Increasing Reading Speed and Comprehension of EFL Undergraduate Students at a Saudi Arabian University Using Speed Increasing Software

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Abstract—**Students' reading speed in the English Department at a Saudi University is low, which, in turn, slows down their general proficiency in English. This research aims to show how and to what degree using a reading speed increasing software (the '7 Speed Reading' program) could be a decisive factor in upgrading the reading speed of EFL-major students of KKU while maintaining their former level of comprehension. This study uses a pre-test, post-test quasi-experimental design. The study sample comprised two groups (a control group and a test group), each consisting of 30 students from the third year of the EFL undergraduate program. The methodology incorporates comprehension tests to analyse the sample for reading speed and comprehension toward the study's start. Training in increasing reading speed was extended to the test group students using the '7 Speed Reading' software. Towards the end of the training, both the groups were tested again for reading speed and comprehension. The study illustrated essential outcomes in the form of increased reading speed and better comprehension.**

Index Terms—**speed reading, 7 speed reading program, reading comprehension, reading skill, EFL**

I. INTRODUCTION

While teaching reading skills at the Department of English, KKU, the researchers observed that their students' reading performance was sluggish. As reading is one of the core skills in learning a foreign language, low reading speed hampers language proficiency. For this reason, many pedagogists, including Nation (2008), suggest incorporating reading speed techniques into classroom practice.

The current study highlights the role of the '7 Speed Reading' – a speed reading software – in increasing the speed of reading. It also aims to examine the possible effects of the '7 Speed Reading' program on reading comprehension. This study is the first to study the effect of using the '7 Speed Reading' program on the reading speed and the resultant fluency.

The present study aims to find answers to two questions: first, what is the resultant rate of change in the study subjects' reading speed using the '7 Speed Reading' program, and secondly, what is the resultant rate of change in their reading comprehension using the software.

The study questions will be answered by testing two hypotheses. The first hypothesis states that there is no significant increase in the reading speed of the study subjects as a result of using the '7 Speed Reading' program. At the same time, the second hypothesis supposes that there will be no significant increase in their reading comprehension due to using the software programme.

II. LITERATURE REVIEW

In today's cyber world, where millions of relevant information websites on any topic lie just at a single click distance, reading becomes a crucial skill for students of any discipline. It is a process in which written symbols are decoded into meaningful messages. As the decoding process is generally very complex, it initially takes a considerably long time for a language learner to process the perceived symbols efficiently and extract the coded meaning (Breznitz, 2006, p 16). Teachers and language researchers in the field of pedagogy, for a long time, have been endeavouring to search for effective strategies which could enhance both the process and output of the reading act.

Reading is a two-step activity: the system of text processing (text-based process) and the scheme of information outcome (knowledge-based procedure) (Church, 2002). According to Dillon (1992), the text processing aspect of

reading is concerned with the physical features: eye movements, text navigation, and text manipulation. According to Baker (2010), the outcome aspect comprises the mental sequences: accuracy, fatigue, and comprehension. This study, which aims at observing reading speed and comprehension, is related to both the text-based process for speed reading and the knowledge-based procedure for reading comprehension.

A. Reading Speed

Improving the reading speed is the field of interest for a vast majority of fresh college students. According to Shaughnessy (2015), the possible reason behind this tendency is that the traditional reading skills only address his success in his school level courses. However, when he begins studying for the college examinations and other research projects, he realises that further reading is still needed at this advanced level. The same school-time snail-paced reading speed is the main impediment in studying all the required texts in a limited time. That is when he realises for himself the need for reading more fluently, i.e. with a higher speed.

According to EM Fine and E. Peli (1998, cited in Ronald, 2005), reading fluency means reading smoothly and expressively at speeds approaching regular speech. Students who lack fluency are not considered good readers (Chard, Ketterlin-Gillar, Baker, Doabler, & Apichatabutra, 2009, as cited in Sackstein et al., 2015) and, out of fear of failure, they start avoiding instances of engagement in the process of reading. Resultantly, their chances of getting access to new ideas and updated academic information become extremely limited.

B. Reading Comprehension

Various aspects of reading have been extensively debated in the literature; however, it is a unanimously accepted fact that the reading activity's primary purpose is comprehension (Farr & Carey, 1986). It is defined either as "the general ability to understand text" (Craig, Connor, & Washington, 2003, cited in Waters, 2017, p 35), or as 'meaning acquired as a result of the reader's interaction with a text' (McNeil, 1984, cited in Sackstein, Spark, & Jenkins, 2015, p 2). Reading is a complex phenomenon in which many different cognitive processes work simultaneously, ultimately concluding at comprehension as their end result. It may be a simple text-level comprehension that involves recalling merely the text content or an inferential comprehension that demands readers to use their background knowledge to understand the text (Dewitz & Dewitz, 2003, cited in Alonzo, Basaraba, Tindal, & Carriveau, 2009, p.35). Different tools are used to measure reading comprehension, including multiple-choice tests, true-false statements, sentence completion activities, and answering open-ended questions (Farr & Carey, 1986; Snowling et al., 2009).

C. Reading Speed-comprehension Relationship

Rasinski (2006, as cited in Waters, 2016) considers fluency and particularly reading with a good speed as the "gateway to comprehension". Tinker (1958), while researching with 100 high school students, found a positive correlation between reading speed and comprehension. He observed that the faster readers could score higher on comprehension tests. Krumian (1999) analysed the relationship between the reading rate and various other factors, including eye movements mechanics. By training and examining the sample of 32 students, he concluded that speed-reading training could abundantly expand the reading rates with greater comprehension.

Xu et al. (2016) recommend that reading rate and comprehension should mutually be readjusted proportionally determined by test results. They consider the reading speed as the ideal if the reading comprehension is 70%. Readers, according to them, should increase their reading speed if the level of their comprehension is between 80%-100%. However, if the reading comprehension rate is around 50%, the speed should be decreased to improve comprehension.

D. Reading Speed and Comprehension in the L2 Context

Fry (1963, as cited in Bell, 2001) proclaims that good readers read as high as 350 words per minute (wpm), fair readers accomplish the target of 250 wpm, and slow readers could only read 150 words in the same time. This yardstick is, though, not set initially exclusively for the native speakers of English, practically may be relevant for them only, as the reading speed of non-native learners does not fit anywhere in this range. For example, Saudi Arabian EFL learners' reading speed is exceptionally slow, even at the university level. According to Kana'an, Rab, and Siddiqui (2014, p. 64), the average reading speed of the undergraduate EFL learners of King Khalid University (KKU), Saudi Arabia, is as low as merely 75 wpm. This slow reading speed problem is not specific to Saudi Arabia or Arab countries, but, according to (Hamp-Lyons 1983; Cooper 1984, cited in Javid & Al-Khairi, 2011, p. 222), it is a commonly documented problem for ESL/EFL students throughout the world.

However, it is a fact that students at the graduate level or above have to deal with a considerable amount of reading materials to write their research papers and succeed in their examinations. They, therefore, cannot afford to be slow readers (Berkoff, 1979, cited in Sackstein et al., 2015); the only way out is to increase the speed of their reading.

E. Software Used for Increasing the Speed of Reading

For the proficiency abilities needed in the 21st century, practical steps must be taken to modernise the old-fashioned skills like reading with the latest technological innovations. In this connection, several practical efforts have been made. The previously used speed-reading tools machines are replaced by various speed-reading software programs in the recent past, as given below.

1. 'The Accelerated Reader' (AR)

It is a speed-increasing software that allows learners to select a particular book for reading and then provides them with multiple-choice questions to evaluate their comprehension. However, according to Johnson & Howard (2003), a drawback in the software is that the in-built comprehension questions test the learners' literal comprehension only, ignoring the inferential comprehension altogether.

2. 'The Reader's Edge' (RE)

It is another speed increasing software that helps stop slow reading habits by using various computer-generated visual drills. It helps develop proficient reading habits through various activities, like eye mobility training and other exercises, which expands the visual span of readers both vertically and horizontally.

3. 'AceReader Pro'

It is another speed-increasing computer program that works on the principle of eliminating the reading speed-reducing habits of sub vocalisation and backtracking.

4. 'Speed Your Read'

It is yet another speed-accelerating computer program developed by Stark Raving Software. The programme consists of different speed-increasing activities in warm-up exercises, reading drills, speed-increasing tests and timed tests. It creates and keeps the progress reports of multiple users. It detects and adjusts the reading speed for various individuals automatically. However, the option for manual adjustment of the speed by the users is missing.

5. Ultimate Speed Reader

'Ultimate Speed Reader' is also a speed-increasing software containing passages and speed-increasing exercises. However, it is criticised for not having flashing exercises.

6. RocketReader Program

It operates on artificial intelligence and works on the principle of training the users to read faster with improved reading comprehension.

7. 'Eye Tracking Device'

This device (mentioned in Smolka et al., 2020) is used in research studies related to analysing the process of reading based on sensing eye movements. It tracks the paths of eye movements and records the points of attention that a reader pays to individual words. The first use of eye-tracker in reading and other information processing tasks was carried out by scholars as Rayner (Wu & Xi, 2018).

8. RSVP

Many of the software tools discussed above are, directly or indirectly, based on the Rapid Serial Visual Presentation or RSVP. According to Legge et al. (2007), RSVP is a speed-reading technique in which different words are sequentially presented on a display screen at the exact location. The reader concentrates on one point on the screen and waits for the words to show up. It was basically used for word recognition in the process of reading. It builds the reading speed by narrowing the visual field. The reading speed is much higher with RSVP than with static text, as there is no need to move eyes across the page in the former (Rayner et al., 2016).

9. The '7 Speed Reading EX 2019'

It is an eReflect (2019a) product, concentrating on proficiency improvement and objective-based training. Its strategies are not the same as the RSVP. Instead, it expands the overall region of visual focus. The software uses different techniques for breaking poor reading habits and increasing the speed of reading. In the first place, it takes out unhelpful and obsolete reading habits and, subsequently, shows the learners the methods that increase their reading speed, added to comprehend the texts they read in a better way.

The first obstacle to speed reading, which the software addresses, is the subvocalisation, which is the practice of "reading out loud" the words readers read in their heads (Cutler, 2002; Beale & Mullan, 2008). By utilising '7 Speed Reading', students can beat these old habits by allowing their eyes and brains to work more quickly and effectively. The second reading impediment that the software removes is the practice of backtracking — the periodical skipping back of eyes to the words that the reader has already read (Cutler, 2002, p. 36). There are exercises in this software that are designed to stop this speed-retarding practice.

After slashing the reading speed obstacles, the software focuses on factors necessary for increasing the reading pace. The speed reading research establishes that fast readers read a text in bigger chunks, with fewer eye fixations per line (Smith, 2004, p.196). Kana'an et al. (2014, p. 58) explain that a fast reader splits a single sentence into smaller chunks consisting of two or three words each. He reads chunk by chunk, reducing the number of focuses compared to reading word by word. Resultantly, two-word chunks double and three-word chunks triple the speed of reading. The '7 Speed Reading' programme trains eyes and mind for reading in bigger chunks.

The second speed-increasing factor that the '7 Speed Reading' software focuses on is the 'fixation'— the stopping

and focusing of eyes on specific text images or words. Therefore, to increase reading speed, the number of fixations per line needs to be decreased, and efforts should be made to read as many words as possible in each eye fixation.

In short, the current study is an attempt to focus on the role of the '7 Speed Reading' program in increasing reading speed. Furthermore, it tries to assess the possible effects of the software programme on reading comprehension. The significance of the study arises from the fact that it studies the effect of using technology in teaching reading fluency—an essential factor in teaching L2 reading skills, which has not been studied seriously.

III. METHODOLOGY

This study has used a pre-test-post-test quasi-experimental design that shows how and to what degree the '7 Speed Reading' program could be a definitive factor in upgrading EFL students' reading pace with an enhanced level of comprehension. The quasi-experimental design is selected because it relies on non-random criteria while assigning study subjects to the groups. The researchers aimed to make both the test and control groups as similar as possible in terms of the pre-intervention reading speed and comprehension — an act that was impossible in the random sampling of true experimental design.

Furthermore, it investigated the connection between the '7 Speed Reading' program and the change in the reading rate, on the one hand, and that in the reading comprehension, on the other. As Sutz & Weverka (2009) indicated, researchers utilise two procedures to measure reading efficiency: counting the number of words one reads per minute and calculating the level of comprehension in terms of the score in multiple-choice questions.

A. The Population of the Study

The study population consists of the EFL learners of Saudi Arabian universities whose reading speed is exceptionally slow. A study conducted by Kana'an et al. (2014, p. 64) reports that Saudi EFL undergraduates' average reading speed is only 75 wpm.

B. Sample of the Study

The study sample comprised control and test groups of 30 students each from the second year of the EFL undergraduate program at KKU. The convenience sampling technique is chosen for the study as the students are chosen based on their convenience.

C. Instruments of the Study

The primary tool for training the sample to increase their reading speed and comprehension is the '7 Speed Reading EX' program, which includes training modules, techniques, and various types of inbuilt and researcher-uploaded texts and tests.

D. Ethical Considerations

As a part of fulfilling the ethical considerations protocol, the researchers obtained permission to conduct the study from their institution. They also obtained informed consent from each participant in the study, whose names and identities are undisclosed.

E. Stages of the Research Study

1. Selection of the Reading Texts and Comprehension Questions

The texts meant for speed reading in this study are chosen from the digital library available on the software platform in this study. The researcher selected two text passages from the preloaded texts for the pre-test and post-test evaluation. For maintaining a coherent readability index, Rudolf Flesch readability index calculator (Flesch, 2013) was used. One text was used for the speed and comprehension pre-test, whereas the other was used for the post-test. The texts were followed by the related set of multiple-choice comprehension questions that tested the comprehension of the selected passages found on the '7 Speed Reading EX' software platform. The software automatically calculates the reading speed results in terms of words per minute and grades of the tests in percentage terms and displays them on the screen instantly.

2. The Validity of the Tests (Passages and Comprehension Questions)

It was considered essential to ensure the validity of the passages and comprehension questions used in the tests before the conduction of the training programme. Leedy & Ormrod (2010, p.28) define the validity of a measurement instrument as the extent to which it measures what it is meant to measure. Four sets of equal length and readability index texts and the related questions from the software database were sent to three referees for establishing validity. Two texts and sets of comprehension questions were finally selected for the study based on the referees' common positive feedback.

3. Administration of Pre-training Tests

Before beginning the training programme, the students of both groups were administered a test (a pre-test) using one of the selected reading passages. At the end of reading the texts, each reader was asked to note the software's reading

time and start taking the 10-item multiple-choice comprehension tests on the system. The reading comprehension scores calculated by the software were also recorded, and the resultant reading rates were calculated.

4. Administration of the Training Program

Then, various training modules in increasing the reading speed given in the '7 Speed Reading' program were extended to the test group students only. The training program's total duration was eight weeks, in which three-hourly training sessions were accomplished each week.

a. Training Module 1

The first module of the training programme aimed at stopping subvocalisation and regression. The 'text flash exercises' were used to overcome the habit of subvocalisation as they train the eyes to receive chunks of words instead of reading one word at a time. The 'text highlighter exercises' were used to expand the field of vision by training the eyes to go along with the chunks of highlighted words and stop focusing on individual words. Furthermore, the 'text scroller exercises' and 'horizontal text trainer exercises' were used to stop the speed reducing practices of subvocalisation and regression. These exercises present the text in bigger chunks in either a vertical or a horizontal sequence.

b. Training Module 2

The second module of the training programme focused on eyes fixation training. The exercises in this module help the readers increase their reading speed by decreasing the number of fixations per line, reading as many words as possible in each eye fixation. The first component of this module, 'the field expander exercises', help in expanding the field of vision by taking in multiple words at one time. Secondly, 'chunk expander exercises' were used to help the readers avoid regression by carefully concentrating on the forthcoming uncovered chunk of text. In the third place, 'eye movement exercises' were used to increase text processing speed, where the readers were asked to fix the number of words they like to see in each chunk by adjusting the word gap settings. Finally, 'information processing exercises' were used to fortify the link between the eyes, the thought processes, and the memory centres.

5. Administration of Post-training Tests

At the end of both training programme modules, the two groups were again tested for reading rate and comprehension using the second set of the text and comprehension questions. SPSS, the data analysis software, was used to analyse the results thus collected. The pre-test and post-test results from both control and experimental groups were compared using the Mann-Whitney tests in the SPSS software.

IV. RESULTS

The two-group pre-test post-test design shows the difference in the participants' performance before and after the training program's administration. (Laerd Statistics, 2015) However, the data is analysed for normality before testing the study hypothesis and answering the study questions.

A. Assessment of Normality and Descriptive Statistics

The statistical analysis of the data is initiated by investigating the normality of all the test scores. Various characteristics of the data of all the tests were then cross-examined (see table 1 below) for finding the mean (a measurement of central tendency), standard deviation (calculation of dispersion), skewness (a measure of symmetry), and kurtosis (the measure of tailed distribution) using the Statistical Package for Social Science (SPSS, 2017).

TABLE 1
DESCRIPTIVE STATISTICS

	N Valid	Mean	Std. Deviation	Skewness	Kurtosis
Pre-Training Speed	60	95.57	16.892	0.569	0.355
Pre-Training Score	60	68.17	8.535	0.705	-0.380
Post-Training Speed	60	125.23	53.065	2.252	7.351
Post-Training Score	60	75.33	11.856	0.549	-0.441

As evident from table 1 above, the mean and standard deviation values for all the tests are well above 3.5, indicating that most study subjects agree with the study questions. Furthermore, it indicates that skewness and kurtosis of some items exceed the range of −2.58 and +2.58, indicating that the data is not normally distributed as recommended by Hair Jr et al. (2014).

The data normality may also be cross-verified by analysing the results of the Shapiro-Wilk test, given in table 2 below:

TABLE 2
TESTS OF NORMALITY

Test	Group	Shapiro-Wilk		
		Statistic	df	Sig.
Pre-Test Reading Speed	Experimental	.964	30	.398
	Control	.923	30	.032
Pre-Test Comprehension Score	Experimental	.680	30	.000
	Control	.853	30	.001
Post-Test Reading Speed	Experimental	.872	30	.002
	Control	.961	30	.330
Post-Test Comprehension Score	Experimental	.834	30	.000
	Control	.828	30	.000

Table 2 above depicts the Shapiro-Wilk test results, which are more appropriate for small sample sizes (< 50 samples); however, they may also be used for sample size as substantial as 2000. As the Shapiro-Wilk Sig. value or p-value of the tests given above is less than 0.05; the data is interpreted as deviated significantly from the normal distribution. It may, however, be noted that a deviation above 0.05 signifies the normal distribution of the data. As the results reveal that the data has not satisfied the cut-off value of multivariate normality distribution, the study will use the Mann-Whitney and Wilcoxon for further analysis. It will not go for ANOVA, Pearson or t-test, used for parametric data.

B. Comprehension Score and Reading Speed before Training

Furthermore, it was ensured that the subjects were uniformly distributed in the control and test groups regarding reading speed and comprehension using the SPSS 20.

In table 3 below, the asymptotic significance values, 0.912 for speed and 0.260 for the pre-test score, proves that the null hypothesis is retained.

TABLE 3
THE NULL HYPOTHESES

S. No	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Pre-Training Reading Speed is the same across categories of the group.	Independent Samples Mann-Whitney U Test	.912	Retain the Null Hypothesis
2	The distribution of the Pre-Training Comprehension Score is the same across categories of the group.	Independent Samples Mann-Whitney U Test	.260	Retain the Null Hypothesis

Asymptotic significances are displayed. The significance level is .05.

As shown in table 3, the retention of the null hypothesis means the control and experimental groups are the same regarding their pre-training comprehension scores and reading speeds.

C. Findings of the Main Study and Discussion

This study addresses two research questions, and for finding their answers, it tests two hypotheses. However, before testing the hypotheses, the pre-and post-training reading speed results for both the groups were analysed descriptively (see table 4 below):

TABLE 4
READING SPEED OF SUBJECTS OF BOTH CONTROL AND EXPERIMENTAL GROUPS: BEFORE AND AFTER TRAINING

Reading Speed		
Group	Test	Words Per Minute [Average]
Experimental	Pre-Training	96.03333
Experimental	Post-Training	156.3
Control	Pre-Training	95.1
Control	Post-Training	94.16667

The results in table 4 indicate that the experimental group's reading speed increased from 96 to 156 words per minute due to the '7 Speed Reading' software intervention. Whereas, for the control group, which did not receive any training, there was almost no significant increase in reading speed as the pre-test and post-test speeds were 95.1 and 94.1 wpm, respectively.

1. Effect of Using '7 Speed Reading' Software on the Reading Speed

The first research question examines the effect of '7 Speed Reading' on the reading speed by evaluating the relationship between the pre- and post-test scores of both experimental and control groups. The first hypothesis was tested for scrutinising this relationship, which states that there is no significant increase in the study subjects' reading speed due to using the '7 Speed Reading' program. The findings of the obtained data analysis, when using the Mann-Whitney U-test, are given in table 5:

TABLE 5-A
RANKS

	Group	N	Mean Rank	Sum of Ranks
Pre-Training Reading Speed	Experimental	30	30.25	907.50
	Control	30	30.75	922.50
Post-Training Reading Speed	Experimental	30	42.57	1277.00
	Control	30	18.43	553.00

TABLE 5-B
TEST STATISTICS [a]

	Pre-Training Speed	Post-Training Speed
Mann-Whitney U	442.500	88.000
Wilcoxon W	907.500	553.000
Z	-.111	-5.354
Asymp. Sig. (2-tailed)	.912	.000

a. *Grouping variable: group*

As shown in the ranks data table 5-A, the post-training reading speed scores for experimental group (mean rank = 42.57) were statistically significantly higher than for control group (mean rank = 18.43), U = 88, z = -5.354, p = .000. According to the test statistics data in table 5-B, the Asymp. Sig. (2-tailed) value of p is 0.000, which is less than 0.05, indicating statistically significant differences between the values of pre-training and post-training reading speed of both experimental and control groups. The null hypothesis is, resultantly, rejected, and the alternate hypothesis meets the acceptance criteria.

The data analysis findings reveal that using the 7-Speed Reading program is substantive on Saudi EFL learners' reading speed, which improved significantly. In addition to this, it is also found that the overall mean of the experimental group's pre-test reading speed was 96.03 wpm, which for the post-test of the same group was 156.3 wpm—a difference that is significant statistically. Overall, there was a 24% increase in their reading speed. On the other hand, no significant change was observed in the control group subjects' pre-test and post-test reading speeds.

Before testing the hypothesis, the pre-and post-training reading comprehension results for both the experimental and control groups were analysed descriptively in table 6:

TABLE 6
READING COMPREHENSION OF BOTH CONTROL AND EXPERIMENTAL GROUPS SUBJECTS: BEFORE AND AFTER TRAINING

Comprehension Score		
Group	Test	Score [Average]
Experimental	Pre-Training	67
Experimental	Post-Training	80.66667
Control	Pre-Training	69.33
Control	Post-Training	70

The descriptive analysis results in table 6 indicate that the reading comprehension increased from 65 to 80.67 for the experimental group due to training in increasing comprehension using the '7 Speed Reading' software. Whereas, for the control group, which did not receive any training, there was almost no significant increase in reading speed as the pre-test and post-test speeds were 71 and 70 points, respectively.

2. Effect of Using '7 Speed Reading' Software on the Reading Comprehension Scores

For answering the second research question, which inquires about the effect of '7 Speed Reading' software on reading comprehension, the relationship between the comprehension score of the pre- and post-test scores of the reading speed of both test and control groups was evaluated. For scrutinising this relationship, the second hypothesis is tested, which states that there is no significant increase in the reading comprehension of the study subjects as a result of using the '7 Speed Reading' program. The findings of the obtained data analysis, when using the Mann-Whitney U-test, are given in table 7 below:

TABLE 7-A
RANKS

	Group	N	Mean Rank	Sum of Ranks
Pre-Training Comprehension Score	Experimental	30	28.13	844.00
	Control	30	32.87	986.00
Post-Training Comprehension Score	Experimental	30	38.50	1155.00
	Control	30	22.50	675.00

TABLE 7-B
TEST STATISTICS [a]

	Pre-Training Score	Post-Training Score
Mann-Whitney U	379.000	210.000
Wilcoxon W	844.000	675.000
Z	-1.126	-3.676
Asymp. Sig. (2-tailed)	.260	.000

As shown in the ranks data table 7-A, the post-training reading comprehension scores for experimental group (mean rank = 38.50) were statistically significantly higher than for control group (mean rank = 22.50), U = 210, z = -3.676, p = .000. According to the test Statistics data given in table 7-B, the Asymp. Sig. (2-tailed) value of p is 0.000, which is less than 0.05, indicating statistically significant differences between the values of post-training and post-training reading comprehension scores of both experimental and control groups. The null hypothesis is, resultantly, rejected, and the alternate hypothesis meets the acceptance criteria.

The result shows that using the 7-Speed Reading program substantially affects Saudi EFL learners' reading comprehension. So, the increase in reading rate may be attributed to using the '7 Speed Reading' software. The data analysis findings of pre- and post-tests scores indicate that there has been a development in the overall comprehension level of the study subjects. The overall increase in the reading comprehension score of the experimental group was 10. The experimental group's average reading comprehension score was 67, which increased to 80.67 as a result of using the '7 Speed Reading' software. On the other hand, no significant increase in the control group's comprehension score results was found in their pre-test and post-test.

V. DISCUSSIONS

Many early studies aimed at studying the role played by various software tools and applications (Al Udaini, 2011; Focarile, 2006; Goding, 2003; Mitchell, 2013) in increasing reading speed and comprehension. However, the current study is the first such attempt to study the efficacy of '7 Speed Reading' software in increasing the rate and comprehension of the EFL learners.

The study results showed that, like other speed increasing software tools, the '7 Speed Reading' is one step forward incorporating technology in education to obtain valid results. However, what makes this software unique is that it combines various other software characteristics in one application. Like the other software tools, it removes, in the first place, the obstacles that hamper the speed of reading, like eliminating subvocalisation (Cutler, 2002) and stopping regression (Buzan, 2010). On the other hand, this software tool helps in increasing the speed of reading by unitisation of different techniques, like chunking up the tiny bits of reading texts into bigger chunks (Yamashita & Ichikawa, 2010) and fixing the eyes (Smith, 2004, p. 196) on these bigger chunks and jump swiftly to the subsequent ones successively.

Furthermore, some previous studies (Averill & Mueller, 1928; Blommers & Lindquist, 1944; Stroud & Henderson, 1943) have earlier explored the relationship between reading speed and reading comprehension, though their context was not speed reading. The current study established that the '7 Speed Reading' software helps increase the learners' reading comprehension by increasing reading speed. It also proved that the increased reading speed makes the learner fluent in reading which ultimately culminates in better comprehension.

The present study has reached three main findings. In the first place, it has been confirmed that the learners' reading speed has improved due to using the '7 Speed Reading' program. This result is consistent with many previous studies (Culver, 1991; *Speed Reading: How to Absorb Information Quickly and Effectively*, 2021), which significantly increased learners' reading speed using computer-assisted reading instruction. Secondly, this study's results are consistent with previous research studies in which various strategies were used to improve reading comprehension and proved effective (Butler, 2007; Eilers & Pinkley, 2006). In all these studies, like the present study, there is no increase in the reading comprehension of the control groups, which did not receive any reading comprehension training. Thirdly, the current study's findings are different from other previous studies in that the comprehension of the experimental group had increased significantly as a result of using the '7 Speed Reading' software. This result substantiates the findings of those studies (Kulik et al., 1983; *Speed Reading: How to Absorb Information Quickly and Effectively*, 2021) who recorded a significant increase in reading comprehension of their subjects in their studies involving other computer-assisted reading instruction.

The current study's findings of an increase in the overall quality of the experimental group's reading speed and comprehension result from the fact that the '7 Speed Reading' software helps break poor reading habits. This afore-mentioned result is in line with Ronald's (2005) study, which discovered that faster readers have a better comprehension level. As a result of fast reading, the information remains fresh in the memory, whereas slow reading results in forgetting the information the learners read at the beginning of the sentence. This finding is consistent with Rayner's (1998), who considers that slow readers decode the words and associate meaning with them slowly, thereby reducing both speed and comprehension.

VI. CONCLUSIONS

This study aims to evaluate the role of the '7 Speed Reading' program in increasing the reading speed and comprehension of the subjects. The study used 60 undergraduate students at a Saudi Arabian university. They were divided into test and controlled groups. The test group received training in increasing the speed of using by using the '7 Speed Reading' software.

The results of the study led to several important conclusions. Strategy-based instruction is essential for successful learning in language classes (Mcknight, 1992). As reading fluency is one of the most critical skills for EFL learners, they need specific successful reading strategies to attain this goal. However, the following conditions must be fulfilled

for a successful learning strategy: effective instructional techniques and extensive training practice. The speed accelerating software, the '7 Speed Reading', fulfils these conditions entirely: the embedded practical instructional techniques derived from solid research; and the well-designed training modules developed to increase reading speed.

VII. RECOMMENDATIONS

The results mentioned above, the data analysis and the subsequent discussion call for attention to several recommendations related to the '7 Speed Reading' software. In the first place, educational policymakers should pay serious attention to incorporating educational software like '7 Speed Reading', which improves reading speed and comprehension and encourages them to study independently. They may include the training for using the software as an integral part of EFL teacher training programmes. Secondly, the findings of this study should also motivate instructors to consider including the software as an integral part of their reading curriculum, as it can help transform the dry act of academic reading into a pleasurable productive task. Furthermore, it may also save their precious time and help them achieve tremendous success by increasing their level of comprehension.

In light of the results above, the researchers recommend using the '7 Speed Reading' software for EFL students in the foundation year to enhance their reading speed and comprehension. The texts available in the existing curricula may be incorporated in the '7 Speed Reading' software. Furthermore, the outcomes and results of this study conducted on the undergraduate EFL learners of Saudi Arabia may be applied to other levels and contexts where English is taught as a foreign language.

VIII. LIMITATIONS OF THE STUDY

The current study focused on two aspects of the '7 Speed Reading' software, reading speed and comprehension—ignoring the scope and register of the vocabulary used for testing speed and comprehension. Future research may investigate this critical aspect of reading skills. Furthermore, this research did not concentrate on each type of exercise used in the '7 Speed Reading'. Further research can include each type of exercise in the training programme and evaluate the respective effect of each type separately on reading speed and comprehension. Lastly, the current study used the '7 Speed Reading' only to test reading speed and comprehension without focusing on other benefits when used as an integral part of the reading course syllabus. Future research can study the comprehensive impact of using the '7 Speed Reading' on the reading habits of the EFL learners when it is an essential part of a reading course.

As is typical with most research experiments, this study has raised more questions of importance to researchers and EFL teachers than it has answered, leaving many directions for similar research studies in future.

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