

EFFECTS OF DIFFERENTIATED INSTRUCTIONS ON WRITING SKILLS OF THE STUDENTS AT PRIMARY PUBLIC SCHOOLS OF MULTAN, PAKISTAN

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Abstract

Effective writing which is developed during primary education is essential for learners' future academic achievement and language proficiency. But traditional teacher-led teaching and learning approaches do not meet the needs of students with varying learning styles and writing skills in a diverse classroom. The purpose of this study was to find out the effectiveness of Differentiated Instruction (DI) to improve the English writing skills of primary public school students of Multan, Pakistan. The true experimental pretest-posttest control group design was used. Eighty grade 5 students were randomly assigned to an experimental group ($n = 40$) given differentiated instruction, and a control group ($n = 40$) given conventional instruction. Students' writing was evaluated using standardized pre and post test writing tasks, and motivation and class engagement was measured by structured assessment tasks. Data collected were analyzed descriptively and further analyzed by using paired-samples t -test, independent-samples t -test and effect size analysis using SPSS. The results suggested that the students taught using differentiated instruction made significant gains in writing achievement over the students who were not taught in this manner. There was significant improvement in all four aspects of writing: idea development, organization, vocabulary, and grammar, as well as in coherence. Moreover, differentiated instruction had a significant positive impact on students' motivation, engagement in class, confidence and enjoyment in writing activities as well as on their overall engagement in writing activities. Large practical effects were observed in the intervention, which was a confirmation of the educational value of learner-centered instructional practices. The study also provides evidence that the use of differentiated instruction is an effective teaching model to enhance students' English writing ability in primary school. The results confirm the need for employing differentiated instruction in English language classrooms and have practical implications for curriculum planners, school leaders, and teacher training programs in order to enhance the Writing instruction in public primary schools.

1 INTRODUCTION

Writing is considered one of the most complex language skills since it involves the learner to combine language knowledge, cognitive

processing, organization and planning, vocabulary selection, grammatical accuracy, and audience awareness into a coherent text. Writing in an ESL or EFL context is not only a means for

communicating but also a measure of academic achievement and higher order thinking skills of the learner (Taye & Mengesha, 2024). Writing instruction has in turn become a critical part of the English language learning curriculum all around the world, especially at the primary level of education in which basic literacy skills are developed. Traditional teaching on writing has focused on grammar and spelling, and sentence construction, using dominant pedagogical approaches of the teacher (McLean, 2022). The current educational paradigm, however, recommends a change to learner-centeredness in teaching that fosters learner creativity, critical thinking, and authentic communication in writing. Current teaching models promote the writing process (including planning, drafting, revising, editing, reflecting) rather than on the final product of the writing. International educational reforms have also called for differentiated and inclusive pedagogical practices, which seek to acknowledge and value diversity among learners within classrooms. Following this, English writing teaching has shifted from product-oriented to process-oriented, and learner-oriented, focusing on enhancing students' communicative competence, academic achievement and future literacy development. The developments reflect the growing need for the use of innovative methods in teaching that can be adopted in an increasingly diverse classroom setting to meet the needs of a variety of learners (Bolton et al., 2023). Effective writing still poses a major pedagogical challenge for primary school learners, especially for those learning English as an additional language who have different levels of language proficiency and educational preparation (Liu et al., 2026). In primary classrooms, students may come from varying linguistic backgrounds, levels of cognitive ability, learning styles, and motivational levels, and a uniform instructional approach is not enough to provide for the individual needs. In many public schools, writing instruction remains largely teacher-centered, with a strong emphasis on memorizing facts, rules, and procedures in grammar, drills, copying exercises, and class activities that are uniform for the entire school. These tend to focus on the mechanics of the task

rather than the generation of ideas, creativity, organization and meaningful written expression (Agayon et al., 2022). Poor instructional materials, high student numbers, poor teacher training and narrow opportunities for feedback also hinder the improvement of writing skills. Furthermore, a lot of learners have problems with their vocabulary, sentence structure, coherence, organization and grammar skills, all of which make them less confident and more reluctant to undertake writing exercises. These are very apparent in the context of developing education like Pakistan where English is used as a second language, and exposure outside the classroom is comparatively limited. Therefore, the gap in writing outcomes persists between those students who are ready and those who are not. These ongoing instructional difficulties need innovative pedagogical strategies that can meet the needs of diverse learners and foster engagement, motivation, and ongoing improvement in writing (Ng et al., 2025).

Differentiated Instruction (DI) is a learner-centered instructional approach that attempts to meet the needs of a wide range of students in the same classroom by integrating different instructional methods, materials, and assessments. DI was made popular by Carol Ann Tomlinson, and it's based on the premise that students learn in various ways and need multiple ways to learn the same material. Differentiated instruction applies a different approach than that of uniform instruction using the same method with the same material with all students (Khelifi & Hamzaoui-elachachi, 2024). Instead, it seeks to provide teachers with the flexibility to adjust the content, instructional processes, learning products, and learning environment based on student differences. This flexible teaching approach enhances active engagement, equal opportunity to participate, and personalized learning experiences for all learners, while ensuring that high standards of learning are maintained (William et al., 2025). In the field of English language learning, differentiated instruction allows teachers to offer a variety of writing experiences, differentiated tasks, flexible writing groupings, personalized writing feedback, and diverse writing assessments to meet

the needs of students with varying writing abilities. These adaptations help foster student autonomy, increase motivation, and establish classroom settings that are supportive and provide the challenge that is appropriate to the developmental level of students. Many research studies have linked DI to higher student achievement, higher student involvement, higher student motivation, and higher student writing achievement in various educational contexts. Therefore, DI is an important pedagogical approach that has contributed to the support of inclusive education and to achieving the maximum potential learning in primary school classrooms that include students with diverse needs (Mir, 2025; Yoshida et al., 2023).

While differentiated instruction has become a topic of growing interest in the general education and ESL fields, empirical evidence on the effectiveness of differentiated instruction in enhancing writing ability of primary ESL learners is limited, especially in the developing countries. Studies have concentrated on reading comprehension, mathematics achievement, science education, or academic achievement as a combined score of the three subjects; few have studied the differential instruction for writing to examine its effects on writing development. Moreover, the majority of literature has been produced in Western or developed educational settings, making the applicability of findings in Pakistan's public school environment, with its huge classrooms, limited resources, and heterogeneous learner population, questionable.

2 Literature Review

In modern educational research, differentiated instruction (DI) is defined as an instructional approach that tailors instruction to meet learner diversity by varying the tactics based on students' learning profiles, interests and preparedness. First, existing literature indicates that the proportion of pupils with special educational needs in mainstream schools has grown over the years, as inclusive education policies have led to a greater number of pupils with special educational needs in mainstream schools and thus away from traditional 'one size fits all' teaching approaches.

Research on education consistently has shown that students have different abilities in the learning process, different prior knowledge, different motivation and learning preferences, and teachers must use flexible teaching strategies to ensure all students are learning in the best way possible (Qorib, 2024a). Research also shows that differentiated instruction is done by adjusting four components of instruction – content, process, product, and environment. Many studies have demonstrated that differentiated instruction in the classroom leads to increased student participation, greater student engagement in the classroom, and greater academic achievement than traditional instruction. Other studies of education have also suggested that teachers who use flexible grouping, scaffolded instruction, differentiated assignments, and ongoing formative assessment have greater success in meeting student differences. Additionally, research on international educational contexts shows that differentiated instruction is a strategy that fosters a more equitable learning environment by providing instruction to both high- and low-performing students that is relevant to their learning needs. Differentiated instruction has been recognized as one of the most effective pedagogical approaches in diverse classroom settings that can enhance educational quality in the context of learner-centered pedagogy (Qorib, 2024b).

The available literature finds writing as one of the highest cognitive demands language skills as learners must take into account various aspects of language learning such as grammatical and lexical knowledge, organization, coherence, critical thinking and communicative accuracy at the same time. Many studies have consistently found that the second language learner finds writing to be more challenging than listening, speaking, and reading and that the writing task of expressing ideas in meaningful written text is more complex. Past research shows that students in elementary schools often have difficulty with idea generation, paragraph organization, coherence, grammar rules and word choice in writing tasks (Jack & Hashim, 2023). Several other studies also indicate that repeated practice, constructive feedback, and real-

world writing experiences contribute to the development of writing skills, and that writing itself is a process that is not merely memorized. Research in education also indicates that meaningful writing instruction consists of a number of components: plan, draft, revise, edit, reflect; and that these components facilitate the development of linguistic competence and the quality of the writing. The results of comparative classroom studies have indicated that generally students who were taught process-oriented writing result in more coherent and grammatically correct than those who were taught product-oriented writing. More importantly, the studies in education highlight the importance of the motivation, confidence, and active involvement of learners in classrooms on writing achievement. Based on the previous literature, it is concluded that the effective teaching of writing in ESL learners should focus on continuous improvement, personalized assistance and meaningful learning so that it can improve writing competence(Shakil & Siddiq, 2024).

Over the last several years, the research on differentiated instruction increased to validate the use of differentiated instruction as an effective way to enhance student writing. Empirical research has shown that differentiated instruction has a positive impact on student engagement, motivation and confidence as it offers learning opportunities that are based on individual readiness and learning preference. Students who are taught writing in a differentiated manner have been shown to make measurable gains in vocabulary, sentence construction, organization of ideas, coherence, grammatical accuracy, and quality of writing. Other classroom-based intervention studies have also found that flexible grouping, individualized feedback, scaffolded writing activities and differentiated assessment all make significant contributions to increased level of learner participation during the writing process(Seid et al., 2025). The current research also provides some support for the use of differentiated instruction in mixed ability classrooms where students' academic achievement and language skills are found to be quite different. Comparative studies have indicated that students

who are taught with differentiated approaches tend to do better on standardized writing tests than do students taught using traditional teacher-centered instruction. Furthermore, educational research shows that differentiated instruction can foster learner autonomy by enabling students to choose writing assignments that match their ability and then leading students step by step up to higher levels of writing competence. Generally, the literature reviewed shows that differentiated instruction can serve as an enabling approach to teaching that can enhance student achievement in writing and offer a pedagogical structure that can promote an inclusive, motivating and student-centered classroom(Grecu, 2023).

2.1 Conceptual Framework

2.1.1 Theoretical Foundation

This study's conceptual framework is based on the principles of Differentiated Instruction (DI) that believe that learning is a unique process determined by the readiness, interests, and learning profile of students. The framework is based on the assumption that instruction designed to meet the needs of different learners affords better opportunities to rise academically than when instruction follows a one-size-fits-all model. Differentiated instruction allows for individualization of learning in the English language classroom context, taking into account the diverse levels of writing proficiency.

2.1.2 Independent Variable

Differentiated Instruction (DI) is the independent variable of this study. It has four dimensions: differentiated content, differentiated process, differentiated product and differentiated learning environment. These dimensions are all components of the instructional intervention provided in classroom instruction. DI supports the wide range of learning needs of primary school children by using flexible grouping, scaffolding activities, using a variety of teaching materials and assessment strategies.

2.1.3 Dependent Variables

Students' writing performance and students' motivation and involvement in writing tasks are

related to the dependent variables. The evidence of writing performance is demonstrated by the development of ideas, organization, vocabulary, grammar, coherence, and overall writing quality. Students' classroom interaction, the desire to do writing, confidence, and the students' perseverance through the instructional process are indicators of motivation and involvement.

2.1.4 Proposed Relationship

The framework suggests that differentiated instruction will positively impact students' writing through the creation of individualized learning

experiences that are aligned with students' academic readiness and learning characteristics. Students are provided with appropriate academic support to improve their writing competence as teachers adjust the content, process, product and environment in the classroom to foster academic learning through motivation and participation. Therefore, differentiated instruction should be found to have a strong impact on student achievement in writing and on learner engagement, the theoretical relationship to be explored in this study.

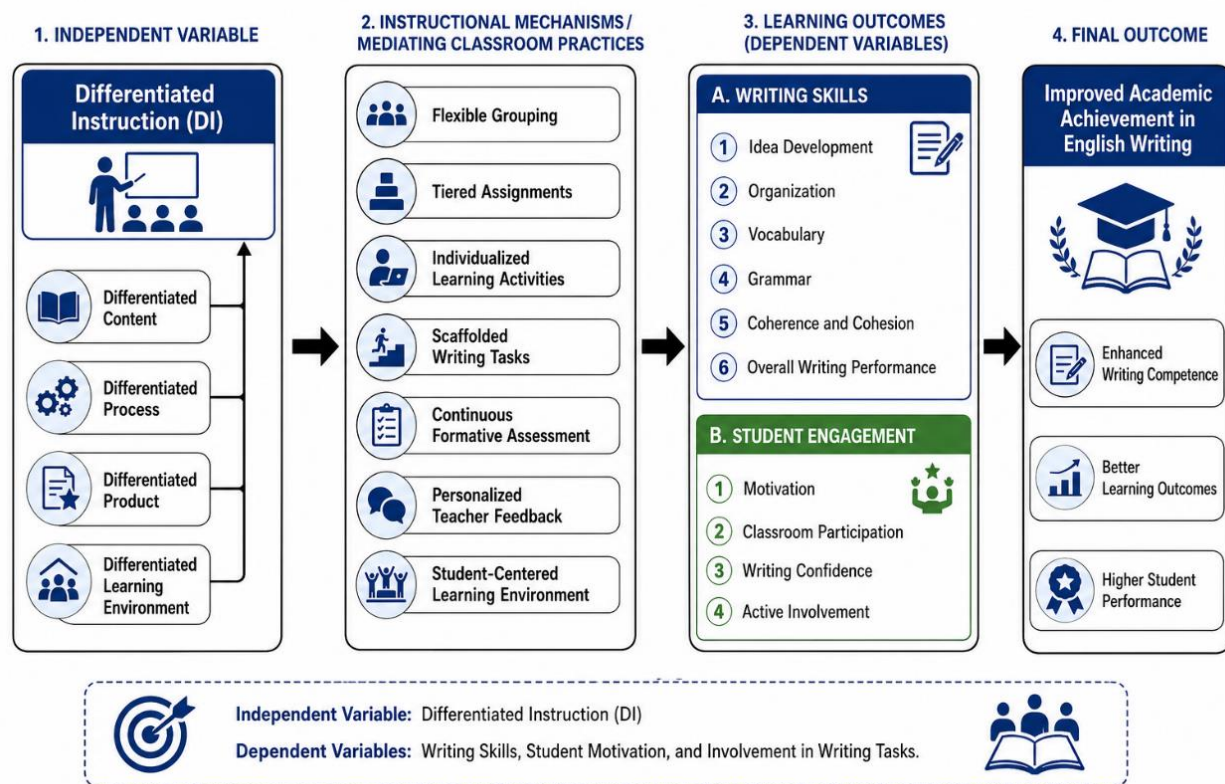


Figure 1 Conceptual Framework diagram

3 Research Methodology

3.1 Research Design

This study used a quantitative method adopted a true experimental pretest posttest control group design in order to investigate the effectiveness of Differentiated Instruction (DI) in writing skills of students. There were two similar groups, one

group using differentiated instructional strategies and the other group using traditional teaching methods. All students in both groups took the same pretest and posttest to determine change in writing skills. The design allowed for systematic comparison of learning outcomes and was designed to reduce the threat to internal validity

and ensure the instructional intervention was causally related to the learning outcomes.

3.2 Research Setting

The study was carried out in the selected public primary schools of Multan District, Punjab, Pakistan. The schools were typical government schools with English being taught as a compulsory subject in classrooms in other parts of the country. The chosen schools had similar teaching conditions, classroom infrastructure, and student population, which is beneficial in maintaining consistency during the experimental phase. The intervention was done in the regular classroom, which increased the ecological validity of the study and provided for the instructional strategies to be delivered in real classroom and learning environments.

3.3 Participants and Sampling

The children involved were the students of the primary schools, who were studying in Public schools in Multan. To avoid sampling bias and provide equal chance of representation for participants, an appropriate probability sampling method was used. The students were then randomly allocated to either the experimental or control group with similar group demographics. The selection process considered students' grade level and regular attendance to ensure consistency throughout the intervention period. Pre-treatment characteristics were comparable between both groups prior to starting differentiated instructional activities.

3.4 Intervention Procedure

During the intervention period, the experimental group was taught English writing using Differentiated Instruction while the control group was taught in the traditional teacher-centered manner. The differentiated instructional approach included modification of content, process, product and learning environment based on the readiness, interest and learning profile of students. Flexible grouping, scaffolded writing activities, tiered assignments, individualized instruction and ongoing formative feedback were used by teachers to support students who have different writing abilities. The intervention was

delivered regularly, following a systematic teaching plan, in all teaching sessions.

3.5 Research Instrument

Standardized writing assessment tasks were used prior to and following the intervention to assess students' writing skills. The writing instrument assessed eight aspects of writing ability: idea development, organization, vocabulary, grammatical accuracy, coherence, over-all quality of the composition. Students' written responses were scored using a structured scoring rubric to ensure objective and consistent scoring. The instrument was designed to match the instructional goals and standards and was used to evaluate whether or not writing skills improved after the use of differentiated instructional strategies.

3.6 Pre-test

Before the instructional intervention, the experimental and control groups took the same pretest to establish their starting writing skills. The pre-test provided baseline equivalence for the two groups as well as strengths and weaknesses of students on certain writing components. The administration procedures were standardized to ensure consistency and fairness in administration across the assessment process. The pre test results also helped in planning for differentiated instruction activities, as they gave information about the students' readiness prior to treatment and the writing skills that they already had.

3.7 Post-test

Both groups were given the same writing assessment as a posttest after the instructional intervention. The posttest evaluated the difference in students' writing performance following either differentiated instruction or traditional instruction. The same scoring rubric that was used at the pretest was used at the response. The same scoring rubric was used at the pretest and the response to ensure consistency and comparability. The results of the post tests offered empirical evidence to validate the effectiveness of differentiated instruction in enhancing writing

proficiency, and provided statistical comparisons between the experimental and control groups.

3.8 Data Collection Procedure

The data was collected systematically, first the pre test, then the instructional intervention, and finally the post test. The study was conducted with the permission of school authorities and participants completed all tasks during the school day in a standard classroom environment. Responses were gathered, coded and analyzed statistically. The uniform procedures were observed throughout the data collection process to ensure accuracy, consistency, and reliability of the information collected.

3.9 Data Analysis

Collected data were analyzed using statistical Package for the Social Sciences (SPSS). To describe the students' writing, descriptive statistics such as means and standard deviations were calculated. The pre and post test data of both groups were analyzed using inferential statistical techniques to determine the effectiveness of the differentiated instructional intervention. An alpha level of 0.05 was used for any results to be considered statistical significant. The results were tabulated, and then interpreted based on the study's objectives and research hypotheses.

3.10 Ethical Considerations

The study followed ethical guidelines that are used in educational research with a human subject. Data collection was commenced after getting formal permission from the concerned educational authorities and school administration. Parents or guardians of the participants informed and consented to participation, which was voluntary. All of the information that was collected was treated confidentially and anonymously to the participant and with academic use only. Participants were told that their name and academic records would not

be shared with others and that it would not affect their evaluation in any way.

4 Results and Findings

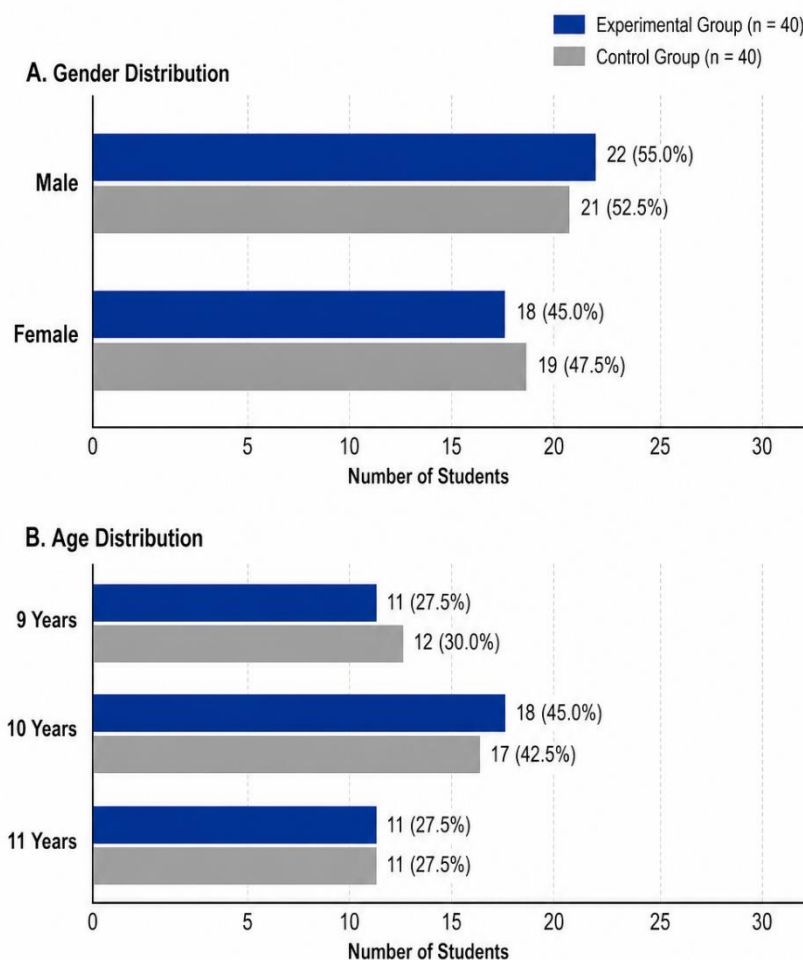
The data collected were analyzed with the aid of the Statistical Package for the Social Sciences (SPSS) Version 26.0. To summarize the writing performance of participants and their motivation scores, descriptive statistics such as mean and standard deviation were used. Inferential analyses were then conducted to determine the effectiveness of the differentiated instruction intervention. Independent-samples t-tests were conducted on pretest and posttest scores for the experimental group and the control group, respectively, and paired-samples t-tests compared pretest and posttest scores within each group. A value of $\alpha = 0.05$ was used to determine statistical significance. Effect size (Cohen's d) was also calculated to determine the practical significance of the intervention. The results showed that differentiated instruction significantly improved the writing ability of the experimental group and the motivation of the learners with respect to the writing ability of the control group, which proved the effectiveness of differentiated instruction in improving English writing outcomes.

4.1 Demographic Characteristics of Participants

There were 40 primary school students in each group (total 80). The sample comprised 43 males (53.8%) and 37 females (46.2%), with participants ranging in age from 9 to 11 years (Mean = 10.2 years, SD = 0.71). The two groups were found to be similar in terms of demographic variables and there were no significant differences in gender, age or grade level. This balanced distribution would make it unlikely that the observed differences in writing achievement after the instructional intervention would be due to demographic factors.

Table 1 Demographic Characteristics of the Participants (N = 80)

Variable	Category	Experimental (n = 40)	Control (n = 40)	Total (N = 80)	Percentage (%)	χ^2/t	p-value
Gender	Male	22	21	43	53.8	0.051	0.821
	Female	18	19	37	46.2		
Age (Years)	9	11	12	23	28.8		
	10	18	17	35	43.7		
	11	11	11	22	27.5		
Mean Age (Years)	Mean $\pm$ SD	10.18 $\pm$ 0.69	10.22 $\pm$ 0.73	10.20 $\pm$ 0.71	—	0.251	0.803
Grade	Grade 5	40	40	80	100.0	—	—

*Figure 2 Demographic Characteristics of the Study Participants*

4.2 Baseline Equivalence of the Experimental and Control Groups

The pretest writing scores were compared to determine the initial equivalence of the study

groups prior to the instructional intervention. The mean pretest score for the experimental group was 48.72 (SD = 6.84) while that of the control group was 49.15 (SD = 6.51). The difference was not

statistically significant ($t(78) = -0.29$, $p = 0.772$) as revealed by an independent-samples t -test, and thus, both groups had similar writing ability before the intervention. The mean difference was 0.43 points as small, which indicated that the participants have equal writing competencies

before the study. The results show that the groups are equivalent at the beginning and help to ensure that differences in the post-test was mostly due to the differentiated teaching intervention and not to pre-treatment differences between the two groups.

Table 2 Baseline Equivalence of the Experimental and Control Groups

Variable	Experimental (Mean $\pm$ SD)	Control (Mean $\pm$ SD)	Mean Difference	95% CI	Test Statistic	p-value
Writing Pretest Score	48.72 $\pm$ 6.84	49.15 $\pm$ 6.51	-0.43	-3.37 to 2.51	$t = -0.29$	0.772
Idea Development	8.10 $\pm$ 1.28	8.14 $\pm$ 1.21	-0.04	-0.59 to 0.51	$t = -0.14$	0.889
Organization	7.92 $\pm$ 1.31	8.03 $\pm$ 1.34	-0.11	-0.71 to 0.49	$t = -0.36$	0.721
Vocabulary	8.41 $\pm$ 1.24	8.35 $\pm$ 1.18	0.06	-0.48 to 0.60	$t = 0.23$	0.818
Grammar	8.18 $\pm$ 1.26	8.27 $\pm$ 1.19	-0.09	-0.64 to 0.46	$t = -0.31$	0.757
Coherence	7.51 $\pm$ 1.42	7.64 $\pm$ 1.39	-0.13	-0.76 to 0.50	$t = -0.39$	0.699

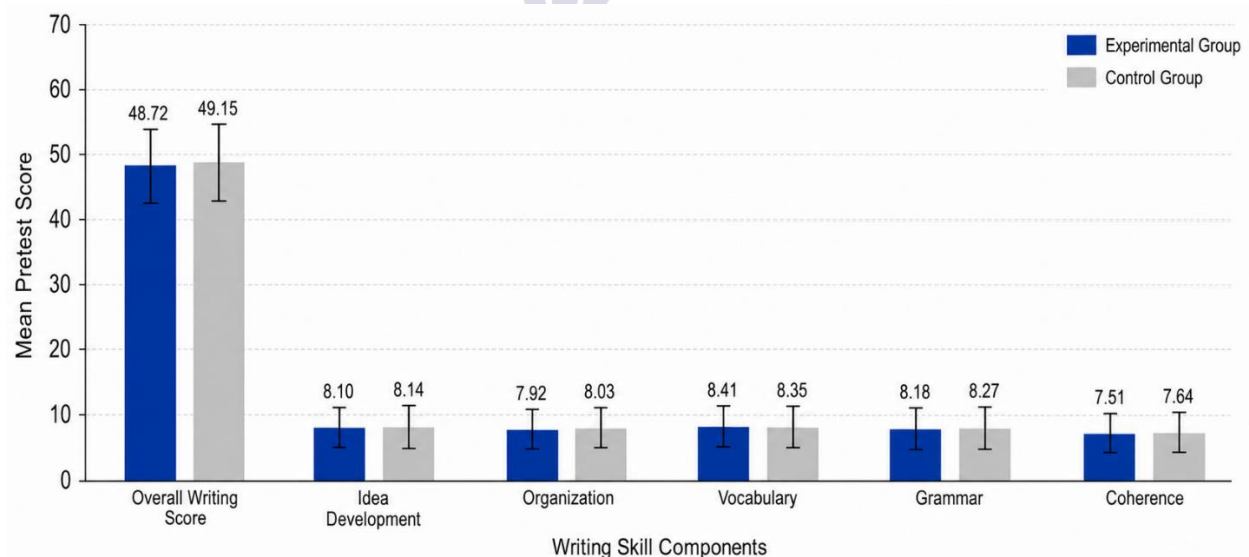


Figure 3 Baseline Equivalence of the Experimental and Control Groups (Pretest Assessment)

4.3 Effect of Differentiated Instruction on Students' Writing Performance

The writing achievement of pupils who received differentiated instruction showed significant gains after the teaching. The participants in the experimental group increased scores on writing

from 48.72 (SD = 6.84) pretest to 78.96 (SD = 7.11), for a total gain of 30.24 points. This improvement was highly significant for a paired samples t -test ($t(39) = 18.74$, $p < 0.001$, Cohen's $d = 1.92$). In contrast, the control group improved modestly from 49.15 (SD = 6.51) to 58.37 (SD =

6.89), yielding an average increase of 9.22 points ($t(39) = 5.83, p < 0.001$). The difference between the experimental and control group scores was statistically significant ($t(78) = 13.17, p < 0.001$) upon comparing their scores on the posttest,

revealing that differentiated instruction led to significantly higher gains in students' writing performance than conventional classroom instruction.

Table 3 Comparison of Overall Writing Performance Before and After the Intervention

Group	Pretest Mean $\pm$ SD	Posttest Mean $\pm$ SD	Mean Gain	% Improvement	Paired t	p-value	Cohen's d
Experimental (n=40)	48.72 $\pm$ 6.84	78.96 $\pm$ 7.11	30.24	62.07	18.74	<0.001	1.92
Control (n=40)	49.15 $\pm$ 6.51	58.37 $\pm$ 6.89	9.22	18.76	5.83	<0.001	0.73
Between-Group Comparison (Posttest)	—	—	20.59	—	13.17	<0.001	2.07

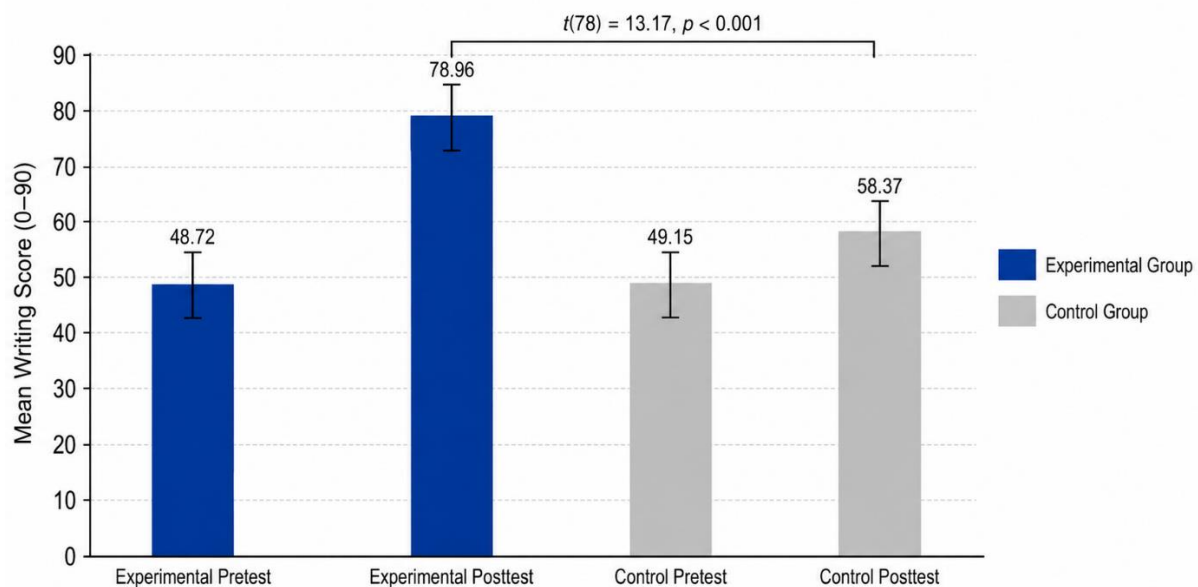


Figure 4 Clustered bar chart comparing the experimental and control groups before and after the intervention

4.4 Dimension-wise Improvement in Writing Skills

Students in the experimental group showed stable gains in all dimensions of writing for analysis of individual components of writing. The greatest improvements were seen in idea development (8.1 to 13.9), organization (7.9 to 13.2), and coherence (7.5 to 12.8). Improvements were also made with vocabulary (8.4 to 13.6) and grammar accuracy

(8.2 to 13.1). The modest gains in these components were found in the control group, and ranged from 1.2 to 2.4 points on average. The posttest component scores were compared independently and statistically significant differences in favor of the experimental group were found on each of the writing dimensions ($p < 0.001$). The results of this study suggest that differentiated instruction improved writing

outcomes and the specific language and organizational skills that are critical for written communication.

Table 4 Component-wise Analysis of Students' Writing Skills

Writing Component	Experimental Pretest	Experimental Posttest	Control Pretest	Control Posttest	Mean Difference (Posttest)	t	p-value
Idea Development	8.10 ±1.28	13.90 ±1.24	8.14 ±1.21	10.52 ±1.48	3.38	11.05	<0.001
Organization	7.92 ±1.31	13.20 ±1.31	8.03 ±1.34	10.08 ±1.36	3.12	10.44	<0.001
Vocabulary	8.41 ±1.24	13.60 ±1.18	8.35 ±1.18	10.73 ±1.29	2.87	10.09	<0.001
Grammar	8.18 ±1.26	13.10 ±1.26	8.27 ±1.19	10.15 ±1.42	2.95	9.63	<0.001
Coherence	7.51 ±1.42	12.80 ±1.37	7.64 ±1.39	9.91 ±1.47	2.89	9.14	<0.001
Overall Writing Score	48.72 ±6.84	78.96 ±7.11	49.15 ±6.51	58.37 ±6.89	20.59	13.17	<0.001

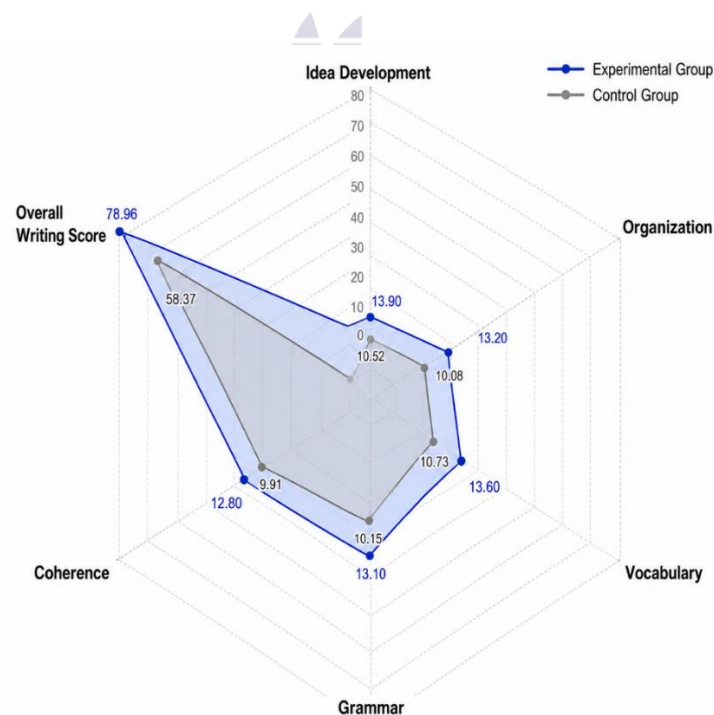


Figure 5 Radar (spider) chart comparing component-wise Writing Skills

4.5 Effect of Differentiated Instruction on Students' Motivation and Engagement

Learners who were exposed to differentiated instruction also showed significantly higher motivation and engagement in the classroom than did those who were exposed to conventional instruction. The scores for the experimental group were 4.36 (SD = 0.42) points on a 5-point scale, significantly higher than the control group which scored 3.58 (SD = 0.49) points ($p < 0.001$). Likewise, the grade-level participation rose to 4.41 while the control group averaged 3.61. The

students' confidence in completing their writing task increased by about 37% from 3.12 before the intervention to 4.28 after the intervention. The differences between the two groups in terms of motivation ($t(78) = 7.62, p < 0.001$), participation ($t(78) = 7.84, p < 0.001$), and writing confidence ($t(78) = 6.91, p < 0.001$) were statistically significant as indicated by independent-samples t -tests. The results indicate that, using differentiated instruction, students' enthusiasm, participation, and self-confidence were higher in English writing activities.

Table 5 Comparison of Students' Motivation and Engagement Outcomes

Variable	Experimental (Mean $\pm$ SD)	Control (Mean $\pm$ SD)	Mean Difference	t	p-value	Cohen's d
Motivation	4.36 $\pm$ 0.42	3.58 $\pm$ 0.49	0.78	7.62	<0.001	1.70
Classroom Participation	4.41 $\pm$ 0.39	3.61 $\pm$ 0.45	0.80	7.84	<0.001	1.82
Writing Confidence	4.28 $\pm$ 0.44	3.46 $\pm$ 0.48	0.82	6.91	<0.001	1.73
Task Involvement	4.34 $\pm$ 0.41	3.53 $\pm$ 0.46	0.81	7.38	<0.001	1.80
Overall Engagement	4.35 $\pm$ 0.38	3.55 $\pm$ 0.43	0.80	7.69	<0.001	1.76

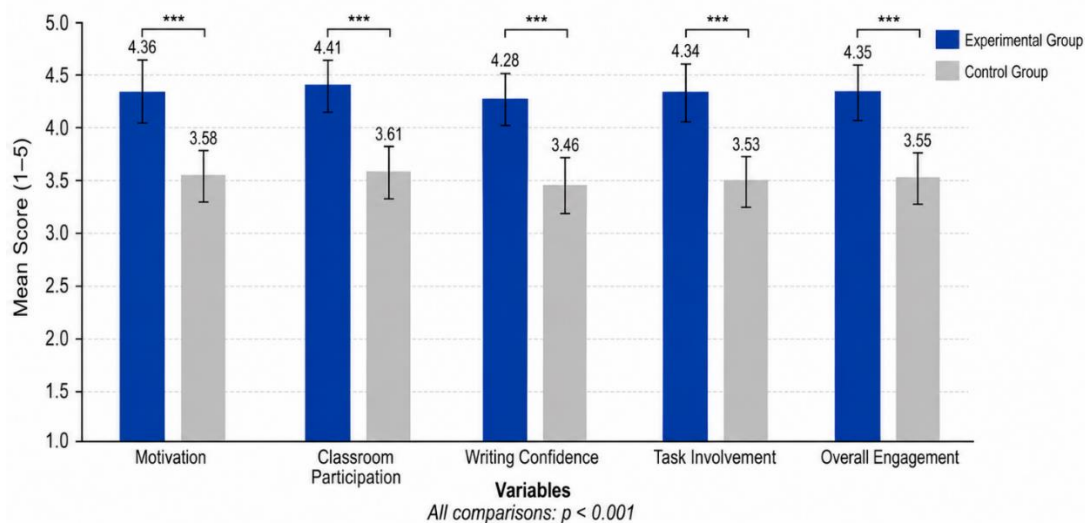


Figure 6 Clustered bar chart comparing Students' Motivation and Engagement Outcomes

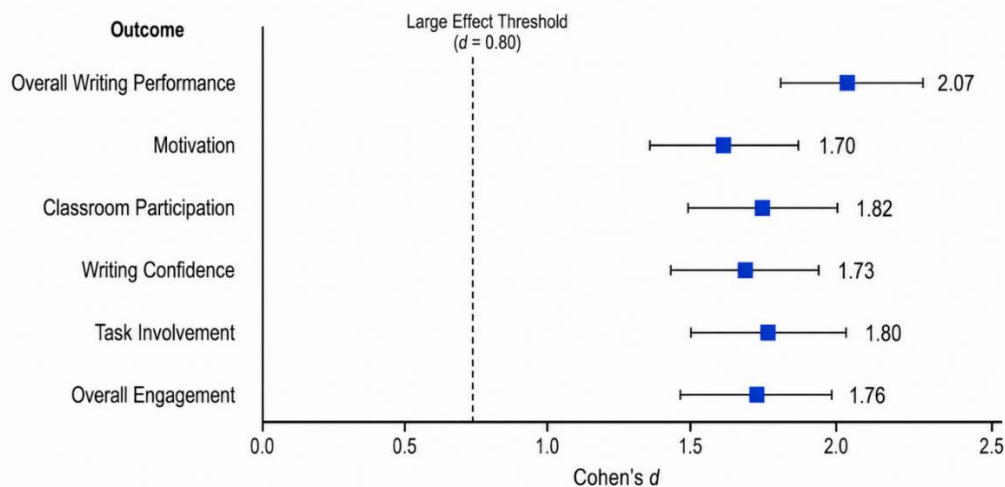


Figure 7 Forest plot showing Cohen's d for Effect Size Forest Plot

4.6 Summary of Hypothesis Testing

Both null hypotheses were rejected due to the statistical analyses provided. The first hypothesis was supported as differentiated instruction had a great effect on students' writing performance as evidenced by significantly higher posttest scores and large effect size compared to conventional instruction. The second hypothesis was supported by the fact that differentiated instruction had a significant impact on the motivation, participation, and confidence of students when learning to write. The p-values for all the major comparisons were < 0.001 , suggesting strong statistical evidence for the proposed relations. The results generally confirmed the effectiveness of differentiated instruction in improving the academic writing achievement and engagement of primary school students.

5 Discussions

The present study aimed at assessing the effectiveness of Differentiated Instruction (DI) on English writing skills of primary public school students of Multan. Results showed that students receiving differentiated instruction had significantly higher posttest writing scores than students receiving regular instruction. Both groups made some gains after classroom instruction, but the gains were significantly higher for the experimental group, suggesting that the differentiated instructional strategies were effective in making a meaningful positive impact on students' writing achievement. The results

indicate that the readiness level, learning profile, and individual needs of students can be taken into account in adapting instruction, thus creating a supportive learning environment that can contribute to the advancement of students' writing. The main reason for the improvement seen in the experimental group was due to the learner-centered differentiated instruction. Differentiated instruction offers more flexible learning opportunities by offering difference in classroom activities, difference in the writing task, difference in feedback, and difference in grouping—these all provide flexibility of instruction in contrast to traditional instruction methods that are uniform. These instructional variations allow students to access the material and its complexity at a level suitable for them and to increasingly acquire more advanced writing skills. As a result, students are able to plan their ideas more effectively, to form grammatically correct sentences, to choose suitable words and to write coherent compositions.

The component-wise analysis also confirmed that DI had a positive impact on all aspects of writing skills – idea, organization, vocabulary, grammar and coherence. The results of these studies show that the intervention not only positively impacted overall writing performance but also positively impacted multiple writing skills. Evidence of improvements in idea organization and coherence indicates that students improved in structuring their argument and continuity within their compositions. Likewise, the improvement in

vocabulary and grammatical usage was evidence that differentiated learning activities encouraged language learning and effective writing. Differentiated instruction not only improved students' academic achievement, but also differentiated students positively in terms of motivation, participation in class, confidence in writing, and overall engagement in writing. Students exposed to the differentiated learning environment were more willing to engage in class discussion, do written work, and articulate their thoughts independently. Providing enriched learning opportunities that acknowledged students' different levels of ability and prompted active engagement and learning over passive listening could explain why learners were more engaged. The motivational benefits of these are particularly significant since positive attitudes toward writing can help ensure continued academic growth and language development.

The results are in line with the large body of research in the field that indicates that differentiated instruction is a successful approach for meeting the needs of student diversity in a heterogeneous classroom. In the past, differentiated instruction has also been shown to positively affect student learning, motivation and engagement in class after classroom-based investigations. The current study further extends this evidence by showing that differentiated instruction can be equally effective in Pakistan, in public primary schools where large classes and varied abilities of the students often pose challenges to traditional approaches. The results thus support the empirical evidence of the need to include differentiated instructional strategies in English language classrooms and indicate that teacher professional development programs should focus on learner-centered instructional planning. Overall findings of this study validate the effectiveness of differentiated instruction to boost writing abilities and to increase the participation, confidence, and engagement of primary school students.

Conclusion

This study focused on the effect of DI on the English writing achievement of primary public

school students and explored how learner-centered instructional practices positively affected students' academic achievement. The results of the experiments indicated that students who were taught in a differentiated manner made significantly higher gains in their overall writing, compared with the students taught in the conventional manner. In addition to gains in overall achievement, gains were seen in all of the essential components of writing (idea development, organization, vocabulary, grammar, and coherence), suggesting that differentiated instruction had a positive impact on the whole child's writing development and not just on individual skills. The study also found that differentiated instruction had a positive effect on students' motivation, involvement in the classroom, confidence in writing, and involvement during the process of instruction. Differentiated instruction provided a classroom environment that was inclusive and allowed for the adaptation of teaching methods based on students' readiness, interests, and learning profiles to promote active participation, meaningful learning experiences and continued academic growth. The results confirm the importance of flexible teaching planning for dealing with the diversity of learners in primary classrooms. The study offers practical evidence for the implementation of differentiated instruction in the English language teaching (ELT) in public primary schools from educational aspect. The findings indicate that teacher education programs need to focus on pedagogies in which students are central, and teachers need to acquire the skills needed to practice differentiated instruction effectively in their classrooms. Differentiated instruction principles can also be used by curriculum planners and educational policymakers to add to their instructional guidelines and classroom resources. While the present study was limited to the public school system in Multan, the results provide a solid ground for further research studies with larger samples, different educational environments, extended time of intervention, and more language learning outcomes. Differentiated instruction as a whole proved to be successful and sustainable in improving writing skills and increasing learner

engagement, confidence, and academic achievement in the subjects of English language learning.

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