

The Impact of ChatGPT on the Writing Skills of ESL Students of a Public Sector College in Lahore

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Abstract

The aim of this study was to study the impact of ChatGPT-based instruction on improving the writing skills of undergraduate ESL students in a public-sector college in Lahore. The study used a mixed-method sequential explanatory design, the research included a quasi-experimental phase and qualitative interviews. During the Qualitative Phase 30 students were Purposefully selected from the Semester One of BS English Course. They were further divided into Experimental and Control groups, and were given writing assignments on Functional English topics. The Experimental Group was asked to take assistance from ChatGPT alongside textbooks, whereas the Control Group relied solely on textbooks. Post test results revealed significant improvements in the Experimental Group across three dependent variables: content, grammar, and presentation, with average post-test scores of 62%, 61%, and 55%, respectively, compared to 50%, 48%, and 43% in the control group. During the qualitative phase of the study, semi-structured interviews were taken from two randomly selected students of Experimental Group. Both the students reported a positive experience, enhanced confidence, reduced time spent on assignments, and an emotionally supportive learning environment while working with ChatGPT. However, they acknowledged the necessity of supplementing AI with traditional resources to ensure accuracy and adherence to prescribed formats. This study suggests integrating AI into classrooms to complement traditional methods, it advocates for further research with larger populations, diverse educational contexts, and extended study durations to establish the broader applicability and effectiveness of AI in education. The study concludes that incorporating AI in our ESL classrooms is the need of the hour if teachers want to remain relevant with the younger generation.

Keywords: Artificial Intelligence, ChatGPT, English as a Second Language

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Introduction

Human beings are increasingly becoming dependent upon computers and smartphones to assist them in doing their normal day to day and professional assignments. In today's world, we take assistance from computers to help in tasks like analyzing and organizing big data. With the advancement in technology, we have in our access Artificial Intelligence tools that claim that they can replicate and simulate human interaction (Hassani, Silva, Unger, Tajmazinani & Mac Feely, 2020). They also claim that they can perform human tasks in such a manner that no one will be able to distinguish whether a human being was behind the completion of this task or a machine. This is a very tall claim that needs further investigation especially in the field of pedagogy. We need to study whether a machine can replace human led knowledge generation processes or not? "Several thinkers and scientists are raising questions about the efficacy of AI tools" (Brynjolfsson, 2022). It is pertinent to ask ourselves the question about how effective these tools are, and to what extent they can aid humans in their learning and creative tasks. In recent years, there has been a marked acceleration in the development of AI systems capable of replicating and simulating human-like interactions. "AI is undoubtedly changing the world we live in, and the possibilities for its application are endless" (Chen, 2023). The aim of this study is to assess the efficacy of ChatGPT (an AI tool) in improving the writing skills of ESL learners of a Public Sector College in Lahore. Following two research questions were formulated to conduct this study:

- i) What is the impact of ChatGPT-based instruction on the writing skills of undergraduate ESL students of a Public Sector College in Lahore in terms of the content, grammar, and presentation of their Written Assignments as compared to traditional instruction methods?
- ii) How do undergraduate ESL students of a Public Sector College in Lahore perceive the use of ChatGPT as a writing support tool in terms of confidence, efficiency, and emotional engagement with the learning process?

Literature Review

The invention of Artificial Intelligence tools like ChatGPT have made it inevitable for educators around the globe to adopt new perspectives in their classrooms if they want to stay relevant in this rapidly changing world. Artificial Intelligence tools use complex algorithms that interact with its users with the help of a chatbot (Wu et al., 2023). This

chatbot (e.g. ChatGPT) is the interface that allows users to ask questions from it as it has been trained to answer all the queries of its user like a more well read and experienced human (Meyer et al., 2023). It is interesting to note that these tools also learn from human interaction as their knowledge also increases with the input that the humans provide them. These softwares have been trained using Large Language Models that analyze large amount of textual data and infer relationships between words within a text. These AI tools are able to provide answers to all our queries within seconds because of their ability to analyze a large amount of data. Consequently, these Chatbots not only answer our everyday queries but can also generate complex academic level texts (Aljanabi, Ghazi, Hussein & Abas Abed, 2023). The texts generated by these AI tools are almost indistinguishable from human-produced ones. This is a matter of serious concern for educators and scholars around the world as they display a myriad of reactions ranging from those who are willing to welcome and adopt this technology because of its potential benefits while there are still those who are cautious about the ethical implications of incorporating these tools in their pedagogy and then we meet educators who are concerned about the dangers of our students' overdependence on these Chatbots (Chen, Chen & Lin, 2020; Lim et al., 2023; Osamor, Kulume & Cherukut, 2023; Xiong, Shi, Pu & Liu, 2023).

We have seen in the past how similar concerns were raised by educators when calculators were invented. However, after much speculation, they were incorporated into the curriculum (Carlsson & Willermark, 2023). Today, our educators face a bigger challenge in the form of AI tools, they are filled with doubts about the efficacy of these Artificial Intelligence tools; where some educators postulate that that AI technology is still in its infant state and cannot be beneficial for students of higher education, but those in favor of adopting this technology believe that AI can enormously contribute to the learning experience (Florea & Radu, 2019; Fu, Lokesh Krishna & Sabitha, 2021; Mallik & Gangopadhyay, 2023). We cannot claim with certainty about the advantages of AI in education at this initial stage of development. Therefore, it is important to conduct research that can help us in identifying its potential merits and demerits. We need to explore if AI technologies and applications are effective in facilitating students and educators in adopting new pedagogical changes. At this initial stage of AI based educational research, we observe that most of the experts are focusing upon creating different protocols and approaches for seamlessly incorporating these AI Tools in pedagogy (Bin-Hady, Al-Kadi, Hazaea & Ali, 2023; Ouyang & Jiao, 2021; Xiong et al., 2023). Some scholars are conducting case studies to study the impact of AI tools on pedagogy

(Connolly et al., 2023; Ghafouri, 2024; Song & Song, 2023; Tlili et al., 2023). This shows that AI tools are no longer being tested in laboratories like set up but are now a part of the practical environment of our educational institutions. It is therefore imperative to conduct a study that could talk about the possible merits and demerits of leveraging the AI tools in Language Learning and its possible implications.

Integrating ChatGPT in the Teaching of English as a Second Language (ESL)

Examining the potential benefits of AI tools for the process of learning English as a second language is crucial. Because AI tools can identify patterns of language development across a variety of contexts, they provide significant benefits, especially for educators examining large-scale linguistic datasets. Teachers who are performing diagnostic analyses of students' language difficulties during the language learning process may find this helpful. These AI tools can assist second language teachers in identifying significant linguistic milestones in their students' second language acquisition because they have been trained on a large amount of linguistic data. These AI tools can also be used to identify individual differences in language acquisition. Because AI can provide a deeper understanding of the factors that influence language learning outcomes, educators are increasingly using it to predict children's language development trajectories by analyzing linguistic input and environmental factors (Roy et al., 2015). The "versatile capabilities" of AI tools are highlighted by Brown et al. (2020), who also mention their use in content creation, translation, and other language-related tasks. In order to study the cognitive mechanisms underlying language development, computational models have also gained popularity (Roy et al., 2015), showing how AI can mimic cognitive mechanisms through modeling and simulation.

Students can identify errors and more accurately assess their progress with the help of these resources, which provide insightful feedback on language usage. AI's capacity to assist language learners in studying basic language acquisition components like vocabulary, grammar, and spelling is extremely advantageous. The capacity of AI tools to offer customized feedback significantly improves learner autonomy and development. According to studies, chatbots can successfully improve grammatical proficiency, lessen language-related anxiety, and boost interest in AI-based learning environments (Song & Song, 2023). These tools improve assessment and instructional delivery strategies by using natural language processing (NLP) and machine learning (ML) techniques to assess grammatical accuracy, vocabulary range, and fluency. In a study looking at the effects of ChatGPT-based instruction, Ghafour (2024)

discovered that because ChatGPT offered a calm and emotionally supportive learning environment, students who used it did better academically. This implies that AI tools not only help students pinpoint their language deficiencies but also create environments that support the acquisition of a second language. Additionally, during interactive learning sessions, teachers can use these tools to provide real-time feedback on vocabulary and grammar (Mohamed & Alian, 2023).

Chatbots have several advantages for language learning (LL). These include establishing a low-stress learning environment, improving learner motivation, providing spelling and grammar feedback, providing opportunities for reading and listening practice, and serving as conversation partners, according to Nguyen (2023). Furthermore, educators view chatbots as easily accessible tools that foster communication in the classroom, and the growth of critical thinking abilities (Halaweh, 2023). Although it is commonly known that AI tools have a great deal of promise to help second language learners, biases in AI models as well as ethical questions about data privacy and informed consent have also been brought up. To advance linguistic theory and fully utilize the potential of interdisciplinary collaboration, it is imperative that these challenges should be effectively addressed.

Research Methodology

This is a Mixed Method Study in which the research was carried out in two phases; Quasi-Experimental phase and Qualitative Phase. The purpose of this study was to investigate the effectiveness of employing ChatGPT based teaching instruction to improve the Written Assignments of BS English Semester One students studying Functional English Course, at a Public Sector College in Lahore affiliated with Lahore College for Women University, Lahore. The researcher believed that the best way to conduct this study was to use a Mixed Method Research Approach that combined the resources and instruments of the Positivist and Post Positivist research paradigms. The current study used a Sequential Explanatory Research Design to examine how well Chat GPT-based teaching instruction can help low-proficient ESL students at a Public Sector College in Lahore with their assignment writing. Sequential explanatory research is defined by the collection and analysis of qualitative data after a first phase of quantitative data collection and analysis. This Mixed Method Design Strategy was used to help interpret and explain the quantitative study's results.

The study included the following variables:

- (i). The Independent Variable represented by ChatGPT based instruction on the assignment writing skills.
- (ii). The Dependent Variable represented in the Undergraduate students' Assignment Writing skills that was further measured through "Content" "Grammar (and spelling)." "Format and Presentation" skills

Quasi-Experimental Stage-Quantitative Phase

In the Quantitative Phase of this study, the researcher purposefully selected 30 students from Semester One BS English students of a Functional English Course studying at a Public Sector College in Lahore affiliated with Lahore College for Women University. These students were further divided into Experimental Group and Control Group through Random Sampling. The researcher used the following instruments to study the effect of independent variable on the dependent variables:

- 1- Assignment Writing Tasks on two topics (Pretest & Post-test)
- 2- ChatGPT based teaching Assignment Writing instruction spanning over a duration of 3 hours per week for a total of four weeks. The data was presented in the form of tables and bar graphs where the scores of Experimental Group and Control Group were thoroughly analyzed. In order to study the effect of ChatGPT based teaching instruction on students' performance in their Functional English Course, three hypotheses were developed which were to be tested:

- i) The students who will take help from ChatGPT to complete their Writing Assignments will score higher in the "Content" of their assignments.
- ii) The "Grammar (and spellings)" of students who take help from ChatGPT will improve more than the students who are asked to complete their assignments without ChatGPT support.
- iii) ChatGPT based teaching instruction will improve the "Presentation (and Format)" of the Written Assignments.

During the Quasi-Experimental stage two groups were assigned as the participants of the study; the Experimental group and the Control group. Each group consisted of 15 students from the BS English Semester One Students of Functional English Course studying at a Public Sector College in Lahore affiliated with Lahore College for Women University, Lahore. Both the groups were taught Speaking Skills from the Communication Skills book by S. Shaffi Mir. To measure the effectiveness (or lack) of ChatGPT as a helping tool, the main research question was further divided into two sub-questions. In the first sub-

question, the researcher was interested in observing how the students would perform if they were asked to complete their written assignments of Functional English Course of Semester 1 with the help of ChatGPT. This research question was formulated in order to measure the Writing Skills of students of a Public Sector college in Lahore after being taught topics from their Functional English Course Outline for Semester One designed by Lahore College for Women University. The students were taught in detail from their Course Book on Communication Skills by S. Mir on the general rules about Speaking on the Phone in the first week and How to Prepare for A Job Interview in the second week. These two topics are a part of their Course Outline of Functional English Course designed by Lahore College for Women University. In the third week, the teacher took a surprise test of the students to check their Assignment Writing Skills. The scores of this surprise test can be considered as the Pretest for this study. Next week during the class, the teacher asked the students to make Written Assignments on the same topics. The Control Group was asked to consult their textbook to make this Written Assignment whereas the Experimental Group was asked to consult both their textbook and ChatGPT to make their Assignments. The teacher had also shared the Assessment Rubric at the start of the Semester with the students about how their Written Assignments will be marked out of 10 where 4 marks were allocated to Content, 3 to Grammar (and spellings) and 3 to Presentation (and Formatting) of the Written Assignment. The students were asked to submit Written Assignment on the following topics:

- i) Discuss in detail the General Rules of Talking on the Phone.
- ii) How to Prepare for a Job Interview?

Semi-structured Interviews-Qualitative Phase

Two students from the experimental group were chosen using the fishbowl sampling method during the study's qualitative phase. To find out how they felt about using ChatGPT as a learning tool, semi-structured interviews were done. Key themes pertaining to the students' attitudes and perceptions regarding ChatGPT-based instructional approaches in contrast to conventional teaching methods were identified through a thematic analysis of the data gathered from these interviews.

Reliability and Validity

This study used a controlled experimental design with a control group and an experimental group to guarantee internal validity. While the control group was told to only use their textbook, the experimental group was specifically told to use ChatGPT to complete their written

assignments. The goal of this strategy was to determine how ChatGPT-based instruction affected students' writing abilities. Concerns about external validity were also addressed. In particular, students were not made aware of the study's intended results, which reduced the possibility of performance bias because participants knew they were taking part in a study.

During the Qualitative Phase of the study, the researcher audio taped the students' interviews and after transcribing them showed them to the students in order to establish the credibility of their interviews. To ensure the transferability, and dependability of the research design, the researcher has attempted to provide a detailed description of the way these interviews were conducted.

Limitations

The following limitations were experienced while conducting this research:

1. It was a small-scale study with a small sample population. Further studies can be carried out with bigger groups at different institutions.
2. The study focused on undergraduate students; further research can be carried out with different grade levels especially at younger grades to study the effectiveness of ChatGPT based teaching instruction
3. The researcher used ChatGPT based teaching instruction to teach only one type of writing task: the Assignments Writing. Further research can be carried out with different genres.
4. The time span of this research was only four weeks, the researcher feels that there is a need to conduct similar research for longer periods of time.

Research Ethics

The researcher took consent from the students before making them a part of this study and using their Written Assignments. The confidentiality of the subjects was also ensured as their identities were not revealed at any stage of data analysis.

Results and Discussion

The Quasi-Experimental Study

The scores of both the pretest and posttest of the experimental group and controlled group were analyzed with the help of Tables showing Average Percentage Scores in each Variable and Bar Graphs that provided a detailed Comparative Analysis of each student of Experimental Group

and Control Group in the three identified Dependent Variables namely Content, Grammar and Presentation separately.

Data Representation of Pre- test Scores of Experimental Group and Control Group

Students were asked to write Assignments on How to Talk Effectively on the Phone and How to Prepare for a Job Interview. The teacher had taught her students these topics for two weeks. The Pretest was taken to assess whether students could write independently on the topics without consulting any Textbook or ChatGPT. The teacher had identified three dependent variables and kept the same criteria for assessing the Assignment Writing Skills of both the Control Group and Experimental Group in Pretest and Post-tests. Three dependent variables were; Content, Grammar (and spellings) and Presentation of the assignment. These variables were shared with the students in the form of a Rubric that was generated with the help of ChatGPT. The Rubric was shared with the students of both the Experimental group and Control group to assess the assignments of the students on the following topics:

1. How to speak effectively on the Phone?
2. How to Prepare for a Job Interview?

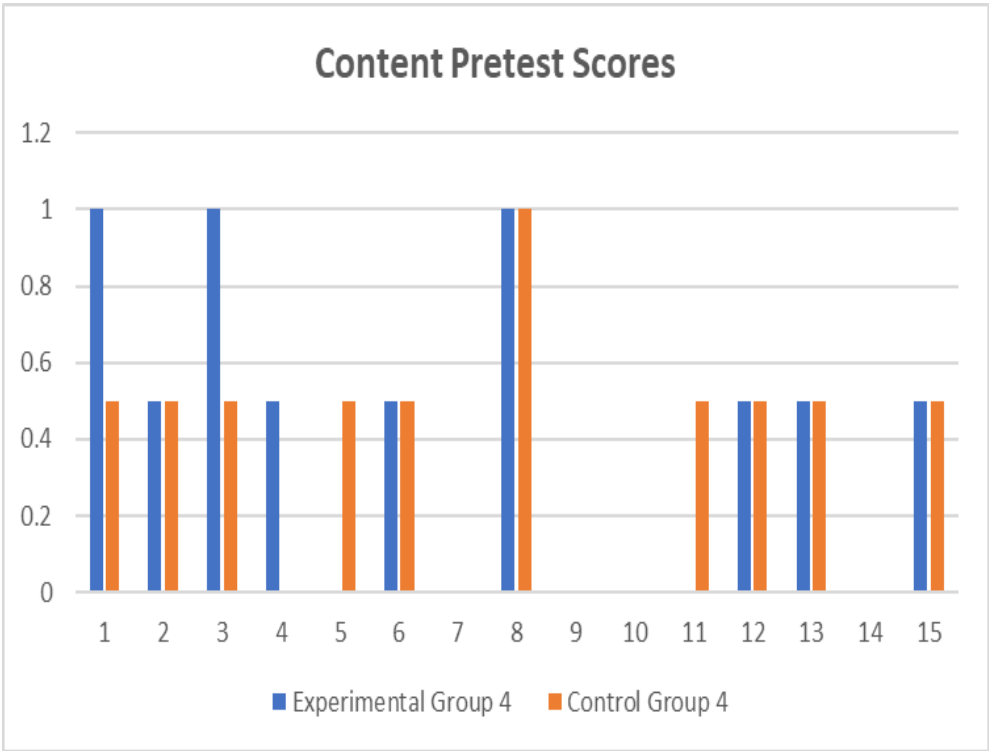
The analysis of pre-test scores for both the Experimental and Control groups indicates a high degree of similarity across the three dependent variables used to evaluate their Assignment Writing Skills.

Variables	Experimental Pretest Percentage	Group Average	Control Scores Percentage	Group Average	Pretest Average
Content	10%		9%		
Grammar & Vocabulary	13%		11%		
Presentation & Formatting	9%		8%		

Table 4.1. Pretest Scores of Experimental Group and Control Group

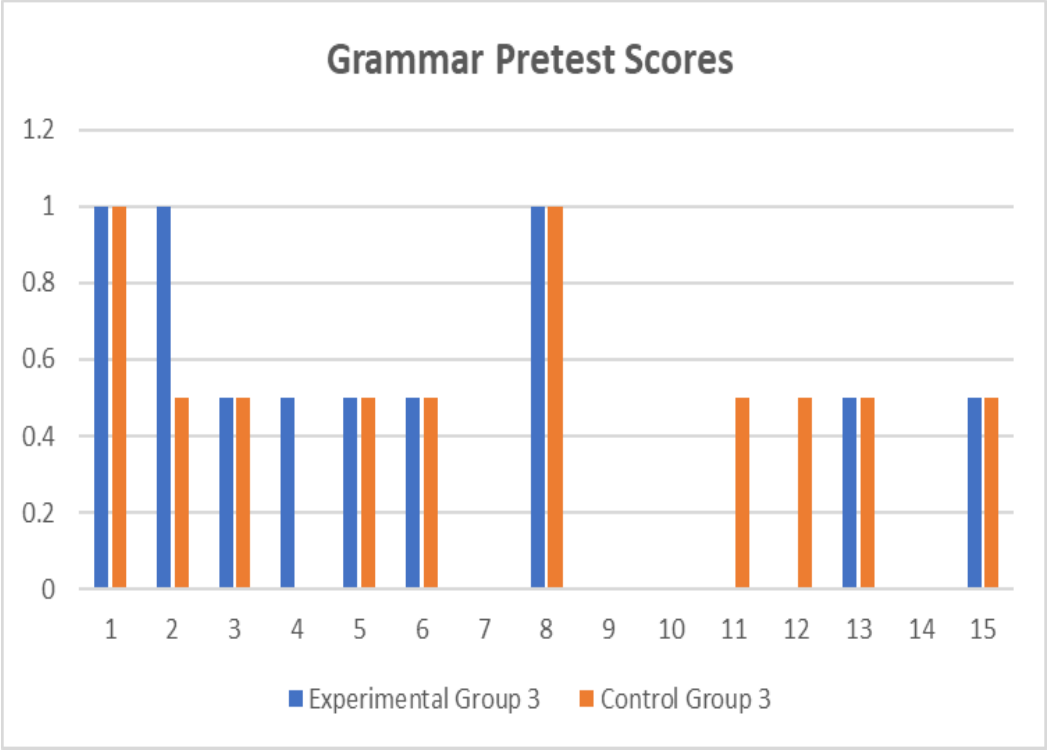
The average content scores of the Experimental Group and the Control Group in their assignment writing across both topics were 10% and 9%, respectively, as presented in Table 4.1. The graphical representation in Graph 4.1 further illustrates that the participants in both

groups exhibited a comparable level of proficiency in the "Content" component of their written assignments.



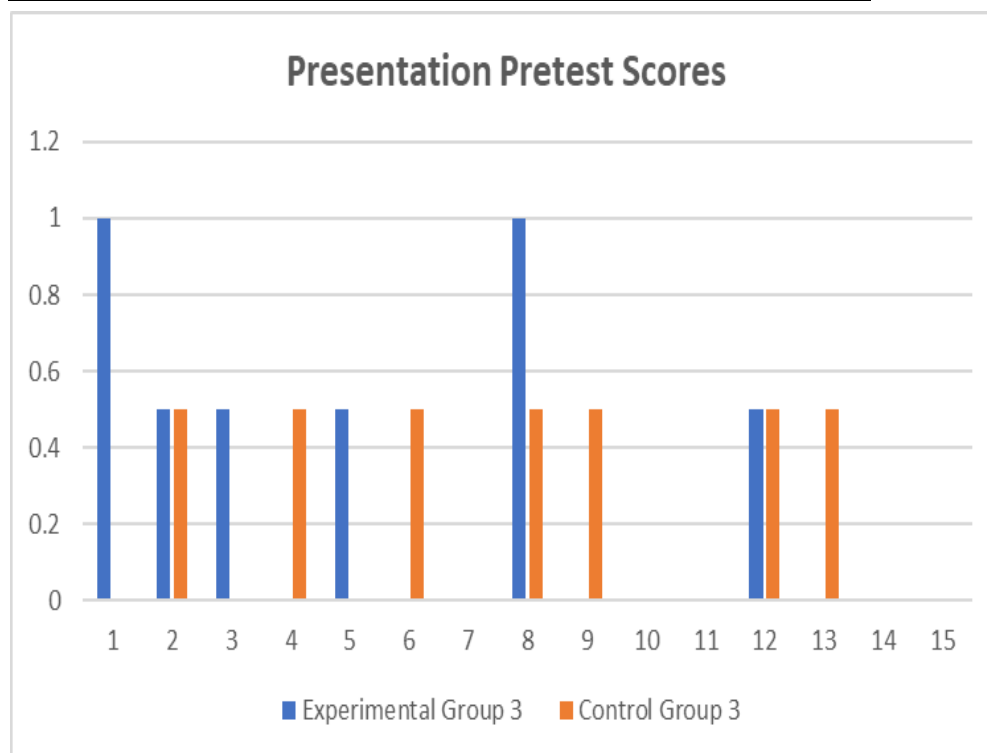
Graph 4.1 Comparison of scores of Experimental Group and Control Group in “Content”

Table 4.1 shows that in “Grammar” the Average Score of Experimental Group and Controlled Group was 13% and 11% respectively. The Bar Graphs in Graph 4.1 shows that almost all the Participants of the study were at similar proficiency level in the “Grammar” of their Written Assignments.



Graph 4.2 Comparison of scores of Experimental Group and Control Group in “Grammar”

The Experimental Group received an average score of 9% on the Presentation (and Formatting) portion of the assignments, while the Control Group received an average score of 8%, as indicated in Table 4.1. According to these results, both groups showed similar levels of competence in each of the three dependent variables that were used to evaluate assignment writing skills.



Graph 4.3 Comparison of scores of Experimental Group and Control Group in “Presentation”

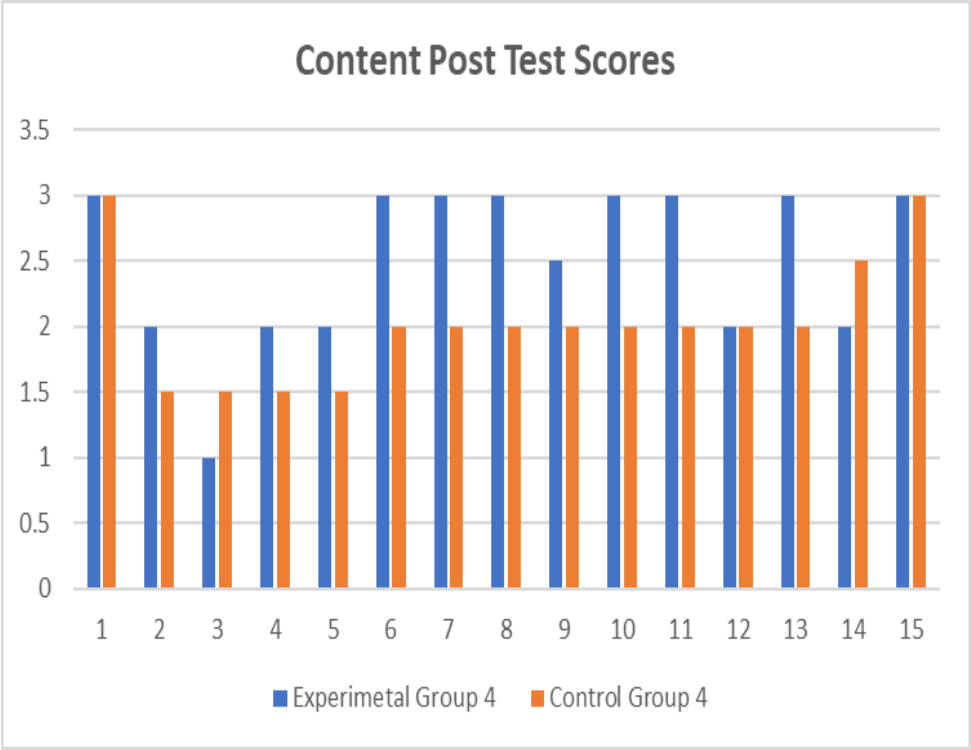
In order for the data obtained after the experiment to be comparable, it was crucial from the perspective of this study to use both groups, who were nearly at the same level of proficiency in their assignment writing. In order to achieve internal validity, this pretest was a crucial research tool.

Data Representation of Post-test Scores of Experimental Group and Control Group

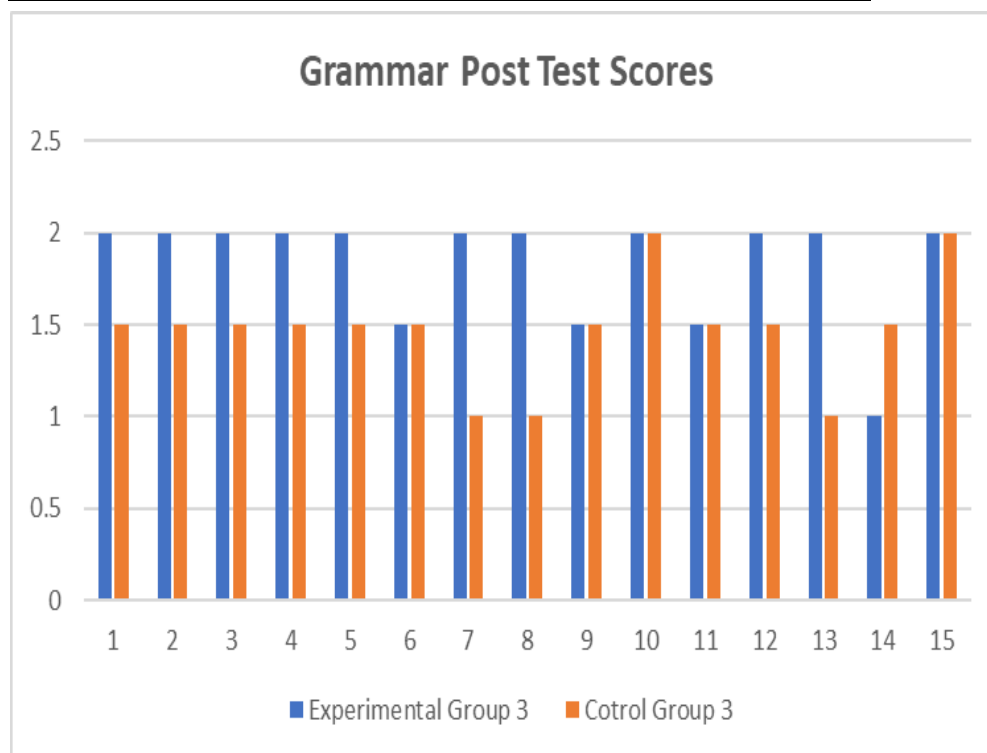
Variables	Experimental Average Percentage	Group	Control Group Average Percentage
Content	62%		50%
Grammar & Vocabulary	61%		48%
Presentation & Formatting	55%		43%

Table 4.2 Post-test Scores of Experimental Group and Control Group

When compared to their pre-test scores, the Control Group showed improvement in their post-test scores across the three dependent variables of the study—Content, Grammar, and Presentation—according to the statistical analysis shown in Table 4.2. It is crucial to emphasize that the Control Group was taught using conventional techniques, and they were only required to use their textbook to finish the writing assignments. The Experimental Group, on the other hand, was told to use ChatGPT as an additional resource when getting ready for their assignments. Additionally, the data shows that in all three dependent variables, the Experimental Group improved more than the Control Group. It is also worth noting that the students showed significant improvement in ‘Content’. Content is one of the most important features of these Assignments. If the Content of the Assignment is not clear enough then it fails to convince the reader of the message that it is trying to put across. It is important to mention here that students of the Control Group had access to their textbooks. That is why they were able to make Assignments with better Content whereas in the Pre Test stage they did not have access to their textbooks. On the other hand, students of Experimental Group also showed a significant improvement in the Content of their Assignments. Their average percentage score was 62%. It is worth mentioning that students of Experimental Group were asked clearly by the teacher to use both their textbooks and ChatGPT to make their Assignments. The above data clearly shows that Experimental Group showed more improvement as they were allowed to use ChatGPT in addition to their textbooks. It was stated in Hypothesis 1 that the students who are provided ChatGPT based teaching will write Essays with a clearer Content than the students who are taught in a traditional manner. The statistical data analysis in Graph 4.4 clearly shows that hypothesis one is proved positive as statistically significant differences were found between the scores of Experimental group and Controlled Group in Post- Content as indicated by the Bar Graphs. Table 4.2 shows that the Experimental Group scored an overall 62% versus the Average score of the Control Group which was 50%.

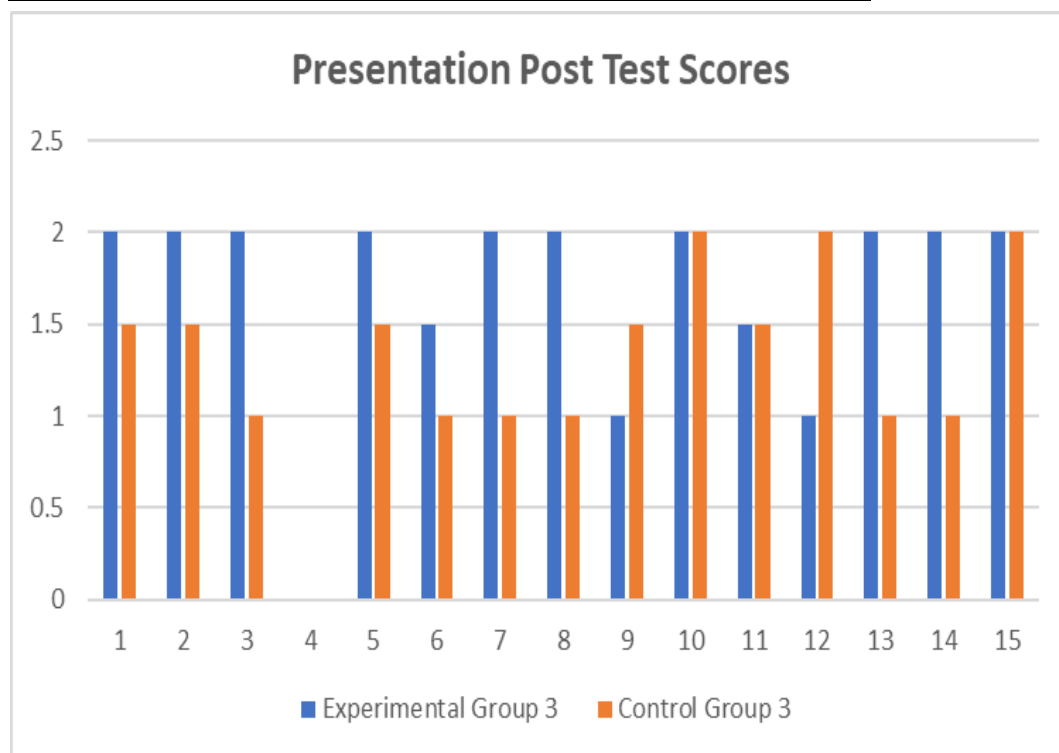


Graph 4.4 Post-test scores of Experimental Group and Control Group in “Content”



Graph 4.5 Post-test scores of Experimental Group and Control Group in “Grammar”

According to hypothesis 2, the Grammar (and spellings) of students who are provided ChatGPT based teaching will improve more than the students who are taught using the traditional method. The data analysis of the test scores shows that hypothesis two is proved positive as there is a significant difference in test scores where Experimental Groups' Average score was 61% versus the Control Group was able to achieve an Average Percentage Score of 48%. The Bar Graph 4.5 clearly shows significant differences in the scoring of Control Group and Experimental Group where the Experimental Group has clearly performed better than the Control Group this proving Hypothesis 2 positive as well.



Graph 4.6 Post-test scores of Experimental Group and Control Group in “Presentation”

According to hypothesis 3, ChatGPT based teaching will improve the Presentation (and Formatting) of the Written Assignment as compared to the students who are taught using the traditional method. This hypothesis is supported by the statistical information shown in Table 4.1, which shows a statistically significant difference between the Experimental and Control Groups' average percentage scores. Overall, the Experimental Group scored 55%, compared to 43% for the Control Group. Bar Graph 4.6 provides a visual representation of this difference, amply illustrating the Experimental Group's significant improvement. The statistical results thus support Hypothesis 3, which states that ChatGPT-based instruction has a positive effect on students' written assignments' Presentation (and Formatting) component.

Semi-structured Interviews

During the second phase of this study, which was the Qualitative Phase, the researcher interviewed two students from the Experimental group using semi-structured interviews to assess the attitude of the students on taking assistance from ChatGPT in making their assignments during the Experimental Phase. Total four semi structured questions were asked from these students.

- Q1. How do you perceive the traditional style of assignment writing that was taught to you before this course?
Q2. How did you feel while making Assignments using ChatGPT?
Q3. Did you feel relaxed or tense while taking help from ChatGPT?
Q4. Will you use ChatGPT in future?

Responses and Analysis of Semi structured Question

Student A responded that she had always found Assignment Writing to be a difficult task. As a follow up question, the researcher further asked her why she felt that Assignment Writing was difficult. Student A responded that she was never confident about her grammar and spellings while making Written Assignments. At the same time, she was also confused about the proper format of the assignment. When she consulted ChatGPT, it helped her to remain focused and to follow a Format. The teacher had already discussed the content of the topic in the class. The teacher had made her aware of the fact that sometimes ChatGPT makes mistakes. That is why she kept her prompts for Chat Gpt according to the Lecture Notes that she had been taking down while the teacher was teaching the topics in the class. This kept her focused and she was able to finish her Written Assignment in a shorter span of time as compared to the previous assignments she had made where she only consulted her textbooks. Student B said that initially she faced difficulty in making the Writing Assignment on the topic of How to Speak Effectively on the Phone as the content Chat Gpt was producing was not according to the format that the teacher had taught in the class. Then she took out her notes and textbook. She said that she had to use her lecture notes and textbook as reference points for the prompts she put into Chat Gpt. Only then she was able to create her Written Assignment according to the format that had been shared by the teacher. Student B confessed that after overcoming her initial hesitation for using a new technology, she completed her task in a shorter span of time as compared to the traditional assignment making in the past.

Both Student A and B responded that they felt very comfortable while using Chat Gpt. Student A confessed that she was emotionally

relaxed that she had access to help in the form of Chat Gpt. Student B said that initially she was a little scared of using the Chatbot but because it was very user friendly, she became relaxed quickly.

In the fourth Semi Structured Question the researcher asked the students if they will use Chat Gpt in future or not? Both Student A and B said that they will be seeking ChatGPT's help in their future tasks as well. At the same time, they expressed gratitude to their teacher for teaching them how to use Chat Gpt in an effective manner and also sensitizing them to the fact that Chat Gpt is still not error free and the students should use it in a conscientious manner.

Conclusion

The field of pedagogy has faced several challenges where many fundamental questions were raised and the educators had to rethink strategies, adopt tools that could aid them in their classrooms and had to reject those that were useless for their students. We have seen how educators indulged in serious debate whether they should allow their students to use calculators or not, whether these calculators were harmful for the learning process or useful? Ultimately, they realized the usefulness of these calculators and incorporated them in their curriculum. It was not long ago that the teachers were filled with doubt about how students were misusing "Google" to help them in their research processes. But slowly and gradually, we saw the same teachers encouraging their students to "Google" different topics. With the advent of Artificial Intelligence tools like Chat Gpt, the academicians again find themselves standing at another crossroads. This crossroad is entirely different from the ones experienced in the past. Apparently, it seems that the entire teaching profession is faced with an imminent threat. Every teacher is filled with doubts about the future of his profession. Is Artificial Intelligence going to replace the need for a teacher in the classroom? Will the teachers be out of their jobs soon? "AI is undoubtedly changing the world we live in, and the possibilities for its application are endless" (Chen, 2023). Both the Experimental Phase and Qualitative Phase of this research has shown that Chat Gpt can be an effective tool that can be incorporated in our traditional classrooms. The major learning from this study is the fact that instead of fearing these Artificial Intelligence tools, our focus needs to be upon studying the efficacy of these tools. Our focus should be upon asking the question; to what extent can these AI tools aid the teachers and students in their ESL classrooms? The world is rapidly changing and if the teachers and instructors will not adapt themselves to the rapidly evolving world of technology, they will become obsolete in future. Our younger generation has access to all sorts of Artificial Intelligence tools that are bringing in a

plethora of changes. The future will belong to only those who will embrace these changes. Chat Gpt and other AI tools should not be feared like calculators and Google as there will always be a need for a human touch in our classrooms but at the same time it is important to learn new techniques and bring innovation to our classrooms. There is a need to carry out further research in this particular area of pedagogy in different settings with larger sample size to gain further insights into the possible benefits and pitfalls of incorporating AI in our classrooms.

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