Impact of Computer-mediated Instruction on Reading Proficiency Skills of ESL Learners at Secondary Level

Syed Khuram Shahzad, PhD Scholar in English, Linguistics, Institute of English Language and Literature, University of Sindh, Jamshoro
Dr. Abdul Hameed Panwar, Institute of English Language and Literature, University of Sindh, Jamshoro
Dr. Sanaullah Ansari, Institute of English Language and Literature, University of Sindh, Jamshoro

Abstract- This study is aimed to investigate the impact of computer-mediated technology on the reading proficiency skills of ESL learners at the secondary level in Pakistan. In this research, a newly developed software Immersive reader has been used to treat ESL learners to minimize and meet their reading deficiencies. Two groups of students were managed, i.e., the controlled group and experimental group. The Control group was taught through the traditional teaching method, and the experimental group was treated through CMI (Computer-Mediated-Instruction). A pre-test was conducted to assess ESL learners' present knowledge of reading skills from both the groups, and their obtained score was noted. Similarly, after treatment, a post-test of both the groups was conducted, and ESL learners obtained score was noted. It was noticed that the experimental group achieved a significantly good score as compared to the control group's ESL learners. Their reading skills improved amazingly.

Keywords: Reading Skills, CMI, Immersive Reader, Secondary Level, Pakistan

I.   INTRODUCTION

In the modern way of life, computers and the Internet play a significant role. There is no question they have changed the way people effort, get knowledge, read, connect, and communicate, and play. Computers and the Internet are therefore used as a learning tool by learners, instructors, and researchers worldwide and people at home to study, work, and entertain (Gündüz, 2005). The excellent relationship of computers with language learning is therefore undeniable. In language learning, the sensible combination of computers and language learning will yield rewarding results (Jayachandran, 2007). These findings could be accomplished by allowing learners to organize and process their information at the touch of keyboard and mouse buttons. Therefore, this new approach to learning, especially its efficiency in language learning, needs to be investigated and studied. Listening and reading are seen as receptive skills in the English Language, and speaking and writing are regarded as productive skills. Students need to master reading as one of those skills since it will affect their communication skills. Besides, reading is considered vital since it is used to learn and gain access to alternate interpretations and data that have then been used in academic settings.

Significance of the Study

This study is intended to provide feedback on the ability to understand teaching and learning reading, particularly knowledge related to the use of computer-based reading in teaching reading comprehension in secondary school. An additional source, particularly for other researchers who want to research the same subject, either at the same level or at different levels, was also expected to result from this study.

Statement of the Problem

For language teaching in ESL classrooms, many media have been used for teaching and learning purposes, especially reading comprehension. The most prominent media is the computer among those. (Sakai, 2007) revealed that CALL is used in ESL classrooms due to several reasons. Those reasons are experimental teaching Ann learning turn hands turn expertise in language skills, motivate them, interact them towards studies, and authentic material. This research aims to know that computer-mediated technology affects students reading proficiency skills or not in the ESL classroom at the secondary level in the Pakistani context.

The objectives of the study

1. To know the impact of using CMI on EFL students' achievement in reading comprehension at the secondary level.
2. To investigate whether there is a significant difference for the group's achievement in the post-test due to the use of the computer at home, having Internet access, and the number of hours used for academic purposes.

Research Questions

1. Is there any impact of using CMI on EFL students' achievement in reading comprehension at the secondary level?
2. Is there any significant difference for the group's achievement in the post-test due to the use of the computer at home, having Internet access, and the number of hours used for academic purposes?

II.   LITERATURE REVIEW

The usage of computer-assisted language learning is a great triumph in the field of teaching or learning a foreign language like English. For language teaching, the present era has tested and applied technologically dependent gadgets like personal computers, tablets, and smartphones that have started reshaping teachers' and learners' notions and thoughts language at the same time. These revolutionary changes have introduced exciting devices motivating the learners to acquire language in a conducive and friendly environment.

The importance of computer use in today's modern age cannot be denied. Teaching any language has become an effortless and excellent way. (Candlin & Beatty, 2003;Hassan & Qureshi, 2021)opines that according to researchers, teaching language to children through computers has eliminated many problems, and language teachers can teach it with great ease. It offers help to resolve issues related to pedagogy and material designs. Nowadays, computer-assisted teaching methods help in learning the best foreign language and provide certified content. When students learn a foreign language, they also come across new interaction patterns with authenticity (Larsari, 2011).

Computer tools and other reading and writing resources are playing a crucial role in today's world. In today's world, technology has done reading and writing much more comfortable and more useful. Contemporary researchers have shown from their research that the use of the computer is playing a crucial role in reading and writing and it is having a significant impact on the performance of students (Van der Linden, 1993;Hassan & Dzakiria, 2019).have the opinion that computer-assisted language learning is not now the novel way of teaching or learning a language after the 1960s. According (Baker et al., 1985)is inquiry mode; problem-solving, dialogue mode, drill and practice; simulation; gaming; and tutorial mode. Therefore, all modes and functions of computer-assisted learning have started playing an influential role in imparting all integrated skills. Owing to the reasons reading and writing are the skills to be taught with a computer's help.

ESL is helping teachers improve their English reading and writing and technology have had a very positive effect on the students' performance. Ever since the computer was used to teach in the classroom, it has had the best artist-type effects on the students' reading and writing skills. The use of computers and technology in the classroom enhances students' learning ability and creates a positive impetus in them, which further improves their reading and writing faculties. As a result, teacher educators around the world and teachers themselves, find the use of technology so useful that they are doing their best to use technology by integrating it as an instructional tool.(Ismail, Al-Awidi, & Almekhlafi, 2012).

According to researchers like Madden, Ford, (Atai & Dashtestani, 2013),the usage of technology in language teaching has brought about rapid and effective changes to apply pedagogical tools to receive desired and targeted results. The use of technology has done reading and writing much more useful, making it much easier for teachers and students to read and write and eliminate the difficulty of understanding and acting on things. The revolution has taken place in using technology tools to impart language. According to (Iravani & Tajik, 2012), Teaching through computer and language learning has become very effective and powerful. The students learn it with great interest and enthusiasm. The process of language learning is essential. It has

become much easier, and the strange bond that used to be on the students is gone, and they happily acquire integrated skills through this method(Shirzadi & Darani, 2017;Hassan & Aziz, 2019). Candyproposes that how and what of learning are significantly interlinked. Attitude comprises three major components: cognitive, affective, and behavioral (Liaw, 2002; Smith, 1971; Wenden, 1991).

A great researcher (Sawir, 2005;Hassan & Dzakiria, 2020) states that EFL students had great difficulty mastering the language, especially in listening and speaking, but since using computers,language has started to become an easy tool to get mastery over it. This process, which is very easy and exciting, has created motivation in the students, and they are very interested in learning the language and learn it very quickly. Computer-mediated technology has become easier to hear, understand, and speak a foreign language, but the process of writing and reading has also become an exciting stimulus that allows students to learn it with great joy and great pleasure. Another opinion is given by (Huang, Hung, & Tsao, 2008)that the most important thing for learning a foreign language is that the goal can be achieved when the students are sincere in learning the foreign language. Computer-assisted learning or teaching a foreign language can be done if the students have the right attitude and they are interested in learning the foreign language, and then the students can achieve this goal. That is why it is said that the attitude of teachers and students towards learning a foreign language does matter a lot. In today's modern and advanced age, English is a foreign language that has become more and more popular, and students who are trying to learn it in such a way that they can quickly learn a foreign language. Therefore, teaching a foreign language through the computer has become very popular among people, and it has been accepted,and this process has become more comfortable and practical to acquire English as a foreign language. (Sarkheil & Azarnoosh, 2014).

A researcher like (Burns & Polman, 2006;Aziz & Hassan, 2018)suggest that teaching through computers has a positive effect on children's ability to learn, provided that the teacher knows how to use a computer and how to do things correctly. Researchers like (Wiederhold, Falck, & Heimisch, 2015)also believe that computers should be used in a positive way to teach foreign languages to motivate students to learn foreign languages better. In today's modern and advanced age, where technology has benefited other areas of life, computer- like technology has made it much easier to acquire and learn a foreign language.Therefore, the importance of computers in today's modern age cannot be denied.

Teaching a foreign language through the computer has become as natural and meaningful as in everyday life; people interact, communicate, and learn about things.Research shows that "People's interactions with computers, television, and new media are fundamentally social and natural, just like interactions in real life (Lee, 2008).Computers today are a useful invention that allows students to practice a foreign language inside the classroom and make full use of it outside the classroom. A research carried out by (Nass, Moon, & Carney, 1999) deduced that the students watch movies on YouTube using computers outside the classroom, which improves their vocabulary and English expression.(Lee, 2008)With computer-assisted language teaching or learning, grammar can be improved with learning or authoring soft-wares that guide the learners regarding grammar and its usage.

Furthermore, he asserts that by using wording, learners can improve their writing skills. Computer-mediated technology also helps in enhancing other integrated skills like listening and speaking. So, there is no doubt that students can get full access to their target language through the computer. Educational institutions and teachers now must use all the computer-related activities to teach the language so that they are motivated and try to learn English with enthusiasm.

Essentials of Reading Skill:
Reading skill consists of the following right essentials

Phonological Awareness
Phonological knowledge refers to the capacity of individual sounds in words to attend and to control them. Children need to hear an individual sound that makes up language clearly to be a good reader.

Decoding
This refers to the capacity to read individual words and to correctly and automatically sound out foreign words. Most issues with reading are related to decoding difficulties.

Rapid Naming

Rapid naming refers to the ability to name groups of things, colors, and numbers specifically and efficiently. There is a relationship between a child's ability to name sequences of letters, objects, and colors efficiently and decoding fluency.

Verbal Memory

For all aspects of reading, the ability to remember language both in context and out of context is essential. Reading a story and asking the student to retell the story may be an example of measuring verbal memory within a context.

Fluency

Fluency refers to the ability, with sufficient speed and without unnecessary delays or hesitation, to read accurately and automatically. Fluency is determined by scheduling students as they read.

Reading Comprehension

By asking students to read multiple passages and answer a series of questions about their reading quality, the ability to understand what we read is measured. It is necessary to decide whether a student can understand what he reads.

Written expression

The willingness to convey thoughts in writing is a crucial aspect of a reading assessment. Any learners who have trouble orally expressing themselves can also have trouble expressing themselves in writing. This is also because of the complexity of arranging and formulating a language that they face.

An Introduction to Micro-Soft Team Software

The immersive reader is a unique teaching and learning tool featured by Microsoft in Team Software. This tool is included in Microsoft 365. Microsoft 365 is the best and comprehensive virtual teaching software with many teaching tools used in the teaching and learning process while teaching online virtually. For example, some of them are zone application for living and face to face interactions among teachers and students, inside application, test portal, insights application, Quizlet, Wikipedia search, Nearpod application, Presentation Al application, and many more applications that are education supportive.

What is Immersive Reader?

Immersive Reader is a free tool that incorporates validated strategies for people, regardless of their age or skill, to enhance reading and writing. For learners of the English language, Immersive Reader may enhance reading comprehension and increase fluency. It can help create trust at higher levels for emerging readers to learn to read, and provide text decoding options for learners with learning disabilities such as dyslexia. Learning Tools Immersive Reader creates a reading experience that adds accessibility and comprehension for learners of all ages and abilities.

The function of Immersive Reader

☐ Change font size, text spacing, and background colour.

☐ Split up words into syllables.

☐ Highlight verbs, nouns, adjectives and sub-clauses.

☐ Choose between two fonts optimized to help with reading.

☐ Read out text aloud, and change the speed of reading.

III. RESEARCH METHODOLOGY

In this section, the detailed research methodology of this study has been described. The study was conducted based on a quasi-experimental method. Two groups of the separticipants were managed. One group was the traditional group that was taught using the traditional teaching method, and the second group was the experimental group that was taught using computer-mediated technology. For this purpose, immersive reading software was used for teaching reading comprehension skills. This suffering was developed by Microsoft and freely available to everyone. This software has multiple functions. Students can write anything, and the software will read. Besides this, it tells the meaning of the pronunciation of the words and can be used to enhance the fluency of all the learners. teachers and students need to account for this software, and a teacher can instruct his students by giving them different tasks and assignments based on reading. Students can get those assignments and can complete the task through the immersive reader and respond to the teacher.

Delimitation of the Study: Reading skills includes many subskills, e.g., phonological awareness, fluency, pronunciation, etc. but this study is delimited to comprehension paragraph reading skill.

Population and sampling

The study was conducted in secondary schools of the Tehseel Sadiqabad in District Rahimyar Khan. Participants of this study were students of secondary class from Public schools from the urban area.

Tools for Data Collection

A pre-test and post-test were conducted for collecting data.

Paired Sample T-Test of Pre & Post-Tests (Control Group)

Table 1 Paired Sample T-Test analysis of Pre-Test and Post-Test of Controlled Group

Test	N	M	SD	d	t	Effect Size
Pre-Test	20	5.50	1.0	19	-16.92	0.077
Post-Test	20	12.50	1.39			

*Difference is significant at .05 level

A paired sample t-test of the pre-test and post-test for the control group was given in table 1. In this table, the total number of participants was equal to 20 for each of the studies. The mean value is 5.50 for the pre-test and 12.50 for the post-test. SD values are 1.0 and 1.39, respectively. The value of d is equivalent to 19. The value of t is -16.92 in this relation, and the effect size is estimated as 0.077. This value of 0.077 is less than 0.05, which means that there is a slight difference in the mean scores of these assessments, thus improving students' achievement and improving their reading skills after teaching by conventional teaching methods.

Table 2 Paired Sample T-Test analysis of Pre-Test and Post-Test of Experimental Group.

Test	N	M	SD	d	t	Effect Size
Pre-Test	20	5.45	0.826	19	-28.35	0.73
Post-Test	20	15.65	1.424			

*Difference is significant at .05 level

A paired sample t-test of the pre-test and post-test for the control group was given in table 2. In this table, the total number of participants was equal to 20 for each of the studies. The mean value is 5.45 for the pre-test and 15.65 for the post-test. The SD values are 0.826 and 1.424, respectively. The value of d is equivalent to 19. The value of t is -28.35 in this comparison, and the effect size is estimated as 0.073. This value of 0.073 is less than 0.05, which means that there is a substantial difference in the mean scores of these tests, so students' improvement is greater, and their ability to talk much improved after teaching via the teaching through CMI based technology.

Independent Sample T-Test analysis of Pre-Test and Post-Test of Control Group

Table 3 Independent Sample T-Test analysis of Pre-Test and Post-Test of Control Group

Test	N	M	SD	d	t	Effect Size
				19	0.172	0.93
CG Pre-Test	20	5.50	1.00			
CG Post-Test	20	5.45	0.825			

*Difference is significant at .05 level

A pre-test and post-test independent sample t-test for the control group was given in table 3. In this table, the total number of participants was equal to 20 for both experiments. The mean value is 5.50 for the pre-test and 5.45 for the post-test. The SD values are 1.00 and 0.825, respectively. The value of d is equivalent to 19. The value of t is 0.172 in this relation, and the effect size is estimated as 0.93. This value of 0.93 is less than 0.05, which means that there is a slight difference in these assessments' mean scores, so students' improvement is more incredible, and their ability towards reading skills did

improved much after teaching using conventional teaching methods.

Table 4 Independent Sample T-Test analysis of Pre-Test and Post-Test of Experimental Group

Test	N	M	SD	d	t	Effect Size
				19	-10.28	0.97
Exp. Pre-Test	20	10.55	1.70			
Exp. Post-Test	20	15.65	1.43			

*Difference is significant at .05 level

A pre-test and post-test independent sample t-test for the control group was given in table 4.8. In this table, the total number of participants was equal to 20 for both experiments. The mean value is 10.55 for the pre- test and 15.65 for the post-test. The SD values are 1.70 and 1.43, respectively. The value of d is equivalent to 19. The value of t is -10.28 in this relation, and the effect size is estimated as 0.97. This value of 0.97 is less than 0.05, which means that there is an extra ordinary difference in the mean scores of these exams, so students' improvement is more remarkable, and their ability to of reading skills improved significantly then that of control group, by applying CMI based teaching method on experimental group.

IV. CONCLUSION

The study was conducted to investigate the impact of CMI on writing skills teaching strategies used at the secondary level by EFL teachers. In his study, it has been investigated that CMI played an important role in studying and developing the writing skills of students at the secondary level in writing skill teaching. The researcher collected information from various sources when analyzing the teacher's beliefs and practices about successful CM technique methods and the role it plays in incomprehension.

- The outcome of the present study showed that the abilities of the student and reading skills improved through this technique.
- The first compulsory thing to develop the reading skills of students was to make vivid and lively directions based on students and to use techniques.
- The aim was to make students excited about learning skills for reading. The student was able to comprehend effective methods of reading, but they also understood that in classrooms their teachers might have to practice it.
- It has been recognized that CMI techniques have a remarkable influence on the learning of students.
- This national enthusiasm for teaching had therefore ruled off on students who made learning an enjoyable and satisfying experience.
- Despite the significance in Pakistan of English as a foreign language (EFL), the acquisition level of many learners remains crumbly.
- EFL teaching in Pakistan fails to support English and is less proficient.
- Teachers appear to struggle to meet their target language goal.
- Much is needed in the classroom to enhance the EFL status.
- Questions from the study were explored in depth.

V. RECOMMENDATION

- For individuals, the accepted advice demonstrates why they should be willing to add to the current study by leading research on the use of writing ability upgrade procedures in secondary level ESL teaching.
- In addition to reading skills, learners with new language aptitude skills, i.e., secondary, intermediate, or advanced, may be subjects for another experiment.
- In a public boy's secondary school, this research was carried out. It is possible to carry out the same analysis in another setting, i.e., public primary, elementary or private institutions, or at the level of university and college.
- In the new research, English as a foreign language can be observed.

- Other academics involved may analyze the impact on language skills of various types of substitute methods. Investigating the link between the excitement and retention of teachers and students will be fruitful.

- Teachers should improve computer-related abilities for new teaching trends to come.

- ESL teachers are encouraged to be inspired by this research and to shift their teaching methods from conventional to modern and innovative teaching methods by using CMI to make their teaching useful and exciting.

- Because of its massive position in culture, English language acquisition is important for learners.

- To get the required results, a teacher should use various methods and techniques.

- The teacher should be familiar with the appropriate care in the classroom of reading ability strategies. Techniques for reading skills enable students to enhance their studie.

- Via writing skills strategies, students often incorporate passion, bravery, confidence, and self- assured.

- The preparation of teachers should be planned to make them aware of technology at the secondary level to boost the reading abilities of students.

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