

SHORT-TERM MEMORY PROCESSES IN CHILDREN WITH LEARNING DISABILITIES

PROCESSOS DE MEMÓRIA DE CURTO PRAZO EM CRIANÇAS COM DEFICIÊNCIA DE APRENDIZAGEM

PROCESOS DE MEMORIA A CORTO PLAZO EN NIÑOS CON DIFICULTADES DE APRENDIZAJE

Reem Ali Alhussain¹

Abstract

The study evaluates the extent of online teaching among instructors at the selected universities in the Philippines. The study utilized 120 faculty members from the private and state universities in the Philippines. Participants of this study were classified according to gender, type of residence, number of years in teaching, highest educational attainment, and department. The researchers used quantitative and qualitative research designs. The quantitative research design utilized a Likert -type data instrument and statistical tools used were mean, t-test, and Analysis of Variance (ANOVA). The study was submitted and evaluated for its contents by the experts in the qualitative method. Moreover, qualitative data and information will be gathered through the interview to be conducted by the researchers themselves. The qualitative design process was guided by the qualitative and qualitative experts and was based on a qualitative framework by Creswell (2012). Results revealed that online teaching using JEL was "very high." The challenges derived from the qualitative views and statements experienced by the respondents were the following: (1) interrupted and unstable signal, (2) technical issues in the middle of using, (3) unpreparedness of the respondents as they shared that they need more training and hands-on, and (4) frequent maintenance of JEL.

Keywords: Reading comprehension; English language; Learning disabilities; Reading speed.

Resumo

O estudo avalia a extensão do ensino online entre os instrutores das universidades selecionadas nas Filipinas. O corpus da pesquisa contou com a participação de 120 membros do corpo docente de universidades privadas e estaduais nas Filipinas. Os participantes deste estudo foram classificados de acordo com sexo, tipo de residência, número de anos na docência, maior escolaridade e departamento. Os pesquisadores usaram desenhos de pesquisa quantitativos e qualitativos. O desenho da pesquisa quantitativa utilizou um instrumento de dados do tipo Likert e as ferramentas estatísticas utilizadas foram média, teste t e Análise de Variância (ANOVA). O estudo foi submetido e avaliado quanto ao seu conteúdo pelos especialistas no método qualitativo. Além disso, dados e informações qualitativas foram coletados por meio de entrevista realizada pelos próprios pesquisadores. O processo de design qualitativo foi guiado por especialistas qualitativos e quantitativos e foi baseado em uma estrutura qualitativa de Creswell (2012). Os resultados revelaram que o ensino online usando JEL foi "muito alto". Os desafios decorrentes das visões e depoimentos qualitativos vivenciados pelos entrevistados foram os seguintes: (1) sinal interrompido e instável, (2) problemas técnicos no meio do uso, (3) despreparo dos entrevistados ao compartilharem que precisam de mais treinamento e hands-on, e (4) manutenção frequente de JEL.

¹ Assistant Professor, Self - Department, Deanship of the preparatory year and supporting studies, Imam Abdulrahman Al Faisal University, Dammam, Saudi Arabia. Orcid: <https://orcid.org/0000-0002-1136-4622>. E-mail: reemalhussain2021@gmail.com

Palavras-chave: Compreensão leitora; Língua Inglesa; Dificuldades de aprendizagem; Velocidade de leitura.

Resumen

El estudio evalúa el alcance de la enseñanza en línea entre los profesores de universidades seleccionadas de Filipinas. El corpus de investigación contó con la participación de 120 profesores de universidades privadas y estatales de Filipinas. Los participantes de este estudio fueron clasificados según género, tipo de residencia, número de años de docencia, enseñanza superior y departamento. Los investigadores utilizaron diseños de investigación cuantitativos y cualitativos. El diseño de investigación cuantitativa utilizó un instrumento de datos tipo Likert y las herramientas estadísticas utilizadas fueron media, prueba t y Análisis de Varianza (ANOVA). El estudio fue presentado y evaluado en su contenido por expertos en el método cualitativo. Además, se recogieron datos e información cualitativos a través de entrevistas realizadas por los propios investigadores. El proceso de diseño cualitativo fue guiado por expertos cualitativos y se basó en un marco cualitativo de Creswell (2012). Los resultados revelaron que la enseñanza en línea usando JEL fue "muy alta". Los desafíos derivados de las opiniones cualitativas y testimonios experimentados por los entrevistados fueron los siguientes: (1) señal interrumpida e inestable, (2) problemas técnicos en medio del uso, (3) falta de preparación de los entrevistados al compartir que necesitan más capacitación y práctica, y (4) mantenimiento frecuente de JEL.

Palabras clave: Comprensión lectora; Idioma en Inglés; Dificultades de aprendizaje; Velocidad de lectura.

Introduction

Reading comprehension is the heart of the reading process. The educational system, with all its categories, seeks to provide students with this skill to help them increase the level of awareness and to be owners of basic reading skills that enable them to understand vocabulary. Reading comprehension also helps students to perceive the different meanings of the read text, and the ability to analyze and evaluate. Reading comprehension skills are very important in determining the success or failure of the student in academic life. The development of reading speed skills for students is important in the basic stages, as the student in these stages is expected to be able to read quickly, and they are expected to read to benefit from new information (Elizabeth, Juliana & Bloom, 2010). Students who read slowly due to their lack of speed in reading will not develop reading speed as other students who read quickly (Anderson, Wilson, and Fielding, 2010).

Because reading speed is so important to students, they should be trained to acquire this skill to achieve understanding. The faster the comprehension increases, the faster students can access important information, or obtain quick facts. There is no doubt that every student needs this kind of reading to keep pace with the rapid developments in this era (Bani Issa, 2010). Because of using traditional methods in schools to teach

reading, a generation appeared that had reading difficulties, and many skills that students must master in reading are missing. Reading disability, if not addressed early, prevent students' progress and continued with them into other grades (Khasawneh, 2021a).

Reading comprehension is a product of conscious reading that broadens and develops students' experiences, activates their intellectual skills, and provides students with the necessary information to solve many personal problems, to identify tendencies and increase them in breadth and depth, and develop a sense of self and the selves of others. It is appropriate for them, and pushes the mind to curiosity, reflection, and thinking, raises the level of understanding in social issues, raises the spirit of criticism for books, magazines, and newspapers, and makes the individual feel a sense of belonging to culture (Raslan, 2015).

Statement of the problem

Students face many difficulties in reading in English language, which constitutes an obstacle to their education and limits their activities and tendencies towards learning. Therefore, it is important to find more effective methods through the use of methods that attract their attention and excite them, and to eliminate the problems that they may face in learning to read (Rahimi & Babaei, 2021).

In contrast, school maladjustment can be defined as students' negative performances in their actions to solve the tasks imposed by the educational environment and it is related to the efficiency, progress, and success of the students in school. School maladjustment is primarily students' disordered relations with parents, teachers, classmates, and school staff, and related breaches of the rules of scholars and extra-scholars (Cîrceie, 2016). Maladjustment problems are often considered to be a heterogeneous set of behaviors, all of which make teaching more difficult and hinder the normal flow of the teaching-learning process in the classroom. In other words, school maladjustment usually involves a wide range of behaviors, which ultimately create problems in the educational environment (De la Fuente, Peralta, Sánchez & Trianes, 2012).

The problem of weakness in reading speed is one of the biggest problems that students face, especially in the basic education stages. This creates negative effects represented in the weak level of comprehension among students. Addressing this problem still needs more action to be taken, several studies tackled such an issue in a different context, but few Arabic studies have been conducted on developing reading speed skills. Therefore, there is an urgent need to develop an experimental program to improve reading speed skills for students with learning disabilities to present results on which educational applications are based to raise the level of students in reading speed and then raising their level of understanding and comprehension. Therefore, it is hoped that the current study will contribute to filling a gap in this area (Quinn, Wagner, Petscher, Roberts, Menzel, & Schatschneider, 2020).

Research Objectives

This study aims to identify the effect of using the reading speed strategy on developing the reading comprehension of students with learning disabilities in English language compared to the traditional methods.

Research Questions

The present study seeks to answer to the following research questions:

1. Are there any differences in reading comprehension between the mean scores of students with learning disabilities due to the teaching method (reading speed, the traditional method)?
2. Are there any differences in reading comprehension between the mean scores of students with learning disabilities due to the student's gender?

Significance of the Study

This study is considered one of the experimental studies concerned with investigating the effect of using reading speed strategy on developing reading comprehension. Therefore, this study will work on designing a program to develop the skills of comprehension and speed in reading speed to be applied to students to improve

their skills. The results of this study could help in improving students' level of reading speed and the subsequent increase in their level of comprehension.

Delimitations of the Study

The results of this study are limited by the size of the study sample. The study was applied to students with learning disabilities. The age of students included in the study was (8-11) years old. The study is also limited to Irbid city in Jordan and the academic year 2020-2021.

Definition of Operational Terms

The present study included many terms, which can be defined as follows:

Reading speed. This kind of reading means the words that the student reads in a specific unit of time accompanied by the verified comprehension of the reading material. It is expressed by the score that the student gets on the reading comprehension test.

Reading comprehension: It is an interactive cognitive mental process between the reader and the text. This process enables a group of students of a particular class to easily understand the written text. It is measured by the degree that students obtain on the reading comprehension test prepared for this purpose (Kotzer, & Heggie, 2021).

Reading speed strategy: It is a set of specific actions taken by the learner to make the learning process more quick, easy, and enjoyable (Pollack, Shelton, Clancy, & Lemons, 2021).

Literature review

Reading comprehension should elevate students to the level of awareness and cognition so that they become readers who possess reading skills that enable them to comprehend the linguistic units at advanced levels. It also helps students to raise their ability to accurately comprehend the reading, understand the vocabulary, the perception

of the surface and deep meaning, and the ability to understand the aim and significance of the writer to make objective judgments about the text. Abu Riach (2009) defined reading comprehension as the process by which previous experiences and features of the reader are used to form meaningful meanings for each reader in a specific context, and that process includes selecting specific ideas and understanding them in one sentence.

Fadlallah (2015) stated that comprehending the reading material, especially in educational situations, is a guarantee of upgrading the learner's language, providing him with rich ideas, being familiar with useful information, acquiring the skills of criticism, and accustoming him to expressing opinions and passing judgments, and helping him to pursue everything new. Jad (2013) defined reading comprehension as a complex process that goes on at different levels, requires mental capabilities and abilities, and needs a lot of practice, training, interpretation, analysis, balance, and criticism.

It is clear from the above that reading comprehension is important for students, and that it is the main goal of the reading process. Indeed, some educators regard reading and comprehension as one thing. Therefore, reading comprehension skills must be present in the curriculum and the classroom due to the importance of comprehension in language communication, and understanding the linguistic message between the writer and the reader (Harthi, 2020).

Previous Studies

Several studies have been conducted to investigate reading comprehension among students, and these studies have come up with different results. Bani Issa (2010) conducted a study aimed at identifying the effect of Paul Skelly's method of reading speed and reading comprehension among outstanding students in the elementary stage in Jordan. The study sample consisted of (60) students. The results of the study showed differences in reading comprehension skills and differences in reading speed skills on the two tests due to Paul Skelly's method and in favor of the experimental group.

Randy, Andrea, Christine, & Emily (2011) conducted a study aimed at accelerating the reading ability of children with slow reading ability. Reading was the first element among all groups, as children with low reading ability showed low goals in

speed compared to their children's counterparts, and it indicated that the speed component was negatively associated with adult age.

Babayigit (2019) examined the speed of reading texts students in the primary stage. The study used the survey of quantitative research methods. The sample of the study included 732 students. The study collected data from three primary schools in the areas of Yozgat province during 2018. The instrument of the study depended on measuring the number of words a student can reads in a minute. The results indicated the presence of clear difference in the reading rates of the text, especially between lower cased and upper cases letters. The results revealed that reading lowercase letters text was 13% higher than reading capital letters. The results also showed that secondary school students scored higher in reading aloud better than primary school students did.

Durukan (2020) investigated the effectiveness of a training based on fast reading on comprehension skills among secondary school students. The study was applied to a sample of 40 students from the 8th grade in Trabzon city. The study was based on the experimental approach, for which a pretest-posttest method was applied to one group. Before applying the study, the reading speed and comprehension levels of the students were identified. The participants received 20 hours of speed-reading training every other day for 5 days. The results of the study indicated significant improvement in the level of students after the implementation of the study.

Deniz and Yavuz (2020) investigated the types of reading error and reading speeds among students with special learning difficulties. The study used the case study model and was applied to a sample of 34 students from Grades 3–8. These students were identified as students with LDs in Konya in the 2019–2020 academic year. The results of the study revealed different types of errors students with LDs have shown. These errors included misreading, hesitating while reading, repeating, omitting a word or skipping a line, substituting a sound/syllable or a word, pausing while reading, correction and reversing sounds.

Research Methodology

Population and Sample

The study population consisted of all students of the fifth grade of primary school in government schools in the Second Irbid District. The sample of the study was (80) male and female students. Table (1) shows the demographic information of the study sample.

Table 1: Demographic Distribution of the Study Sample

Group	Males	Females	Total
Experimental	20	20	40
Control	20	20	40
Total	40	40	80

Source: Research data.

Research Instrument

The Reading Comprehension Test :

The test consisted of (20) items of a multiple-choice type and each item was assigned one mark. The test time was determined to be (40) minutes, and the pre-test was used to ensure the equivalence of the study groups. The same test was used after the completion of the implementation of the work plan.

Validity and Reliability of the Instrument

To ensure the validity of the instrument, the correlation coefficient was calculated. The correlation coefficients are shown in Table (2) below.

Table 2: The correlation coefficients of the study instrument

Item No.	Correlation Coefficient	Item No.	Correlation Coefficient
1.	**0.637	23.	**0.661
2.	**0.736	24.	**0.633
3.	**0.725	25.	**0.730
4.	**0.648	26.	**0.790
5.	**0.832	27.	**0.825
6.	**0.694	28.	**0.763
7.	**0.816	29.	**0.779
8.	**0.836	30.	**0.852
9.	**0.820		
10.	**0.747		
11.	**0.887		
12.	**0.754		

13.	**0.814		
14.	**0.811		
15.	**0.542		
16.	**0.887		
17.	**0.908		
18.	**0.824		
19.	**0.899		
20.	**0.876		
21.	**0.617		
22.	**0.705	Overall	**0.822

Source: Research data.

As illustrated in Table (2), the correlation coefficient for all the test items was above 0.40, and the overall correlation coefficient for the test was 0.822, which means that the test was valid to administer in the Jordanian environment. To ensure the reliability of the test, the internal consistency was calculated using the (Cronbach Alpha) statistical method to verify the consistency of the students' responses. The internal consistency results revealed that the Cronbach Alpha of the responses was (0.96.8), and this value is acceptable to accept the reliability of the test.

Findings and Discussion

To answer the questions of the study, the mean scores and standard deviations of the sample's marks were calculated on the Reading Comprehension Test as shown in Table (3).

Table 3. The mean scores and standard deviations of the sample's scores in the post-test according to the study variables

Gender	Group			
	Experimental		Control	
	Means score	Standard deviation	Means score	Standard deviation
Males	19.81	3.56	14.39	4.00
Females	20.90	3.08	14.28	4.47
Total	20.35	3.32	14.33	4.24

Source: Research data.

It is evident from Table (3) that the mean score of the experimental group of male students was (19.81) with a standard deviation (3.56). The mean score of the female from

the experimental group was (20.90) with a standard deviation (3.08). On the other hand, the mean score of the control group of male students was (14.39) with a standard deviation (4.00), and the mean score of the control group of females was (14.28) with a standard deviation (4.47). The experimental group of males and females reached (20.35) with a standard deviation (3.32), while the total sum of the mean score of the control group was (14.33) with a standard deviation (4.24).

It is noticed that there are apparent differences between the mean scores of the groups of the study. To verify the statistical significance of these differences, the Two-way ANOVA analysis was used as shown in Table (4).

Table 4. Results of the Two-Way ANOVA analysis for the post-test according to the study variables

Source of variance	Sum of squares	Freedom value	Mean square	F-value	Sig.
Method	1236,405	1	1236,405	93,657	* 0,000
Gender	5,438	1	5,438	0,412	0,522
Interaction between method and gender	14,741	1	14,741	1,11	0,292
Error	1821,805	139	13,201		
Total	3378,280	142			

Source: Research data.

* Statistically significant at ($\alpha = 0.05$)

It is clear from Table (4) that the results were as follows:

Results of the first question

It is evident from Table (4) that the calculated F-value was (93.657) with a level of significance (0,000). This indicates the existence of statistically significant differences at ($\alpha = 0.05$) on the reading comprehension test attributable to the teaching method (speed reading, traditional method) in favor of the experimental group that studied using speed reading strategy.

The reason for this result is that the use of speed-reading in teaching is considered a different method from the usual ways in which students learn to read. The change in the method of teaching led to great activity, suspense among students, and a tendency towards learning to read. Perhaps the reason for this result is that the speed-reading program is characterized by providing the student with the opportunity to participate in the learning and teaching process, being self-reliant and increasing self-confidence, which in turn increases motivation, interaction, and participation in the learning process.

Results of the second question

It is evident from Table (4) that there are no statistically significant differences due to the gender of students, as the calculated F-value was (0.412) and its level of significance was (0.522), which is not statistically significant at ($\alpha = 0.05$). The reason for this may be that the speed-reading strategy included educational units from the Arabic language book for the sixth grade, prepared by the Ministry, and intended to be taught to students, whether males or females.

This result can also be attributed to the fact that the speed-reading action plan is designed to suit both genders. It provides elements of excitement for male and female students, and it attracts the attention and involvement of the student in the learning process through exercises that are suitable for students of the basic sixth grade of both genders. This strategy also increases their motivation towards learning, as the speed-reading action plan is concerned with developing reading skills for all students, male and female, and it did not target a specific group of students, but rather viewed the student as an educated individual with abilities and skills seeking to develop and

The reason for this result can be attributed to the tendency of students of both genders to get rid of the routine method and shift to modern methods, which makes them serious in their dealing with the speed-reading strategy. It helps students realize that they are facing a method that increases their activity and level of motivation and opens up horizons of knowledge for them.

Recommendations

In light of the findings of the study, the researcher recommends the diversification of teaching methods to be suitable with the educational position, with a focus on the method of speed-reading, which the study revealed its positive effect. The study also recommends paying more attention and focus on helping students to develop their attitudes towards speed-reading, from teachers and parents, by encouraging students to speed-reading, and increasing their demand for it, as this has a positive impact on their reading comprehension.

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