THE EFFECT OF READING ALOUD ON L2 ORAL FLUENCY

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1. **INTRODUCTION**

Difficult to achieve but crucial in L2 communication, oral fluency has been the focus of many studies, (Nation, 1989, 1991, Kormos and Denes, 2004, Gorsuch, 2011), but the question remains unanswered: What is the catalyst of L2 oral fluency? The focus of this study, as the topic suggests, is on investigating if reading aloud, as a reading strategy, can promote L2 oral performance. My interest in this topic sprung from the fact that I have always been a strong advocate for the various benefits of reading aloud on the basis of my own experience learning English as a second language. Guided by strong motivation to learn this beautiful language and be fluent in it, I started reading aloud for my own ears and I always thought that was one of the things that helped me have a ‘better ear’ for the language and have an overall better performance, or fluency in English, my L2. Of course, it was not until my graduate school that I realized that in order to claim or promote the benefits of this strategy to my L2 students, who are in need of words of wisdom or good recipes on how to master a language, my testimony alone would unfortunately not suffice. Therefore, I decided to start researching this topic of interest, in hope to find the support for my claims. I discovered an abundance of literature that described the benefits of reading aloud for the development of reading comprehension, and reading fluency, but I also identified an apparent gap in the literature on the effect of the reading strategy on the oral performance in L2. In other words, the
effect of *reading aloud* has so far not been investigated in terms of its influence on oral performance, even though they both activate the same mechanism of uttering words.

When reading aloud, one is pronouncing words, and activating language processing mechanisms on many different domains, *i.e.* syntactic, phonological, and lexical. (O’Brien et al., 2006). It would appear that if all these processing mechanisms are being activated and practiced when reading aloud, their development would eventually be reflected in L2 oral performance as well. This is at least what I thought I was experiencing as an L2 learner who was using this strategy in a non-immersive environment where English was only spoken in schools and there were not enough chances for speaking practice. In an immersive environment, where L2 speakers are exposed to the language and they somehow ’soak in’ the language through communicating with native speakers, their L2 oral fluency commonly develops faster, but if L2 learners do not have enough exposure to L2 or enough speaking practice, the teaching approach should involve introducing and practicing various strategies that could promote the development of L2 oral fluency. As a successful learner of English and currently an instructor of English as a Second Language, I have constantly strived to find different ways to facilitate the learning process and offer tools which can help L2 students to become independent learners and have the opportunity to do as much as they can to enhance their learning of a second language. I have thus decided to review the existing literature on the effects of reading aloud as a learning strategy and the documented works on what promotes L2 oral fluency and conduct the current study in order to investigate the possible relationship between this reading strategy and the development of second language oral fluency.
2. LITERATURE REVIEW

In the last three decades, through the lens of the Communicative approach, language has been viewed as a complex systematic communication tool, and much effort has been put into finding different ways to facilitate the development of learners’ oral abilities, i.e. their flow of speech and near native-like pronunciation. The complexity of learning a second language lies in language specific parameters (orthographic, lexical, semantic or phonological or/and pragmatic), which exhibit slight to drastic differences from one language to another and make Second Language Acquisition (SLA) a gradual process that entails a simultaneous acquisition of many different skills. SLA materializes through a concurrent development of different skills and abilities. According to O’Malley and Chamot, “Language ability and thinking ability can be developed simultaneously though integrated skills” (1991, p.36), thus learning a second language does not mean trying to master its different skills separately, but rather jointly or simultaneously. This metacognitive concept of ‘thinking while thinking’, in SLA represents the process of facilitating the transformation from a passive learner who is ‘spoon fed’ and is not in charge of their own learning to an independent learner who monitors their own progress and is in charge of their own acquisition. Metacognitive strategies which “involve thinking about the learning process, planning for learning, monitoring of comprehension or production while its taking place” (O’Malley, Chamot, 1991, p.145), have been proven
to promote comprehension and acquisition, which entail the development of language fluencies.

2.1 Metacognitive strategies (Reading Aloud)

According to Anderson (2002), metacognitive strategies are an important tool in language learning and their effect is apparent in all language skills. O’Malley and Chamot (1991) stated that learning strategies could be classified into three categories: Metacognitive, Cognitive and Social or Affective strategies (p.144). All three are claimed to be conscious acts in the early stages of learning, but are later performed without awareness, i.e. automatically. Different metacognitive strategies, i.e. techniques of monitoring and understanding one’s own learning process through self-direction, have been found to facilitate reading comprehension, and reading aloud is one of them (Mitchell and Myles, 2004, pp.96-126). Since reading aloud involves the mechanism of pronouncing words and receiving the pronunciation, i.e. hearing them pronounced, a learner unavoidably has to practice oral L2 fluency in production, i.e. the ability to speak with a ready flow of speech while decoding material or engaging in conversation.

Reading aloud (RA), as a strategy, makes one more aware of what is being read, pronounced and heard because it simultaneously employs and activates language skills of reading, speaking, and listening. Likewise, it also helps one to re-encounter proper grammar, sentence structure and other features of L2, since it allows the learner to notice patterns and possible combinations of letters and words on a sentence level (Kormos, 1999).
After reading what Kormos and other authors stated about the benefits of reading aloud, it was much to my surprise that the influence of reading aloud on the development of oral fluency had not been clearly established, even though it was clearly doing more than just helping the learners comprehend the text better. Since reading aloud employs uttering words, I felt that it would be reasonable to make an assumption that there will be a certain impact on the learner’s overall speech performance. Understanding and controlling cognitive processes is a necessary skill that helps learners monitor and repair the errors that occur in one’s interlanguage, i.e. a linguistic system developed by a learner of L2 who has not reached full proficiency in the target language. This is how metacognitive strategies operate and facilitate SLA (Mitchell and Myles, 2004).

Continuous practice, or repetitive usage of certain techniques, provides the learner with an organized, simplified way of processing information from the stage of cognizance to the ultimate goal of automaticity in SLA. “Learning a language entails a stage wise progression from initial awareness and active manipulation of information and learning processes to full automaticity in language use” (O’Malley and Chamot, 1991, p.217). Therefore, the effects of a self-monitoring metacognitive strategy bring about the awareness of the processes of SLA. In terms of the effect of using reading aloud strategy on the oral fluency of English, the “active manipulation of information”, i.e. pronouncing words and segments while reading aloud, could result in approximating oral fluency through reaching automatization in pronouncing reading constructions in the target language. Automatization was defined as “a development starting with conscious, controlled processing of declarative knowledge (i.e., knowledge of facts and rules, such as knowledge of letter features, letter–sound correspondences, and the combination of
groups of letters and sounds into larger units, in the case of word recognition), and
ending, after much practice, with rapid, attention-free processing consisting largely of
routines characterized by “chunks” of elementary operations and computation” by
(Anderson & Lebiere, 1998, p. 5; Fukkink & Hulstijn, 2005, p.57), and in this paper
will be regarded as such.

As previously mentioned, the studies that have focused on investigating the
effects of reading aloud (RA) strategy have up to date brought interesting results on its
various effects on second language development. According to Glushko (1979, p.7), by
practicing RA, the knowledge of orthographic features of L2 is enriched and ultimately
automatized in reading, which further results in reading fluency, i.e. “the ability to read
connected text rapidly, smoothly, effortlessly, and automatically with little conscious
attention to the mechanics of reading, such as decoding” (Meyer and Felton, 1999,
p.294). In some recent studies, such as the one Ren and Shu (2011) focused on, reading
aloud has even been seen to facilitate the construction of interlanguage in L2. Their
study, which was built on language input and output theory, emphasized the positive
effect of reading aloud by even calling it “a major resource of language input” (p.423).
They further stated how RA helps interlanguage approximate target language and
therefore has a significant effect on SLA. Another research endeavor included Takeuchi
et al., (2012) who looked at RA from a different angle and found that in L2, using this
reading strategy results in “a higher degree of cerebral activation than reading aloud in
L1” (p.151). This study provided statistical evidence on how the employment of various
skills, (reading, speaking and listening) that happens during reading aloud, engages one’s
brain on various levels and thus affects all those levels simultaneously. The authors
proved that the activity of reading aloud does indeed activate the mechanisms of other language skills, but did not further explore the existence, nature, and magnitude of the effect of using this strategy on speaking or listening performance in L2. Interestingly enough, the only documented paper that argued about the possibility of reading aloud affecting L2 oral fluency was written by Gibson in 2008. She proposed that RA could be used for autonomous learning and further touched upon the possibility of the positive effect of this strategy on the learner’s L2 speaking ability (p. 32). However, the study did not offer significant findings to support this claim, but did call for further research on the possible influence of RA on the development of L2 oral fluency. Therefore, this current study set out to investigate the possibility of using the reading aloud technique as a self-monitoring strategy that activates the awareness of L2 features and leads to automaticity in the usage of the same, by allowing the learner to identify and focus on improving the most salient features, such as a lack of oral fluency and difficulties in L2 production.

Finally, a number of research studies have up to date explored the impact of reading aloud on the children’s development of reading skills, where the focus was either on children listening to others reading aloud to them before they could read themselves, or practicing reading aloud on their own in the early stages of reading. In one such study, it was suggested that, “Children must be able to monitor their own oral reading in order to learn to read aloud with appropriate expression” (Clark, 1995, p.257). The same has not been stated for adult learners who are linguistically on a similar level with their L2 as children who are developing their reading skills and oral fluency in their L1. The possibility that using a metacognitive strategy and monitoring one’s own language
production and development of articulacy would be beneficial for adult learners as well appears to remain unjustifiably and insufficiently researched.

As previously mentioned, the most widely accepted tool of reaching and comprehending reading fluency is through the eyes of the *automaticity* theory. Samuels (2006, p.10) argued that the crux of reading fluency is the ability to decipher and comprehend a text simultaneously. In dealing with the components of reading fluency, Blevins (2005) noted that a fluent reader is one who can “read rapidly, recognize words automatically, and interpret phrases correctly” (p.13). Reutzel further claimed that speed of reading, accuracy, and proper expressions present the major elements of fluency (2006, p.66). In terms of the typical reading speed of L2 learners, Grabe (2009, pp. 298-290) claimed that even advanced-level L2 readers read texts at 80 to 120 wpm, which is significantly less than fluent English L1 readers who read texts at 25-300 wpm. Although some researchers viewed that the components of oral reading fluency would also include appropriate or correct phrasing and expression, majority of them seem to agree that the accuracy of word recognition or articulation, as well as the speed of reading are valid components of reading fluency, and will be treated in this paper as such.

### 2.2 Oral fluency

In terms of L2 oral fluency, existing literature offers a rich amount of theories on what promotes this skill. However, as Segalowitz (2010) conveyed through 220 pages of his synthesis of the research and practices on defining and assessing oral fluency, it also poses even more questions and does not offer an agreed-upon definition of fluency. Therefore, this field continues to remain a complex domain of language acquisition that
requires further research. One such researcher who took upon the investigation on what can improve oral fluency was Gorsuch Greta. In her recent publication (2011), she focused on how the input-approach can promote speaking fluency. Namely, in her study, the participants used the silent repeated technique while listening to the audio version of the same text. Even though the findings did not strongly suggest that this reading strategy could result in the improvement of the participants’ speaking performance, the hypothesis that a reading strategy could help oral performance was postulated and it opened yet another domain of SLA research. Following a similar path that O’Malley and Chamot proposed in the early 1990s, Ingel (2011) published a dissertation on the importance of using self-monitoring strategies in order to approximate native-like L2 speech. Hence, this study aimed at continuing to carry the torch of investigating the possible use of a self-monitoring metacognitive reading strategy, in this case reading aloud, to promote or improve L2 oral fluency.

Defining oral fluency has been found to be problematic over the course of years of its investigation. Lennon (2000, p.26), for example, perfected his definition that claims that "a working definition of fluency might be the rapid, smooth, accurate, lucid, and efficient translation of thought or communicative intention into language under the temporal constraints of on-line processing”. This definition could be considered to be an addition to Schmidt’s formulation from 1992 in which he stated that fluency in oral or speech production is “automatic procedural skill” (p.357), in that way relating the role of automaticity to the oral fluency as well. Finally, Riggenbach, (2000, p.283) defined it as a “flow, continuity, automaticity, or smoothness of speech”. Not only has the definition of oral fluency been presenting a controversial issue, but its measurement has as well.
Segalowitzs (2010) focuses on this problem when he reviews the work that has been done on the investigation of this problematic phenomena of defining L2 oral fluency, and offers various definitions of oral fluency as well as three different types of fluency: *cognitive, utterance* and *perceived*. The description Segalowitz gives for what he calls *utterance fluency* describe this type of fluency as “fluency characteristics that a speech sample can possess” (p.48). He further attributes the domain of this type of fluency to be the “set of objectively determined timing, and pausing/hesitation” (p.48). According to Segalowitz’s findings, even though there has not been one agreed upon definition of oral fluency and we still cannot claim to have the most valid assessment tool for it, researchers have so far concluded that some of the best predictors of oral fluency are speech rate, i.e., the number of syllables or words articulated per minute and the mean length of runs, that is, the average number of syllables produced per minute between pauses (Kormos and Denes, 2004; De Jong and Perfetti, 2011). Therefore, this study used the same measurements to assess oral fluency of the participants and its change over the period of seven weeks.

In terms of the research that has been done on the strategies that help the development of L2 oral fluency, there have been a vast number of various findings. It has been found that speech repetition greatly influences L2 oral fluency development (Nation, 1991, and De Jong and Perfetti, 2011). Furthermore, Gorsuch found that a reading strategy called repeated reading (RR) functioned as ‘increased input’ and in that way helped the development of speaking fluency (2011). The effect of RA however, has not yet up been investigated in relation to the development of L2 oral fluency. As mentioned above, it has been proven to promote reading fluency, and it would therefore
be reasonable to assume that, since the activity of reading aloud involves a continuous and repetitive practice of uttering and pronouncing words, it might have an impact on oral fluency as well.

Much research on reading aloud strategy has employed investigation on how it can positively affect reading fluency and reading comprehension. While such research is informative and provides a deep understanding of the impact of RA on these skills, it may not reveal the full range of potential positive effects of using this strategy on L2 oral fluency. Since reading aloud engages oral skills as well, through practicing this strategy, a learner is vocalizing what is written and by doing so, is practicing its spoken form. When one considers this causal and integrated relationship between reading and oral fluency, it becomes evident that the strategy of reading aloud carries a potential to improve not only reading comprehension and reading fluency, i.e. pronunciation and volubility, but oral fluency as well.

If practicing is considered to be repeated activation, as Mitchel and Myles propose, then with repeated activation of vocalizing or pronouncing the written words and segments, “sequences once produced by controlled processing become automatic” (Mitchel & Myles, 2004, p. 101). These automatized sequences are stowed in the long-term memory, where they can easily and rapidly be retrieved whenever the situation requires it, whether in speech or reading, with little or no effort on the part of the subject. In other words, when a learner is practicing reading aloud strategy, they are practicing pronouncing the inventory of possible L2 clusters, sounds, grammar structures and features alike. This leads to the prediction or hypothesis that by using reading aloud strategy, one also practices oral fluency, which inevitably occurs, just by pronouncing
what is written and therefore activating the phonology of the written word or sequences of them. What follows is an assumption that if this continuous practice leads to effortless, automatized production, then one’s L2 oral fluency in speaking performance would improve as well. This would be evident from the lack of difficulty when decoding the clusters of L2 sounds in the stream of words of the sentences in a text. Gibson (2008) even suggested a similar benefit of reading aloud, by calling it a “technique for autonomous learning which may help some anxious students to feel more able to speak.” (p. 32).

2.3 Hypothesis and research questions

Guided by the presented theoretical background and hypothesis that reading aloud can help learners identify and focus on improving the most salient features, and therefore through the process of automatization ultimately increase L2 oral fluency, the research questions guiding this study are as follows:

1. Does practicing reading aloud eventually lead to automatization in reading fluency?

2. If the reading fluency is influenced and improved by reading aloud, does the oral fluency increase as well?

The instruments that will measure the truth value of the hypothesis and aim at finding the answers to the above mentioned research questions include the assessment of both reading and L2 oral fluency through the means of pre-test and post-test as well as the qualitative observation of the treatment stage and the actual application of the reading
aloud strategy. The operational definitions of both types of fluency are further explained in the Method section.
3. METHOD

3.1 Introduction

In this section of the paper, I will present and explicate the research methodology which was used to test the hypothesis that the continuous practice of reading aloud can have an effect on L2 oral fluency. Furthermore, this section will also explain the methodology and reasoning behind the chosen data elicitation measures that were used to answer the research questions of this study. The section opens with a methodological background that served as a basis for the framework of the study. A detailed description of the design of the study and its participants is presented in this part of the paper as well. Finally, a thorough explanation of the methodological procedure for evaluating both oral and ORF fluency and the rationale for their use in this study are also provided on the following pages.

3.2 Methodological background

In terms of the methodological background that served as a model for the design of this study, various have been replicated and built upon. The length of the study, which is seven weeks, was modeled after a study conducted by Akamatsu in 2008. This study investigated the effect of training or practice on automatization of word recognition. Even though word recognition is not the focus of this study per se, RA is viewed as
practice and the ultimate goal involves reaching *automatization*. The statistically significant results from this study led me to believe that it would be possible to obtain noteworthy discoveries in the same time frame. The study, published by Gorsuch in 2011, influenced my choice of the frequency of the applied strategy (twice a week) throughout the frame of seven weeks. Another article from the same author published in 2011, gave me a good idea on how the reading texts needed to be modeled, in terms of their length and difficulty. It was in this article that focused on investigating the effect of repeated reading on the development of reading fluency, that I first learnt about *Flesh-Kincaid Grade* readability level which ensures that the reading passages that will measure reading fluency during the pre-test and post-test with validity (Gorsuch and Taguchi, 2010).

Furthermore, this article also influenced my decision to choose texts that are not overly difficult for the participants. Similarly, in order to “maximize the fluency-building effects of the treatments” (Gorsuch and Taguchi, p.35), the readings selected for the treatment only included the regular reading assignments from the participants’ reading class. The logic of selecting those readings and not different ones lies in the fact that the participants would have already been supposed to read those texts, and the manner of reading the course-assigned readings presented a variable that differed between the two groups, experimental and control. The control group, of course, read the same course-assigned texts, but instead of reading them aloud and recording them, they read them silently.

### 3.3 Design of the study

The design of this study was pre-test-treatment-post-test with a comparison group, since I wanted to observe if there was a change between the pre-treatment and post-
treatment. Pre- and post-test data for each subject was compared to determine reading and oral fluency improvement. During the pre-test and post-test, the participants individually read a passage out loud where their ORF was recorded and measured through three different coding categories, i.e. speed (words per minute), articulation (the number of correctly pronounced words) as well as pauses (the number of pauses, or the periods of silence or hesitation made in places other than commas or periods.). Reading passages equal in readability level and word count were selected for both the pre-test and post-test to ensure the validity of the data collecting instruments. Oral fluency assessment during both the pre-test and post-test included having an interview with the investigator where fluency of the speech product was recorded and measured through two different coding categories, i.e. the articulation rate (words per minute/WPM), and the mean length of runs (MLR) between pauses, which was measured in uninterrupted syllables per seconds (SPS). During the seven weeks of the study, the participants of the experimental group were asked to complete their homework assignments by reading them aloud, recording them via digital recorders and forwarding them to the investigator for accountability and further analysis. The participants of the control group read the same assignments at home, but without using the reading aloud strategy. Data collected from the pre-test and post-test was further compared and analyzed for each student, and also between the two groups to determine the effect of using the reading aloud strategy on L2 oral fluency. Finally, some of the data collected from the reading aloud audio files was analyzed and coded for the instances of self-repair, i.e. repair rate (RR) and the progress of the reading speed, measured by words per minute, in order to actually observe the strategy of reading aloud in action.
3.4 Participants

The participants of this study consisted of two equal groups of 4 adult, intermediate, international level students who were attending a university-level Intensive English program in the United States. The original design of the study called for a larger group size, in order to possibly produce statistically significant results, and seven more students initially participated in the pre-test, only to drop out of the study during the third week of the treatment, possibly due to becoming busier with their homework assignments and studying. Therefore, these students were not considered in the analysis of the data due to the incomplete status of their participation in the study. Adult learners were selected as the focus of the study, since they are faced with a challenge of acquiring native-like fluency in reading and speaking, as a result of either the possible effect of Critical Period Hypothesis (CPH) or fossilization, that refers to the fact that “second language learners, unlike first language learners, sometimes seem unable to get rid of non-native like structures in their second language despite abundant linguistic input.” (Mitchell & Myles, 2004). According to Sankoff (2004, pp. 121-139), CPH proposes that there is a biological timetable that marks the end of preadolescence after which acquisition is difficult to achieve and fossilization is ascribed to the pre-mature automatization, before native-like fluency is reached. Researchers differ over when this critical period comes to an end, but it is commonly used when referring to the period which is complete by the onset of puberty (Skehan, 1998). Additionally, the intermediate level of L2 knowledge was chosen since it is on that level that learners are commonly already familiar with the orthography of the L2 and are beyond decoding letters and words, but need to focus on developing volubility in reading longer segments and
sentences. According to Harris and Sipay, (1990) there are two different types of readers who commonly lack reading fluency. They are either classified as ‘print-bound readers’, who are typically slower readers with tendency to make more unexpected pauses and struggle with following punctuation arbitrations, or the so-called ‘word-by-word’ readers who may exhibit faster decoding when reading isolated words from word lists, but tend to slow down significantly when reading connected words in sentences. These two groups of readers were chosen as the focus of this study, because the participants needed to be proficient enough to be able to read in English but lacked fluency, i.e. they were still not reading smoothly in English. This criterion was needed since the goal of the study was to analyze if the use of reading aloud was going to have an effect on both the development of reading fluency and L2 oral fluency. Furthermore, it is on this level of L2 speaking ability that the students deal with longer segments of utterances, and are expected to be able to engage in longer conversations in L2 or narrate about a topic for a longer period of time. For many adult learners of L2, this proves to be a challenge (O’ Brian, et al. 2006).

3.5 ORF Assessment

All students underwent pre-testing and post-testing sessions where their reading and oral fluency were measured. Data elicitation procedures involved each student reading a passage and having a semi-structured interview with the investigator. Reading passages were chosen not to be too difficult, i.e. beyond the learners’ level of reading, or too easy, i.e. below their level of reading, in order to ensure the validity of the data elicitation tool. Therefore, following the methodology of Gorsuch and Taguchi, (2010,
p.35) who successfully measured reading fluency by using *Flesh Kincaid Level* to ensure the appropriateness of the readability of pre-and posttest texts used in the testing sessions, this study used the same program when choosing the length and readability of texts. 

*Flesh Kincaid Readability Level* ( FKRL) measures the readability of texts, i.e. the ease with which a text is read by someone and for a study such as this one, it was crucial to ensure that the readability level was appropriate for the audience being tested. *FKRLs* roughly match the U.S. grade levels, and according to the National Adult Literacy Survey conducted in 2003 by the National Assessment of Adult Literacy (NAAL), an average educated native speaker adult reads at 7th grade level, thus the appropriate texts for a certain number of adult native speakers of American English would be *FKRL 7.* However, according to the experts, “documents about health, medicine, or safety should be written at the 5th grade level”, (Kuther, et al. 2006), suggesting that the more simplified language appropriate for grade 5 would be better suited for the majority of American speakers, including the less fluent readers. Learning about this data that concerns adult native fluent and less fluent readers, I decided to focus on finding the texts that have a readability level lower than what was suggested for them, because for the audience in question in this study, i.e. intermediate L2 learners still developing their literacy in their second language, a level lower than what was suggested for most documents to be read successfully by native speakers would be the best fit. Therefore, the reading passages used to evaluate ORF had 349 words for the pre-test and 345 for the post-test, with readability estimates of *Flesch Kincaid Grade Level* of 3.8 (pre-test) and 3.7 (post-test), so both *FKGLs* were roughly 4. The following photograph shows the link
for the website that was used to calculate word count and readability level and illustrates the procedure that was used in preparation of the reading texts for the assessment of ORF.

Figure 1. The image of the software used for selecting the reading passages.

After the text had been chosen and pasted into the box and was processed, the output offered many different results including the results for word count and readability level, expressed through FKGL. The following photograph illustrates the results for the text that was used in the pre-test of this study for the assessment of ORF.
These texts were used to measure oral reading fluency (ORF) of the participants, i.e. the “accuracy of word recognition and speed of reading”, (Mitchel and Myles, 2004). ORF was coded for the following four categories: Speed (words per minute), Articulation (number of correctly pronounced words), Pauses (periods of silence or hesitation in places other than commas or periods) and finally Word Error Rate (Errors per minute).

The feature which Mitchel and Myles recognized as the ‘accuracy of word recognition’, Goodman (2005) measured through the procedure he developed in order to understand the reading process. This procedure, called the Miscue Analysis, focused on analyzing the level and nature of the difference between what was written and what was actually read. For example, if the sentence in the text was “In other cultures people invented the wheel” and the participant read it as “In other culture people invented the wheel”, the miscue would be counted as an instance of ‘deletion’, since a segment, in this case plural marker’s, was deleted. Similarly, in the instances where the participant would substitute one word for another, as in the following example where the word ‘started’ from the
original sentence was read as ‘stated’, in “They all **stated** with that glider”, the miscue would be counted as ‘substitution’. The four miscue categories that were coded for in the assessment of Articulation category were: insertion (IN), when a segment was inserted, deletion (DE) when a segment was deleted, and substitution (SUB), when a segment was substituted by another. The Miscue analysis structure was used in order to correctly record errors in reading but the specific types of errors were not further analyzed due to the nature of this study that focused on the development of oral fluency. Even though this study did not focus on investigating the types of errors that occurred during the reading, a problem occurred in the coding of the different miscue categories when one word would happen to have instances of two alterations or miscues from the original written word. For example, in the following sentence:

    “You can tie things on that sledge to help you **carry** them”

The underlined word in the sentence was pronounced by one participant as ‘**cry**’ /kraɪ/. I was at first puzzled if I should count this miscue as both an occurrence of deletion (DE) since two letters were deleted from the original written word “**carry**”, and an occurrence of substitution (SUB), since this was also a case when one word was substituted for another, i.e. ‘**carry**’ for ‘**cry**’, or if I should just count it as one. In such cases, since I was not able to judge if the students actually knew the new word that they would pronounce, or if that would happen to be an accidental result after deleting a segment in a word, I decided to only count the actual alteration that caused the change, which in this case would be the deletion of the segment.

    Finally, the fluency based suprasegmental, *i.e.* the occurrence of unexpected pauses in reading, was coded for in this study as well as word error rates (errors per
minute) were coded for as a replica of Mellard’s et al., measurements used in their 2011 study where they focused on finding the most valid measurements of ORF in order to investigate further implications for adult-reading literacy assessment.

### 3.6 Methodology for evaluating L2 oral fluency

In terms of the literature behind the chosen methodology of evaluating L2 oral fluency, Lennon’s article published in 1990, provided me with a solid basis on the variables in the speech production that needed to be measured in both pre-test and post-test interviews in order to be compared to decide if the experimental application of the reading aloud strategy influenced L2 oral fluency. These variables include the speech (articulation) rate of words per minute, which Kormos and Denes (2004) also used in their study as one of the predictors of fluency scores as well as the mean length of runs, measured by syllables per second within a run, or a period between pauses.

In terms of the data elicitation instrument that was used in the assessment of the participants’ oral fluency, Labov’s methodology and practice provided a good framework to follow. Labov believed that a participant’s speech was always influenced by the amount of attention they pay to the manner of their speech, and in order to elicit a casual-like style register of speech, participants would need to pay less attention to their speech performance. According to Labov (1997), this goal could be achieved when participants are asked to retell emotional stories in their life, and are thus likely to be overtaken by the memory of a significant event in their life which would result in a longer monologue of spontaneous speech. Therefore, prompts that could possibly elicit longer monologues that resemble natural speech were chosen as instruments to elicit L2 oral fluency (See
appendices 2 and 3, part II). These interviews were transcribed and coded for the following two categories, Articulation Rate (words per minute) and Mean Length of Runs (average number of syllables produced between pauses). Differences between pre-test and post-test oral fluency were examined by looking at the learners’ speech rate and their mean length of runs. Mean length of runs was calculated by using the same meaningful chunks of utterances that were used to calculate the articulation rate and dividing the total number of syllables produced in those utterances by the amount of time taken to produce them, excluding pause time (De Jong, and Perfetti, 2011, p.538). Even though the questions in the interview were designed to elicit longer speech performance, some participants would still end up producing utterances shorter than two minutes. In such cases, where a short speech sample was given by the participant, I had to ask another question, in order to attempt the elicitation of a longer speech sample again. Those speech samples that lasted less than 2 minutes due to the participant’s silence or interruption by my comment were not taken into consideration in this study. In order to have speech samples long enough to measure mean length per runs, I decided to include only utterances that were two or more minutes long.

In terms of coding the data for both fluencies, some of the results from different coding categories were initially considered as percentages (e.g. average of correct utterances), and some were considered as total numbers of instances in question (e.g. total number of pauses). So, if a participant had a total of 31 errors out of total of 348 words, instead of considering the number of the actual errors, I calculated the percentage of the correctly uttered words by subtracting the number of errors from the total number of words, which would in this example be 348-31=314, and then calculated the percentage
of the correct utterances \((314 \times 100 / 348 = 90.23\%\)). At first, this seemed like a valid way of assessing this particular category of oral reading fluency, but when I reached the stage of comparing the data, I realized that it would be much easier to relate and analyze all of the results I was considering if they were in unified measuring units, i.e. numbers. Therefore, I decided to consider the total number of errors in this particular category of ORF (articulation), rather than the percentage of correctly pronounced words. The results for all of the other categories were also in numbers and that made the analysis much easier. In terms of some other results from ORF coding, the average of words per minute in a participant’s set of utterances was considered as a whole number, as is shown in the following example:

\[
\begin{align*}
127 \text{ w/minute} – 1^{\text{st}} \text{ minute} \\
132 \text{ w/minute} – 2^{\text{nd}} \text{ minute} \\
89 \text{ w/ 38 seconds} – \text{last 38 seconds of the reading} \\
\text{Average 132 wpm}
\end{align*}
\]

A similar calculation was done in the categories of oral fluency, articulation rate and mean lengths of run, where the averages of all considered instances were calculated and presented as whole numbers.

The results for oral reading fluency and oral fluency were compared for each student individually, in order to track the potential increase in the expected simultaneous fluency within a student. Furthermore, the results of each fluency were compared between the students of both groups, experimental and control, in order to compare if the application of the reading strategy made a difference between the groups.
During the seven weeks of the study, the experimental group used the reading *aloud* strategy with all homework assignments while the control group did not. The readings from the course Textbook “Thinking Beyond the Content: Critical Reading for Academic Success” by Weil & Cepko (2011) were used since the texts in this course assigned book were level appropriate and the students were expected to read them regardless of their participation in this study. Furthermore, the medium level of difficulty of these texts aimed at maximizing the fluency-building effects of the treatments, similar to the study conducted by Gorsuch and Taguchi (2010, p.35), where they focused on investigating the effect of a reading strategy, repeated reading (RR), on the development of reading fluency. The students from the experimental group recorded themselves *via* digital recorders and they met with the investigator at the end of each week in order for the investigator to collect the recordings from that week. Of the seven weeks of the treatment, additional data from weeks two and four were collected from the audio recordings that were sent by the participants of the experimental group. The data was initially supposed to be sent to the investigator through a software platform called Audacity, but after a couple of students experienced difficulties in using it, it was decided to use a digital recorded instead. This data was used for the qualitative analysis of the application of RA, i.e. the observation of a change in the rate of self-corrections as well as the speed of reading. The use of self-corrections in reading aloud metacognitive strategy enables a reader to maintain accuracy and infer the probable correct pronunciation of an element. The control group read the same course assignments, but silently, i.e. without using the reading *aloud* strategy. After seven weeks of the study, all of the students took the posttest, which was conducted and analyzed in the same way as
the pre-test. In other words, the same data elicitation instruments, a reading text for evaluating ORF fluency and interview questions to evaluate oral fluency, were used to elicit samples from the participants (See appendices 2 and 3).

This section provided a detailed description of the study, and its participants as well as the background and rationale for using the data elicitation instruments chosen to test the hypothesis and answer the research questions of this study, which were discussed in section 2. Likewise, some of the challenges that were met during the actual treatment and the coding were discussed here. In the next section of this paper, we will get closer to answering these research questions by examining the results obtained through the above explained measures.
4. RESULTS

4.1 Introduction

This section will present the data collected through different elicitation measures and for various purposes of analysis done in this study. First, data on the participants’ background information will be presented and discussed. In a separate section, ORF findings will be illustrated and briefly discussed followed by a section on oral fluency findings. Finally, in the last section of this chapter, we will take a look into what observations were made during the actual treatment stage, while the participants of the experimental group were using the reading aloud strategy.

4.2 Participants’ data

Both groups received a questionnaire (see appendix 1) with the consent form prior to the testing. This data was not used in the statistical analysis but rather as background information about the participants. The following table illustrates the background information collected from the participants via this data collection instrument.
Table 1
Participants’ Background Information

<table>
<thead>
<tr>
<th>Participant</th>
<th>Age of the participants</th>
<th>Length of studying English (in years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>C2</td>
<td>19</td>
<td>8</td>
</tr>
<tr>
<td>C3</td>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td>C4</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>E1</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>E2</td>
<td>24</td>
<td>10</td>
</tr>
<tr>
<td>E3</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>E4</td>
<td>24</td>
<td>2</td>
</tr>
</tbody>
</table>

The mean age for the participants of control group was 22.5 years and for the participants of the experimental group was 25.5 years. Furthermore, the average length of studying English for both groups of participants was similar, 5.25 years for the control group and 5.5 for the experimental group. Both groups were multiethnic, consisting of participants from both Saudi Arabia and China. All participants planned to continue their higher education in America and were enrolled in the intensive language program in order to gain or better their L2 knowledge before being immersed into the academic world where they would be expected to have a higher level of both reading and oral fluency in English. Gender and language background were not considered for the purposes of this study since in a setting such as the Intensive English university program which the students were attending during the time of this experiment, classes were ethnically diverse and it was not feasible to choose a particular group of students with a common background.
4.3 ORF Findings

Post test was conducted seven weeks after the pre-test and all participants went through the same procedure. They individually read the text and had an interview with the investigator. In order to measure the ORF of each participant, four different things were measured: words per minute, total number of errors, total numbers of pauses, and errors per minute. The results showed an overall greater increase in reading fluency with the experimental group over the control group, which is evident in the greater increase in wpm, articulation rate, decrease in the number of pauses, and error per minute.

Table 2

Pre-and Post-test Results for ORF of Control Group

<table>
<thead>
<tr>
<th></th>
<th>Pre-test results</th>
<th>Post-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WPM</td>
<td>Artic.</td>
</tr>
<tr>
<td>C1</td>
<td>130</td>
<td>34</td>
</tr>
<tr>
<td>C2</td>
<td>97</td>
<td>52</td>
</tr>
<tr>
<td>C3</td>
<td>69</td>
<td>53</td>
</tr>
<tr>
<td>C4</td>
<td>128</td>
<td>28</td>
</tr>
</tbody>
</table>

Table 2 illustrates the data from the pre-test and post-test of the control group’s results in ORF. The results show that participants of the control group displayed improvement in their reading fluency over time even without using the reading aloud strategy. Most participants showed an overall increase in the four categories, although there were some instances where the data actually illustrated a negative result. An example of that would be in the category of errors per minute where participant C3
actually exhibited an increase. Likewise, this increase was reflected in the articulation category where the total number of errors was significantly greater during the post-test. The same participant had a large increase in the total pauses they made as well. Similarly, both participants C1 and C4 showed an increase in the number of pauses they made while reading. The rest of the participants of this group had an overall systematic increase in their ORF without major incongruities as in the case of C3.

Figure 3. ORF pretest and post test results for the control group.

Figure 3 illustrates the differences between the pre-and post-test results for the control group across the time and different coding categories. As we can see, there were no significant changes in the post-test results for the categories of WPM and Errors per minute for the control group. The insignificantly higher variations in the categories of Articulation and Pauses were noticed, even though there were discrepancies in the consistency of the trend of the change. For example, as we saw in table 2, participants C1, C3, and C4 had more pauses during the post-test than in the pre-test, which is opposite of what was expected. As we can see from the following table, the experimental
group did not exhibit the same amount of discrepancy, suggesting a more significant improvement.

Table 3
Pre- and Post-test Results for ORF of Experimental Group

<table>
<thead>
<tr>
<th>Pre-test results</th>
<th>Post-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPM</td>
<td>Artic.</td>
</tr>
<tr>
<td>E1</td>
<td>124</td>
</tr>
<tr>
<td>E2</td>
<td>116</td>
</tr>
<tr>
<td>E3</td>
<td>119</td>
</tr>
<tr>
<td>E4</td>
<td>132</td>
</tr>
</tbody>
</table>

Table 3 gives the results from the pre-test and post-test of the experimental group’s results in ORF. As we can see from this raw data, the experimental group showed a more systematic increase in their ORF results. Note that all participants read more words per minute during their post-test and all had a decrease in the number of errors they made while reading, suggesting a more systematic increase in ORF that what the control group had exhibited. There was a slight increase in the number of pauses that participants E1 and E4 made, which could be attributed to the increase in their awareness of their L2 production, but the number of errors per minute was lower during the post-test for all participants, including E1 and E4. An interesting result was also observed with participant E3, who exhibited a much higher of a change in results in both wpm and Articulation category. In other words, this participant who also used the reading aloud strategy like the rest of the experimental group, exhibited a significant increase of 20 words in the category of number of words read per minute (increase was from 119 to
139) and a significant decrease of 40 errors in the category of Articulation (decrease was from 57 errors to 17 errors). During the post-test interview, participant E3 enthusiastically claimed how the seven week long treatment of reading aloud helped them have more confidence when speaking and even have more vocabulary when engaging in a conversation in their L2. The participant also stated how it was less difficult to hear the errors that they were making and how much easier it became to pronounce certain clusters of segments after practicing reading aloud for a while.

![Figure 4](image)

**Figure 4.** ORF pretest and post test results for the experimental group.

As we can see from Figure 4, the experimental group had somewhat of a higher decrease in Articulation than the control group, meaning that the overall production of grades was lower in this group than the control group, which could suggest a higher readability level in terms of reading words correctly. In the category of Pauses, the experimental group did not show a drastic change during the post-test, and that was a category that had the least significant changes for this group. The coding categories of WPM and EPM showed interesting results for this group. Namely, WPM showed almost
the same trend as the control group exhibited, which was opposite to what was expected from the group that underwent the treatment of reading aloud. The assumption that the use of reading aloud would increase the speed of reading due to the effect of *automatization*, entailed the expectation of a more significant increase for the participants of the experimental group in this particular category. In the category of EPM, however, the participants of the experimental group did show a higher change than the participants of the control group, i.e. these participants were making fewer errors while reading.

### 4.4 Oral Fluency Findings

Similarly to eliciting ORF data, both groups had to undergo the same procedure in order to collect and measure oral fluency development. The questions used during the pre-test and post-test interviews were different though (see appendices 2 and 3). The following are the results from the pre-and post-tests of the participants of control group who did not use the reading aloud strategy.

<table>
<thead>
<tr>
<th>Table 5</th>
<th>Pre-and Post-test Results of Oral Fluency for Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
</tr>
<tr>
<td></td>
<td>Articulation rate</td>
</tr>
<tr>
<td>C1</td>
<td>90 wpm</td>
</tr>
<tr>
<td>C2</td>
<td>81 wpm</td>
</tr>
<tr>
<td>C3</td>
<td>78 wpm</td>
</tr>
<tr>
<td>C4</td>
<td>85 wpm</td>
</tr>
</tbody>
</table>

As we can see from the raw data, in two (C1 and C3) out of four instances, the articulation rate increased at the time of the post-test. The same participants showed a slight increase in the mean lengths per run. Participants C3 and C4 showed no or slight increase in the articulation rate, and they similarly exhibited a very slight increase or an
actual decrease in their Mean Length of Runs. Participant C2 exhibited a decrease in both the Articulation rate and Mean Length of Runs which added to the inconsistency of the results for this group. As we can see from the following table, the same was not observed for the participants of the experimental group.

Table 6
*Pre-and Post-test Results of Oral Fluency for Experimental Group*

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Articulation rate</td>
<td>MLR</td>
</tr>
<tr>
<td>E1</td>
<td>83 wpm</td>
<td>1.9 sps</td>
</tr>
<tr>
<td>E2</td>
<td>81 wpm</td>
<td>1.8 sps</td>
</tr>
<tr>
<td>E3</td>
<td>81 wpm</td>
<td>1.9 sps</td>
</tr>
<tr>
<td>E4</td>
<td>87 wpm</td>
<td>2.1 sps</td>
</tr>
</tbody>
</table>

Table 6 shows the results of oral fluency for the experimental group during the two testing sessions. We can notice a slightly more regular pattern in the increase of fluency results in comparison to the control group. All participants of the experimental group exhibited an increase in the articulation rate, and all but one, E4, who had the same amount of syllables per second between the pauses, had an increase in the Mean Length of Runs. The difference in the systematicity in the increase of oral fluency results between groups is further illustrated in figures 6 and 7.
Figure 6. Articulation rate from pre-test and posttest results for both groups.

Figure 6 shows a significant difference between the increase in the articulation rate for the experimental during the two testing sessions, pre-and post-test, suggesting a greater improvement in this feature of oral fluency between the two groups. A slightly smaller difference in increase was seen in the results of the Mean Length of Runs, illustrated below in Figure 7. As we can see in Figure 7, the participants of control group actually experienced a decrease in the Mean Length of Runs during the post-test, which was different from what the experimental group exhibited, i.e. an actual increase. These results, even though not statistically significant, show a possibility that a treatment which the experimental group underwent, the treatment of reading aloud, could have influenced both features of their oral fluency measured in this study.
As we can see from figure 7, the participants of the experimental group showed a greater increase in the Mean Length of Runs, which means that they were able to produce longer utterances between pauses. While the control group actually exhibited an overall decrease in this particular category, meaning that they produced fewer syllables between pauses, the experimental group was able to produce more syllables between pauses during the post-test, suggesting that these participants had a greater improvement in a feature of their oral production in L2.

4.5 The Application of Reading Aloud

As mentioned before in the paper, cognitive psychology views automatized processes as generally being quicker and easier to accomplish. In terms of the improvement in the domain of ORF, the approximation of automaticity would entail such features as the increase in reading speed, and a decrease of the difficulty to control the...
process of reading (de Keyser 2001). In order to get a better insight into what exactly happens or changes over time when one is using the reading aloud strategy, audio recordings from the participants of experimental group were analyzed and coded for speed (WPM) and SR (instances of self-repair). The first recordings that were analyzed were from the second week of the treatment and the second group of recordings was from the fourth week of the treatment. These two weeks were selected in order to track the progress and identify any patterns in the conscious attention to the output while reading aloud, since it is conscious attention that builds language awareness and facilitates encoding processes that are involved in L2 reading, (Kormos, 1999). Furthermore, I was interested in seeing how long it would actually take to start noticing a change or benefits of reading aloud in terms of ORF and oral fluency.

Much research was done on self-repair in speaking, hearing and understanding, but that was not analyzed in this study since the focus was not on the conversational flow, but rather on the oral production of L2 learners in terms of the actual speech. The coding categories for this particular analysis were used from the article by Kormos from 1999, in which the author reviewed the psycholinguistic theories of monitoring and self-repair instances and once again emphasized the benefits of monitoring one’s own L2 production. According to Kormos, by monitoring their L2 production, a learner is able to become aware of their strengths and weaknesses and is provided an opportunity to focus on improving the areas that need improvement. Therefore, what I tried to observe from the audio recordings taken from the two weeks of the treatment were instances of the change in the learners’ awareness of their L2 productions, in this case, reading aloud. I did not have a hypothesis in terms of this particular observation but was rather intrigued
by what actually happens while learners use the reading aloud strategy and perhaps investigate how long would one need to practice reading aloud before actually noticing a change in their reading speed and awareness of their production. These observations would provide me with a better insight into how this metacognitive strategy develops a reading skill over time. The following figures illustrate my findings.

![Graph: Words per Minute](image)

*Figure 8. The WPM results from weeks 2 and 4.*

As we can see from Figure 8, there was an interesting discovery in the words per minute that the students made. Namely, all experimental students showed a slight decrease in their reading speed, which came much to my surprise since they all exhibited an increase in their reading speed during the post-test. I assume this could maybe be attributed to the increase in the difficulty of the readings in their course assigned book, which progressed from week 1 to week 7. Furthermore, this observation suggests the need for a longer practice of reading aloud before an actual significant positive change is apparent. In terms of the instances of self-repair, some other interesting trends were also observed.
Figure 9. The SR results from weeks 2 and 4.

Figure 9 shows that all students used less self-repair while reading aloud during week 4 than during week 2. Due to the fact that the number of errors that were made was not measured in this observation, this change does not necessarily suggest that they had fewer things to correct in their production during week four. One interpretation of these results could be that the results of the errors made by this group during the post-test might suggest a correlation between fewer instances of self-repair and the actual errors that are produced while reading aloud. Another interpretation, however, might be that the students just wanted to finish reading aloud and complete the assignment as fast as possible and were not monitoring their production but were more focused on the completion of the task. Further research in this domain of reading aloud would help in understanding this phenomenon and would lead to a deeper understanding of the cognitive process that take place when an L2 learner is reading aloud.
5. DISCUSSION

The present study was designed to investigate whether using a reading strategy called reading aloud would have an effect on L2 oral fluency. By using two groups of intermediate L2 learners, one experimental and one control, the study compared the results of participants of both groups in order to track the difference. The significance of this study lies in the fact that very little research has dealt with how reading aloud specifically can influence L2 oral fluency. The importance of oral reading fluency is not found in itself, but in its correlation with other areas of L2 acquisition, such as reading comprehension and competence (Mellard et al., 2011, p.3) and its impact should be analyzed and investigated in order to establish the nature of the relationship between oral reading fluency and other fluencies. Furthermore, most research studies that have been conducted so far with focus on oral reading fluency were done with young readers (Mellard et al, 2011, p.3) and thus the need and justification for a study such as this one, with focus on adult oral reading fluency and its correlation to second language oral fluency. This study investigated that possible relationship and anticipated to see a significant impact of reading aloud on the development of L2 oral articulacy. The study also expected to make interesting discoveries about the impact of using this reading strategy, while adding to the current documented research findings on what facilitates and contributes to successful second language acquisition.
The first interesting finding of this study was that both groups exhibited improvement in oral reading fluency, which is possibly at least partially due to the intensive language classes both groups attended during the period of seven weeks of the study, but the systematicity of the improvement is perceptibly higher in the experimental group. In other words, the experimental group showed a more patterned improvement in the results of oral reading fluency as well as in oral fluency. These findings, although not necessarily statistically significant, do however bring us closer to answering the first research question: Does practicing reading aloud eventually lead to automatization in reading fluency? If we go back to the definition of automatization, where it is defined as “a development starting with conscious, controlled processing of declarative knowledge (i.e., knowledge of facts and rules, such as knowledge of letter features, letter–sound correspondences, and the combination of groups of letters and sounds into larger units, in the case of word recognition), and ending, after much practice, with rapid, attention-free processing consisting largely of routines characterized by “chunks” of elementary operations and computation” by (Anderson & Lebiere, 1998, p. 5; Fukkink & Hulstijn, 2005, p.57), then this “rapid, attention–free processing” was more apparent in the results of the experimental group who used the reading aloud strategy.

Another important observation of this study is that one particular participant E3 showed a significant improvement in their reading fluency in comparison to the rest of the group. During the post-test interview with the investigator, this participant was extremely satisfied with using the reading strategy and was enthusiastic about the treatment and even stated how they felt more at ease speaking with native speakers after the treatment had started. This testimony would confirm the assumption that Gibson
had about the possibility of reading aloud helping to lower L2 learner’s speaking anxiety and increase their self-confidence. Participant E3 showed an increase in oral fluency as well, but not significantly different from the rest of the group, but the self-confidence with which the learner was talking was visibly higher. Further research could investigate this area of Psycholinguistics with focus on how reading aloud influences personality factors such as self-esteem, inhibition and anxiety.

Yet another interesting finding of this study was that there might be a discrepancy that lies in the fact that the findings of this study did not match one area of the documented research about L2 readers. As previously mentioned, according to Grabe, advanced L2 readers are found to read in the range between 80-120 wpm, which would mean that the intermediate L2 readers would be expected to be in a range lower than that one, i.e. have their lowest point be lower than 80 wpm. However, the intermediate level participants of this study exhibited the same range of reading speed that Grabe claimed was typical for advanced L2 learners. The participants of both groups showed an overall range of reading speed during the post-test to be between 91-266 for the control group and between 124-141 for the experimental group. As we can see, this is significantly higher than what Grabe claims for even the advanced L2 learners. Even though this data comes from only eight participants of this study, and therefore do not present a significant portion of the population of L2 learners, perhaps more research needs to be done to measure reading speed more accurately for different levels of L2 reading ability.

The most important finding of this study is that the experimental group exhibited a more systematic and consistent increase in the categories of oral fluency in comparison
to the control group. This is evident in the oral fluency results of both groups where we can see that while the participants of the control group exhibited inconsistencies in terms of the trends they exhibited (increase or decrease), experimental group showed a more consistent trend with each participant. All the participants of this group showed an increase in both Articulation rate and all but one (E4) showed an increase of Mean Length per Runs. E4 did not exhibit a decrease in this category like some other participants of the control group (C2 and C4), but instead of having longer Mean Length Per Runs that would be expected as a sign of increased oral fluency, this participant’s results remained the same. This suggests that the experimental group overall showed a greater increase in their oral fluency compared to the control group which did not use the reading aloud strategy. Again, even though this study did not present statistically substantial results, it did however illustrate that this one variable that was different between the groups might have caused a greater increase in the oral fluency of the experimental group and therefore confirmed the hypothesis that reading aloud might have an impact on oral fluency.

Due to the fact that this study attempted something that had not been investigated before, I had to do a thorough literature review separately on oral reading fluency and the best ways to measure it and independently on oral fluency, and select what I considered would best match the target of my investigation. The nature of this study and the lack of previous research on this topic, might have caused me not to have chosen the best coding categories, or the number of the coding categories for that matter. It would have been easier to correlate the changes if there was an equal number of coding categories measuring both fluencies in order to see how exactly these fluencies correlate. This pilot
study was useful in order to test the idea that reading aloud can influence oral production and also to identify possible pitfalls of this claim. It was difficult to correlate coding categories since reading fluency had 4 and oral fluency had only 2. It would have been much easier to correlate these numbers and trace which category in the reading fluency influenced which category in the oral fluency. This study did not do that. Future studies should mend the coding strategies used in this study in order to establish the correlation between these two language skills and maybe focus mostly on what feature in reading aloud influences which feature of oral fluency. The findings of this study were somewhat inconclusive in terms of answering the research question that dealt with the connection between reading aloud and oral fluency, due to the above explained inability of actually correlating the results from oral reading fluency and oral fluency for all participants. In other words, even though I was able to observe a more consistent and greater increase in both the results of both measured fluencies for the experimental group, I was not able to correlate the results in order to actually identify the degree of relationship between the variables. Future studies that choose to focus on investigating this relationship should design their coding scheme in such a way where it would be easier to establish this relationship.

In terms of the data observed during the treatment, it seems that the effect of reading aloud was not observable in a shorter period of time, such as two weeks, but would rather require more time or higher frequency in use in order for the effects to be noticed. In other words, the lack of instances of positive effect of reading aloud during the fourth week of the treatment could be due to the fact that students did not practice reading aloud often enough during a week or that two weeks of time is simply not enough
for such a change to take place. Nevertheless, one of the goals of this study was also to observe what exactly happens while students are reading aloud, and as shown in the results, in the section *The Application of Reading Aloud*, there seem to be interesting changes that occur even in the period of two weeks. Future studies can also investigate more closely how the language skills change through the weeks of reading aloud. The occurrence of self-monitoring and self-repair in reading is an area that can give us rich insight into what happens in one’s mind when reading. This area of interest can also be applied in teaching and evaluating the students weaknesses in reading. As mentioned earlier, many adult students struggle with fossilization, or the inability “to get rid of non-native like structures in their second language despite abundant linguistic input.” (Mitchell & Myles, 2004) and are often not aware of the instances of their incorrect use of L2. The use of reading aloud and analysis of the errors and instances of self-repair could be a useful tool for the teacher to correctly monitor a student’s challenges, find patterns in the data that can exactly show what the student is struggling with and then be able to focus on finding ways to assist the student in improving the weak areas. For instance, if students are asked to read their homework aloud at home once a week, and send the audio recording to the teacher, the teacher could transcribe 5 minutes of the reading and analyze. This would provide that one-on-one time that is sometimes difficult to provide in the classroom and would provide the instructor with a better insight into a student’s reading abilities. This activity could also be accompanied by a following comprehension exercise where the student could also answer questions about the text orally, instead of writing them down. In this way, the student would actually have yet another chance to practice their oral skills outside of the classroom and
would have a chance to employ their ‘think aloud’ skills in order to illustrate how well they understood the text. This activity could prove to be beneficial for both the students and the instructor. Students would of course get to monitor their performance, and become more aware of their own language skills and challenges and of course have one-on-one with the instructor after the instructor listens to the recording and gives feedback to the student. This is something that would not be feasible if the students are reading silently at home. The instructor would, on the other hand, be able to assist each individual student with their specific challenges, and would be able to know what particular areas a specific student would need to focus on. Likewise, an activity such as this would provide an out-of-class learning opportunity that would help learners practice their metacognitive skills, develop thinking in their second language while discussing the comprehension questions, and finally practice their oral performance in the comfort of their own home.

Although small in participant numbers, this study still offered curious results in the domains of the possible effect of reading aloud of L2 oral fluency, opened up certain questions for further research, and suggested classroom applications for the use of this reading strategy as potential instrument in a ‘blended instruction’ environment.
6. CONCLUSION

This study was a product of personal belief and interest in a topic that was identified as an area that has up to date been insufficiently researched in two different domains, SLA and Cognitive Linguistics. As such, the topic of the potential beneficial effect of reading aloud on the development of L2 oral fluency presented multitudes of questions and unexplored areas, some of which this study attempted to answer. The outcome of this study includes results that were both limiting and promising in different areas.

The lack of previous literature that dealt with this particular issue of the relationship between two different language skills, reading and speaking, made it challenging to design the study and correctly measure the fluencies and the correlation between them, therefore making it somewhat limited in terms of what conclusions it offered, but also rich in terms of the findings on what actually happens when a learner is reading aloud and how it can potentially affect the self-confidence and language confidence of the learner.

As stated above, the study was merely able to suggest a chance that reading aloud can have a positive effect of the development of L2 oral fluency, rather than prove the validity of the initial claim. The systematicity in the improvement of the features of both ORF and oral fluency with the experimental group suggests that there is likelihood that
reading aloud can actually have a beneficial effect on the development of L2 oral fluency, but the significant statistical results to prove this claim are still missing. The fact remains that this area of SLA has not been researched and is in need of further through research that could offer more significant findings and the capacity to prove the validity of this strong claim.

The main task for future research needs to be the issue of how to efficiently assess the correlation between these two L2 fluencies, i.e. oral and oral reading fluency. Finding the right correlation between the features of both fluencies might prove to be challenging but nevertheless very informative. In that way, we would be able to see what features of oral fluency are affected by reading aloud practice. The significance of those findings would be revolutionary on many different levels. First, they would provide evidence for the ability of learners to be able to independently reach automaticity through practicing reading aloud and consequently enhance their own L2 oral skills, which would be especially valuable for those learners who are learning English in a non-immersive environment, or as a foreign language. Secondly, investigating this relationship further and more accurately would also answer many questions about the cognitive processes of SLA, the area that is of special interest of Cognitive Linguistics and Psycholinguistics, which are concerned with how learning and language acquisition happen. These processes are difficult to describe and accurately measure which is why it is not with surprise that the findings of this study have only offered a first glance at this complex relationship between different language skills that are a pivotal part of second language acquisition. A closer look on a larger scale and greater population of participants needs to be taken into this potentially causal relationship, in order to confidently answer the
question: Does reading aloud have a positive effect on the development of L2 oral fluency?
References


Appendix 1

Questionnaire

Please answer the following questions

1. What is your name?

______________________________________________________________

2. How old are you?

______________________________________________________________

3. What is the country of your origin?

______________________________________________________________

4. Before you came to the IEI, when and where did you study English?
   What age?

______________________________________________________________

   Where?

______________________________________________________________

   How long?

______________________________________________________________

5. How often do you read in English? Choose one of the following answers that best describes the frequency.

   a. Every day
b. Every other day

c. Once a week

d. Twice a week

e. Very rarely

6. How do you like to read? Please rank your choices from 1 to 5.

   1= like the least; 5= like the most

a. Silently, following the text with your eyes

b. Silently, but moving your lips while reading

c. Aloud to others so you can get feedback

d. Aloud to yourself so only you can hear

e. Slowly, trying to correctly pronounce every word

7. How often do you speak in English? Choose one of the following answers that best describes the frequency.

a. Many times a day

b. Once a day

c. Every other day

d. Twice a week

e. Rarely

8. Do you only speak with other non-native speakers or with native speakers as well?

__________________________________________________________________

__________________________________________________________________
9. How would you grade your speaking fluency in English? You can choose one of the following answers that best describe your ability or write a separate answer.

a. I cannot speak in English
b. I can have a very short conversation in English
c. I understand more than I can say
d. I can have a longer conversation in English but I am still missing many words/grammar
e. I can speak and understand English very well

Your own answer:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

10. In your experience, what are the easiest and the most difficult aspects of speaking in English?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

11. In your opinion, what does it mean to be fluent in English?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Appendix 2

Pre-test Materials

Part I

Number of words: 349
Flesch Kincaid Grade level: 3.81

Assessing reading fluency

Reading Aloud:

The history of transportation is very long. It starts with walking. People used to walk to get to other places. If you wanted to get somewhere quickly, the only way to do that was to run. Then people invented ways to get places. In some cultures, people invented sledges. That is a kind of board that you drag along the ground. You can tie things on the sledge to help carry them. In other cultures, people invented the wheel. That was the beginning of many changes. Once people had wheels they could invent other ways to travel. They could put the wheel on a board and make it a wagon. That wheel led to what we have today: trucks, automobiles, and even planes. How does the wheel part of planes work? An airplane has to take off and land. It needs to have wheels so it can start building speed as it takes off. Then when it lands it needs wheels to help it land safely. Even the shuttle, a spaceship, needs to have wheels when it lands. Astronauts pilot the shuttle when it lands on a runway. Some planes have skids, those are like sleds. Those planes use those skids to land on water. But most planes need those wheels. The first planes were gliders. They just sailed on the wind. But they had wheels, too. Then came
the airplane with an engine. And then came the jet plane. Now we have spaceships. They all started with that glider.

There is another kind of travel that started a different way. Water travel has changed a lot, and it has not needed wheels. The first way people could travel on water was swimming. Probably the first person to make a boat really just used a log. They could see if the log floated and then they could put things on it and push them along. Soon people would be carving wood to make boats. They would make them from animal skin, too. People then figured out how to make sailboat so the wind would push the boat through the water.

Part II
Assessing Oral fluency
Semi structured interview questions

Narrative prompts:

1. What was the happiest/most important/most memorable moment of your life and why?
2. Have you ever been afraid for your life? Explain what happened.
3. Describe a person you admire and explain why.
4. What were some of the best gifts you have ever received and why?
5. Where can you see yourself in 10 years?
Appendix 3

Post-test Materials

Part I

Number of words: 345
Flesch Kincaid Grade level: 3.7

Reading Aloud:
Animals are wonderful. If you look closely at how they live you will find many surprises.

It is hard to look closely at insects. They are very small. Many of them fly away when you come near. But if you have a chance to watch them you will find how they live.

Watching animals is a job that scientists do. It is called making observations. They have learned a lot about animals.

Scientist learned about tiny animals. They have studied insects. They found that insects have tools. They use those tools to live. They learned about the sawfly. This is just one animal they have studied.

Imagine what the sawfly is like. It is a fly but not like many others. They call it the sawfly because it has a kind of saw. It's not a real saw. But it looks like one. And it works like one. It is part of the sawfly. The sawfly uses the saw to make places where the eggs will be safe. It saws at plants. So it makes a place where the eggs can go. Then the sawfly does something very special It makes a sort of homemade glue that fastens them where they are laid. We are not sure how it does that. But if you can watch the sawfly you will see this happen.
Some insects have cutting instruments that work just like scissors. The poppy-bee is one of them. It is a bee that makes it home in wood. This bee has a boring tool, too. It uses the tool to bore into old wood. It looks like a tool that a carpenter uses. Carpenters make things out of wood. The poppy-bee makes its nest out of wood.

Scientists observe birds, too. They have seen birds use their bills to get what they need. Some birds use their bills to cut into wood. They have sharp bills. They can cut a hole in a tree. They drill the hole to get inside the tree where insects live. Then they eat them.

Every animal is amazing.

Part II

Semi-structured interview questions

Narrative prompts:

1. What was the saddest/most exciting/scariest moment in your life?

2. Describe your family and who you resemble the most/least, physically and character wise.

3. Do you have a hobby? When did you start practicing it; why do you like it and how do you do it?

4. What is your field of academic interest? How/why did you decide to pursue that interest?

5. What do you like/don’t like in America? How is it different from your country?