aware of the benefits of being trained in the slow speeds in terms of SLA. The following excerpt clarifies this point:

I think applying such treatments to the national beginners before their exposure to the faster speeds would benefit them a lot. I remember when we first came here, our main concern in this task was to cope with the high speed, and to accumulate as many scores as we could. If we had these at first, that would have been real teaching of listening.

As for the 3-SP, again, she did not seem impressed with the technique as she described her understanding as “not badly affected or dramatically improved.” What follows is her reporting on the inner LC processes during the 3-SP:

Yes! The pauses helped me. When the stop coincided with an answer, I had the time to spot it and to write it. That made the difference. Or I had some time to decide which the correct answer was. Most of the questions were answered before the replay. But the stops distracted me. When it stopped, I felt one question was answered and I had to think of the next one. After the pause, I recognized that I missed the answer. So, I got nervous.

As can be seen, this interviewee was able to invest some of the advantages of the 3-SP technique to overcome her fast-SR problems. She even recommended it for training beginners, claiming that it would provide them with more chances to think and write. As for the technique appropriateness to her, she made it clear that it delayed her in completing the task, and distracted her attention. Thus, compared to the two techniques in question, the usual speed was still her preferred one. Although she needed slower speeds to manage the task in a better way, she showed a limited ability to adapt her concentration habits to the techniques, and so could not make noticeable development.

7. Shaggy is a national graduate with a unique LC background. He was the only interviewee who was taught in a French-language school before joining the IGCSE. His LC skills were developed in the French school as he used to have a weekly “retrospective” listening task. Thus, compared to the rest of his intermediate group, he was the only person who received systematic listening comprehension training, and so his

initial exposure to the recorded native talk was not shocking. According to him, the “introspective” LC task in the IGCSE is an “easy” one compared to the one he used to take. He explained:

This listening task was difficult at the beginning, but now it is not. The one I had in the French school was more difficult. We used to listen to a long text, then, after it ends, we had to write as much as we could remember. Of course, we had to be extremely attentive to remember everything. This one is much easier. I spot the answer and write it at once.

The previous excerpt tends to show that his previous experience with retrospective tasks shaped his perception of the difficulty level of the IGCSE task. Retrospective tasks are known to overwhelm the short-term memory with an added overload of memorizing, recalling, and idea association to retrieve the text easily at the time of writing. Alternatively, the IGCSE task brought him different cognitive activities such reading questions while selecting answers from the aural input. So, Shaggy had to orchestrate skills of selective attention with segmentation to answer a set of questions that does not follow the order of paragraphs. As he asserted above, eventually, he could acquire these test-taking skills and his scores have improved ever since.

His problems at first were: limited linguistic knowledge and slow sound-to-script automatization. Also, sometimes he could not write the whole answer while listening. But, he reported that he could overcome them to a great extent, and to get used to the speeds. In terms of speed perception, Shaggy was again a unique person. His scores

dropped dramatically in the slow conditions, and improved significantly in the faster ones. What is worth noticing is his “nervous” attitude towards the slow treatments; the DA, for him, was “terribly boring” and he could not “stand it.” His score (14/30), which was the lowest since the beginning of the year, was described by him as “too bad.” He explained that this attitude resulted from his loss of concentration due to boredom, and his inability to relate questions to answers.

I would not recommend adopting such treatments with beginners. No! it is too boring. Though words were clear, I could not complete the task. the class became very noisy, and I wanted to leave the class. I think my first exposure to the fast speeds right away was better. Students will panic a little, but they will get to manage the task by time.

The same situation was repeated after his exposure to the 3-SP. He perceived the task to be “very difficult” and that the repeated intervals caused him nerve tension. The following excerpt presents his explanation of this tension:

These pauses made me lose marks. I was listening attentively expecting to hear the answer. Suddenly, it stopped, and I became disconnected. Then the answer was said quickly while I was still trying to concentrate, and I missed it. At the end, I was just choosing anything as I missed a lot. This has no advantages. It is disruptive. I am not used to it.

Finally, he seemed convinced that he did not need any slowing techniques; the NS facilitated his concentration, and sounded natural like everyday talk. What he believed he

really needed was to read more in different topics to enrich his lexical knowledge. More specifically, knowing more synonyms would enable him to recognize answers that are indirectly stated.

8. Similar to his classmates Shaggy and Valerie, Ahmed consistently scored the highest in the usual speeds, and did noticeably poorly in the slow ones. During interviews, his input was illuminating in a number of ways.

First, he directed the researcher's attention to the timing of the listening class as being one of the factors that affected students' overall performance and their perception of task difficulty. For example, he said that his scores usually improved if the task was administered early in the morning or before the break time. Equally, his concentration deteriorated, and so his LC scores, if the task took place after break or after a Chemistry class. Based on this remark, the IGCSE listening task is perceived by this student as being a difficult one in terms of concentration. Also, the scores received in the LC task are not always reliable measures of the students' actual LC performance.

After being trained by means of fast speeds for a whole semester, he mentioned that his main problem was, and still is, segmenting words from the connected native talk. During the first month, he related, he always wished to listen to clearer pronunciation as he suffered from acoustic blurs. Similar to many interviewees in this level, he used to believe that the texts he listened to were not appropriate to his LC level in terms of pronunciation and speed. He spoke also about his tendency to ask the teacher about the meanings of new vocabulary as a result of his inability to use the contextual cues for guessing meanings. These two problems were persistent even in the replays. A third

serious problem that was not stated that clearly except in Ahmed's interview is the loss of points due to misspelt answers. He ruefully mentioned how repeatedly he was reluctant to write the correct answer as he knew he would lose the point for incorrect spelling. Based on this challenge, he did not recommend using Cambridge exams for introducing the national students to the listening task as these specific exams require writing long and correctly spelt answers, which should intensify the examinees' initial shock and loss of self-confidence.

Further, Ahmed was able to foresee that empty pauses would challenge the participants with an added recall task. His argument was both intuitive and amusing:

Pauses! you mean a silent period? I think it is difficult. I guess this needs good memory. It may fit some students, not all of them. I think it will require students to make a "replay" inside their heads to think of the words during the pause. Some boys would be distracted during these silent periods if they could not remember the previous parts. I know them. The class will be very noisy.

Ahmed's predictions came true. A number of advanced and intermediate interviewees, including him, complained that pauses made it hard for them to relate the different segments in a text to deduce the global meaning. For him, pauses were, in addition, boring because they prolonged the task duration. The only two advantages of the 3-SP that he was aware of were his ability to catch up with writing long answers, and to double check the spelling.

Due to his insistence that both the clarity of pronunciation and speed reduction will render the recorded British texts more comprehensible to him, the researcher predicted that he would receive a high score in the DA condition. On the contrary, Ahmed lost his concentration completely during the task, and missed almost half of the questions. In explaining why he could not complete the task in this slow condition, he said,

The slow speed confused me. It did not help me. On the contrary, it is harmful now. This speed needs other ways to understand. I think one has to slow down the way he thinks. If these were applied in the first month, I could have done better.

Moreover, psychologically speaking, he was not different from his classmates in this group as he disliked the prolonged duration of the task, and left a whole section unanswered, showing no adaptability to the unusual listening condition (DA). His performance in the NS, on the other hand, reached its highest level. His most important “regained” advantage was his ability to concentrate in the answer spotting process. But, it was, again, interesting that he reported feelings of boredom towards the end of the NS task; he did not answer two questions and felt that the replay was boring. This behavior may be due his awareness that the task was not a high stakes one; whenever he felt bored, he would skip questions. He suggested that a 5-minute break could have helped him to keep momentum to cope with the unfamiliar topics and the difficult questions. It was apparent to the researcher that the 45-minute task, with no breaks intervening, was cognitively demanding for these adolescent participants to complete.

Finally, Ahmed was another interviewee who reported improved meta cognitive awareness of his task problems, and was assumed by the researcher to have developed a sense of instrumentality. His reported inner talk reflects his willingness to excel in the LC task since the speed was appropriate to him. He said:

Yesterday, during the usual speed task, I kept telling myself that since this speed is the best one for me, I have got to exert more effort to listen to the words more attentively to recognize their spelling. I could recognize the /r/ and the /t/. This is my problem and I have to solve it.

9. Fayza was a very “hesitant” test taker who was always uncertain of her answers. During the usual tasks, she changed her answers many times and lost points, as a result. The researcher could deduce that her decision-making process concerning the correct answers was time consuming as she had serious segmentation problems. Of course, providing her with added time while on task was assumed to improve her performance and most importantly, raise the level of certainty of her choices.

Due to still developing linguistic abilities, Fayza was a typical question-driven test taker. She picked answers based on the wording of the questions. This similar-word strategy seemed effective with her especially when the topics were unfamiliar. But, sometimes, when questions did not follow the order of answers in the text, or when answers were stated indirectly, she would lose track and make uninformed choices. Some of these challenges were overcome in the replays. But, problems related to unclear pronunciation remained unresolved as “... words are just repeated in the replay the same way by the same speaker.”

When asked about her speech-rate needs prior to the study, she seemed very much concerned about two qualities of the aural input, clarity and naturalness.

How about slowing the speed in the replay? Let it be a different speaker-a woman, for example- with a different way of pronunciation, a clearer pronunciation. Not pauses. But natural, clearer and slower in the replay only, as this is the time when I concentrate.

Although the researcher assumed that Fayza would benefit from the two techniques experimented, the above-mentioned needs of hers tended to indicate that the DA, in particular, would significantly raise the level of her task performance. However, based on her task scores in the two slow conditions and the normal ones, the 3-SP appeared to have provided her with the most appropriate speed to accomplish the LC task. The following excerpt shows how the 3-SP facilitated her decision-making process.

I used to face difficulty with deducing the intended meaning of the words. I kept paying attention in the replay, but I couldn't understand the meanings. I used to be confused about answers. I would write one word, but discover later that there is another word in the replay. So, I change my answer. Today, it was easier. I had the time to read the questions and to decide whether it is the one I want or not. I did not feel rushed.

Moreover, the silent intervals gave her chances to repeat the pronunciation of some unfamiliar words in her echoic memory, and to spell them correctly.

Nonetheless, Fayza was annoyed by the stops which interrupted her concentration while expecting to hear the answers. The nature of the introspective task she was used to seemed to make her wrongly associate the stops with answer spots. This is why she felt uncertain as to whether the answer was mentioned before the pause or not.

I could think of the answers in the pauses. But, they confused me at the very beginning. I thought that he said the answer and then stopped. It distracted me. I did not like it frankly speaking. The pauses came in unsuitable places. I thought pauses were following answers. So, if there was a pause, I expected to find an answer to a question. If not, I felt that I missed an important information. Then, I discovered that the answer is yet to come.

Before her exposure to the DA, she seemed very enthusiastic to hear a non fragmented, natural flow of speech. She had great expectations.

I think, this DA should be better than the pauses. I told you before, we need natural people talking naturally and slowly. I think I will like it more. I hope I can get the full mark at least for one time this year.

Her score in the DA was less even than those she received in the NS conditions. The speed was so slow for her that she became bored and reluctant to keep focused during the replay to complete the three questions that were missed during the first play. She invested the slowness of the speed in spotting answers easily. But, her feelings of boredom made her lose focus. It was apparent that she viewed the technique as being more appropriate to beginners, not to her stage.

During the final interview, unlike the majority of the interviewees who were happier with the usual speeds, Fayza did not wish to go back to the NS as she could not catch answers easily because of the fast speed. She was convinced that the 3-SP matched her needs of reading the questions thoroughly and getting prepared to spot answers. Her being more relaxed with the slower speeds may indicate that her exposure to the faster ones over the past four months did not help her develop sound LC skills. Also, her segmentation problems were not effectively treated.

10. Hayam is an exceptional example in terms of her adaptability to both of the slow techniques in this study. She is the only interviewee in the three groups who seems to have benefited significantly from the slow speeds; examining her LC scores in the normal tasks, the researcher assumed that she was slightly improving. But her performance was exceptionally high in the DA (28/30) and the 3-SP (24/30). This pattern of improvement may suggest that the slow speeds met urgent needs in her hidden LC process. Reviewing her initial reported LC problems, the researcher could explain why she was that efficient in investing the slow SRs.

The first problem that occurred to her during the first interview was her inability to listen, think and write answers simultaneously. More specifically, she seemed to be hooked in what Goh (2000) called “a vicious circle” of perceiving non stopping input, and partially parsing the intended meaning. These complicated, interrelated processes overwhelmed her working memory and caused her to forget important parts of the input while writing answers. These problems were partially solved, as she asserted, in the replays. As for the unrecognized words, she said that she heard them each time

differently and remained unsure of them. This is why she wished to have a slower flow of speech to overcome these segmentation problems.

The 3-SP seemed to have helped her to manage the simultaneous task more effectively. The following excerpt shows this in detail:

This time, I could write the answer and then listen to the new section after the pause. I could think of what he just said. Before, it was hard to catch the answer even in the replay. I think it was a good idea that you inserted pauses in the replay as well. I did not find it boring. In the replay, I was desperate to recognize some difficult words, and to pick the missed answers. But these were few this time as I could answer most of the questions in the first play. The task was good!

Nevertheless, pauses were confusing in certain occasions as they did not coincide with answer locations all the time. She perceived some of the inserted pauses as “disruptive” when they occurred right before the answers.

I wanted him to continue so that I can understand the whole idea. But he stopped suddenly, and I lost my focus. I felt I missed the answer.

The advantages of the 3-SP were clearer to her when she went back to the normal speed. She reported that the number of questions answered in the replay were numerous. Because of this overload, she felt tense, and expressed her need to have the pauses back. The following excerpt clarifies how she invested the pause time.

If I had the pauses, I could have completed most of the questions in the first play.

I needed the pauses to get prepared by reading the questions before listening to

the answers. Also, pauses could have decreased my feelings of tension in both plays.

Later, her scores went even higher in the DA condition as the technique seemed very effective in facilitating word recognition, and in reducing her review load in the replay. However, she still preferred the pauses to the DA as, according to her, DA fits the basic needs of beginners, being very slow and clear. Pauses, on the other hand, were less boring and more appropriate to her task management needs. Hayam, was quite clear about her weak points, and so seemed “ready” to invest the opportunity of the extra time to the maximum.

11. Mostafa is an intermediate interviewee whose initial LC score fell close to the borderline between intermediate and low levels (20/30). Despite this, his set of scores over the 5 weeks showed that he was more successful in completing the LC task in the NS conditions than in the slow ones. During the individual interviews, he clarified that his pressing LC problem with the British pronunciation was not resolved in the slow conditions; the 3-SP kept the normal speed that weakened his efforts to recognize the words in the rapid speech. The DA, though alleviated his segmentation problems to some extent, still was viewed by him as inappropriate as it caused him feelings of boredom and reluctance.

During the first interview, Mostafa spoke elaborately about his major LC hindrance, which was the native pronunciation. He did not classify this problem as fast SR-related. Rather, he attributed it to the phonological characteristics of the British accent. Later, the researcher understood that the task speed, in his point of view,

represented his ability to manage the task questions while listening, which he described as “manageable.” It seemed that he eventually developed successful test-taking skills but his segmentation challenges remained as severe.

Describing the inappropriateness of the pronunciation of the native talk to him being an Egyptian EFL, he made a number of significant comments that reflected the typical difficulties encountered by an Egyptian adolescent struggling to make sense of the connected native talk. The following excerpt sheds some light on this problem.

The speaker talks in the same way he would use when addressing another native speaker, not observing that it is directed to an Egyptian who is studying English as a second language. They speak very fast. This fluent English is hard for me to recognize or to spell. Natives seem to “eat” part of the words in their rapid talk. It happens frequently that I hear words merging into each resulting in meaningless “tunes.” I try to repeat these tunes in my mind and write them as they are. For example, I hear double 1 as W1, I get always confused between “eighteen” and “eighty.” I can’t imagine how I am supposed to understand this pronunciation while I am a second language learner. How would it sound like if I were a first language learner?

When asked about his suggestions to best enhance the comprehensibility of the native input, he again, focused on pronunciation. He clarified that his ideal speed is that of writing not of talking.

I think all my problems will be solved if the speaker becomes an Egyptian speaker like me. Natives speak in the tapes as they do with other natives, English, English, English! but the Egyptian pronunciation will be easier for me to follow. This person would be like me,... studied English from scratch as a second language learner. He will understand my problems. He will not eat parts of the words. Native speakers are not aware of this. He will speak as if he is dictating me.

Moreover, based on his needs, he mentioned other options to add more temporal chances to complete the task successfully. Being a word-to-word processor, he saw that the one-minute pause is “ineffective” in preparing him for the task. Instead, he wanted the pause to exist before each question to be able to spot the answers. Also, he wished to have a 5-minute pause before the second and the third texts which are usually longer and harder. He said that he would invest it in “studying” the questions to be able to recall them while listening to avoid losing track. In addition, the replay for him was not enough to modify answers or to confirm hypotheses concerning word recognition. So, a third play was much preferred. In short, Mostafa seemed to have poor planning skills before listening; his reliable strategy for spotting answers was to use the key words provided in the questions for guidance during the real-time listening.

Such a question-guided test taker was predicted to prefer the DA more than the 3-SP as the pauses were not inserted according to questions, but according to complete meaningful units. This prediction came true as Mostafa scored 23 in the DA vs 16 in the 3-SP although he insisted that neither of the techniques was preferred by him. For him,

the prolonged inserted pauses “made no difference” in solving his major problem with the native pronunciation; for example, he could not decide whether he heard “camps” or “campus” in the 3-SP task. Despite of this disadvantage, the 3-SP addressed his need to get prepared for the questions by underlining the key words that would guide his attention while listening.

The DA was perceived by him as being much more appropriate in terms of word clarity. But, it caused Mostafa to misbehave during the task as he kept looking through the glass window and chatting with his mates. Also, he was about to be deprived from completing the task as he stood up during the task and asked the teacher to skip the replay out of boredom. During the final interview, he made it clear that the fast “usual” speed was more effective in aiding his LC and in task completion even if words were not easily segmented.

Group C: Low interviewees profiles

12.Yasmine is an EFL who has a developing linguistic ability. Her first impressions about the recorded native talk was that it was “too difficult” and “inappropriate” to her being an Egyptian learner struggling with English. According to her, the most problematic aspect of the LC task was the fast speed which caused her to hear blurred word boundaries. Also, she reported concentration problems because of her inability to process so much input in a very limited processing time. Her suggested self-rating of understanding at that time was 50 to 55%.

Throughout the previous semester, due to her continuous exposure to the task on a weekly basis, she started to feel slight improvement namely in segmenting the flow, “Now I can recognize more words than before, and my understanding may reach 70%.” In addition, she acquired some test-taking strategies that helped her to account for the temporal pressures of the task. For example, she learnt to invest the replay in making up for lost questions and re-hearing unrecognized words. Nevertheless, she reported that her overall task performance was still “not very good” mainly because of the fast speed.

What amazed the researcher/interviewer about this interviewee was that she was very clear about her ideal SR that would facilitate her task completion. When asked which of the two techniques would most alleviate her problems, she chose the DA mainly for word clarity. Although she could foresee the potential benefits of the 3-SP such as allowing more time to read and understand question requirements, she insisted that a clearer articulation and a slower SR would certainly improve her score, and help her achieve a higher percentage of comprehensibility. She said,

Clarity will improve my understanding and spelling; slower speeds will give me more time to read the questions, pick answers and write them. I do not think pauses will make words sound clearer. Pauses are strange.

Her score during the DA treatment was up to her expectations. Her performance improved tremendously, compared to the usual speed and the pauses. She praised the DA for rendering sentence constituents recognizable. Her performance in the 3-SP treatment was not as significant as it was in the DA. For example, the number of questions missed and done in the replay was 1 in the DA as opposed to 3 in the pauses. Also, she

mentioned that “My feeling of certainty of the right answer was higher in the DA than in the 3-SP.” Furthermore, she had SLA gains as she could guess the meaning of two new words from context, and “noticed” the speaker’s pronunciation when saying “ amazing.”

In short, It seemed that the DA effectively addressed her “needs” of a clear and slow input. She experienced “quick victories” in the slow conditions and wished to have them in the class practice. Finally, she was a good example of an EFL listener who could define her needs, and evaluate the efficacy of two different slow techniques in addressing her unique LC problems.

13.Mansour was another national graduate who, according to the researcher, was considered a typical example of an EFL listener who was “under the mercy of the speaker” (Grant, 1996, p.). His comments during the interviews reflected a listener who was enslaved to the uncontrollable flow of speech due to slow automatization of word processing and a limited linguistic ability. The nature of his interaction with the different techniques was not easy to decide by the researcher as he was absent for three times and missed the 3-SP treatment.

When first exposed to the LC task, he used to experience severe segmentation problems due to a fast SR. Also, he had processing challenges that hindered his ability to deduce the intended meaning of some lexical items. He explained that “sentences came right after each other in a way that I could not understand their meaning.” For him, achieving comprehensibility of the input was crucial to answer the questions as answers were not always directly stated.

His continuous exposure to the LC task over four months seemed to result in “slow improvement” in his scores. He stated that “ It took me a long time to improve. My scores started to improve starting from the 7th week. I got 17 /30 after 3/30, but I could not be an A student.” Fast speeds, though seemed to have helped him acquire some successful task management skills, did not decrease, for example, his need of the replay. He still relied heavily on the replay to answer too many missed questions, and to confirm hypotheses about unrecognized words or meanings. This is why he described the replay time as “crucial” and added that, “ if it were cancelled, he might have scored C or D.”

It was not a surprise that his performance became slightly higher in the DA than in the faster ones. The technique effectively addressed his specific needs of word clarity, and decreased the amount of the delivered input that he had to process while managing the task. As a result, his reported global understanding reached 80%. Also, the replay time was not that “crucial” any more, “... here (DA), I didn’t need the replay. Or I needed it the minimum, not like every time. I had 3 questions left to answer as opposed to 6 in the fast one.” In addition to these benefits, Mansour stated that the DA sounded natural and appropriate to his developing abilities. He gave an example from real life listening situations by saying that “ In terms of comprehension, listening to a fast speaker is not like listening to a slow deliberate speaker.”

However, he was the only low-level interviewee who reported feelings of boredom and even “headaches” due to a prolonged text duration. Starting from the second text, he felt a gradual deterioration in his concentration, and left two questions unanswered “not because I don’t know them, but because my brain was blocked. I am no

longer ready to think of any question.” This state of “brain blockage” may imply that the way the DA treatment was applied to a 45-minute introspective task was of a negative impact on the concentration habits of this adolescent listener.

14. Marina’s uniqueness as an EFL listener derives from two facts. First, she was the only low group member that “preferred” the 3-SP; the DA, for her, more suited EFL listeners with “zero listening background.” Second, she was the only low interviewee who reported noticeable improvement in her LC task performance after her exposure to the slow treatments.

When first interviewed, she spoke about her initial feeling of depression due to “very bad” scores in the listening task. She could not recognize the answers of the questions in the rapid flow because parts of the words were “eaten” in the rapid pronunciation. Again, fast SRs interfered with her ability to write long answers causing her to lose many points. When given more time during the task in the slow conditions, she invested it efficiently, and got high scores due to improved word recognition and feelings of relaxation.

Despite her successes in the slow conditions, she was annoyed by the long task duration in the DA, and felt reluctant at some times to keep focused. Conversely, the 3-SP was considered by her as “the most suitable” as it did not sound “too slow” as the DA or “too fast” as the NS, an advantage that helped her to maintain her focus during the task from the beginning till the end without feeling bored nor rushed. The silent intervals were specifically beneficial for her as she recalled the speaker’s pronunciation that still

“echoed” in her memory, and so made successful guesses about the spelling of some words.

Finally, in the last interview, Marina felt that her performance got better after listening to the slow articulation and the empty pauses, “ My problems in the fast speeds were less than usual. I don’t know why. I feel better. I did not feel lost as usual. It was good training.” Despite the fact that her exposure to the slow treatments happened twice, her perceptions are worthy of consideration as they may indicate that certain bottom-up skills were ready to be put in action once supported by the slow treatments

APPENDIX G

The SPSS Reports

Table 2

One way ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
	Between Groups	46.452	2	23.226	1.009	.371
w11	Within Groups	1380.703	60	23.012		
	Total	1427.155	62			
	Between Groups	266.851	2	133.425	4.618	.014
w2	Within Groups	1646.795	57	28.891		
	Total	1913.646	59			
	Between Groups	100.886	2	50.443	5.841	.005
w33	Within Groups	431.836	50	8.637		
	Total	532.721	52			
	Between Groups	409.485	2	204.743	10.470	.000
w4	Within Groups	1153.789	59	19.556		
	Total	1563.274	61			
	Between Groups	671.647	2	335.823	4.987	.011
w55	Within Groups	3366.698	50	67.334		
	Total	4038.345	52			

Table 3

Post Hoc Tests Multiple Comparisons

Dependent Variable	(I) type	(J) type	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
w11	1.00 CONTROL	2.00 10a	1.19213	1.49574	.429	-1.7998-	4.1841
		3.00 10e	2.18915	1.54085	.161	-.8930-	5.2713
	2.00 10a	1.00 CONTROL	-1.19213-	1.49574	.429	-4.1841-	1.7998
		3.00 10e	.99702	1.43339	.489	-1.8702-	3.8642
	3.00 10e	1.00 CONTROL	-2.18915-	1.54085	.161	-5.2713-	.8930
		2.00 10a	-.99702-	1.43339	.489	-3.8642-	1.8702
w2	1.00 CONTROL	2.00 10a	1.79861	1.67597	.288	-1.5575-	5.1547
		3.00 10e	5.07639*	1.67597	<u>.004</u>	1.7203	8.4325
	2.00 10a	1.00 CONTROL	-1.79861-	1.67597	.288	-5.1547-	1.5575
		3.00 10e	3.27778	1.79168	.073	-.3100-	6.8656
	3.00 10e	1.00 CONTROL	-5.07639-*	1.67597	.004	-8.4325-	-1.7203-
		2.00 10a	-3.27778-	1.79168	.073	-6.8656-	.3100
w33	1.00 CONTROL	2.00 10a	2.23009*	.97961	.027	.2625	4.1977
		3.00 10e	3.31972*	.99391	.002	1.3234	5.3160
	2.00 10a	1.00 CONTROL	-2.23009-*	.97961	.027	-4.1977-	-.2625-
		3.00 10e	1.08962	.99391	.278	-.9067-	3.0860
	3.00 10e	1.00 CONTROL	-3.31972-*	.99391	.002	-5.3160-	-1.3234-

		2.00 10a	-1.08962-	.99391	.278	-3.0860-	.9067
		2.00 10a	1.61785	1.37095	.243	-1.1254-	4.3611
	1.00 CONTROL	3.00 10e	6.19763*	1.41670	.000	3.3628	9.0324
		1.00 CONTROL	-1.61785-	1.37095	.243	-4.3611-	1.1254
w4	2.00 10a	3.00 10e	4.57978*	1.35205	.001	1.8743	7.2852
		1.00 CONTROL	-6.19763*	1.41670	.000	-9.0324-	-3.3628-
	3.00 10e	2.00 10a	-4.57978*	1.35205	.001	-7.2852-	-1.8743-
		2.00 10a	8.21784*	2.67132	.003	2.8523	13.5833
	1.00 CONTROL	3.00 10e	6.67411*	3.00299	.031	.6424	12.7058
		1.00 CONTROL	-8.21784*	2.67132	.003	-13.5833-	-2.8523-
w55	2.00 10a	3.00 10e	-1.54374-	2.78157	.581	-7.1307-	4.0432
		1.00 CONTROL	-6.67411*	3.00299	.031	-12.7058-	-6.424-
	3.00 10e	2.00 10a	1.54374	2.78157	.581	-4.0432-	7.1307

*. The mean difference is significant at the 0.05 level.

Table 4

T-Test type = 1.00 CONTROL

Paired Samples Statistics^a

	Mean	N	Std. Deviation	Std. Error Mean	
Pair 1	w11	25.8796	18	6.93382	1.63432
	w2	21.7778	18	5.79610	1.36615
Pair 2	w2	22.7778	18	5.18545	1.22222
	w33	26.8981	18	2.21045	.52101
Pair 3	w33	26.9643	14	2.41539	.64554
	w4	24.0000	14	4.33235	1.15787
Pair 4	w4	24.0000	12	4.69042	1.35401
	w55	26.1111	12	3.14493	.90786

a. type = 1.00 CONTROL

Paired Samples Correlations

	N	Correlation	Sig.	
Pair 1	w11 & w2	18	.371	.130
Pair 2	w2 & w33	18	.809	.000
Pair 3	w33 & w4	14	.870	.000
Pair 4	w4 & w55	12	.858	.000

a. type = 1.00 CONTROL

Paired Samples Test^a

		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	w11 - w2	4.10185	7.20048	1.69717	.52114	7.68256	2.417	17	.027
Pair 2	w2 - w33	-4.12037	3.63795	.85747	-5.92948	-2.31126	-4.805	17	.000
Pair 3	w33 - w4	2.96429	2.52947	.67603	1.50382	4.42476	4.385	13	.001
Pair 4	w4 - w55	-2.11111	2.56662	.74092	-3.74186	-.48036	-2.849	11	.016

a. type = 1.00 CONTROL

Table 5

T-Test type = 2.00 10a

Paired Samples Statistics^a

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	w11	24.6528	18	3.36459	.79304
	w2	20.7222	18	5.09678	1.20132
Pair 2	w2	19.6667	15	4.89412	1.26366
	w33	24.1294	15	2.79898	.72269
Pair 3	w33	24.6681	18	2.85976	.67405
	w4	22.2222	18	3.25044	.76614
Pair 4	w4	22.4348	23	3.62850	.75659
	w55	17.7717	23	11.10286	2.31511

a. type = 2.00 10a

Paired Samples Correlations^a

	N	Correlation	Sig.
Pair 1 w11 & w2	18	.574	.013
Pair 2 w2 & w33	15	.465	.080
Pair 3 w33 & w4	18	-.005-	.983
Pair 4 w4 & w55	23	.224	.303

a. type = 2.00 10a

Paired Samples Test^a

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 w11 - w2	3.93056	4.19522	.98882	1.84432	6.01679	3.975	17	.001
Pair 2 w2 - w33	-4.46278-	4.36287	1.12649	-6.87886-	-2.04670-	-3.962-	14	.001
Pair 3 w33 - w4	2.44583	4.34077	1.02313	.28722	4.60445	2.391	17	.029
Pair 4 w4 - w55	4.66304	10.87903	2.26843	-.04140-	9.36749	2.056	22	.052

a. type = 2.00 10a

Table 6*T-Test type = 3.00 10e**Paired Samples Statistics^a*

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 w11	24.0278	18	3.37293	.79501
w2	17.4444	18	5.85333	1.37964
Pair 2 w2	17.5625	16	5.75000	1.43750
w33	23.5156	16	3.72979	.93245
Pair 3 w33	23.5784	17	3.62062	.87813
w4	17.8882	17	6.12575	1.48571
Pair 4 w4	18.8643	14	3.78410	1.01134
w55	19.3155	14	6.46450	1.72771

a. type = 3.00 10e

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 w11 & w2	18	.403	.097
Pair 2 w2 & w33	16	.582	.018
Pair 3 w33 & w4	17	.471	.056
Pair 4 w4 & w55	14	.098	.738

a. type = 3.00 10e