

# Impact Of Differentiated Instruction On Students' Autonomy Levels In English Writing

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**Abstract:** The study aimed at analyzing the influence of Differentiated Instruction (DI) on learners' autonomy levels in English writing at the secondary school level. Employing a true experimental design, the research examines the causal association between the independent variable (DI intervention) and dependent variable (students' autonomy level). Random assignment of eighty students from grade-9 to experimental group (n=40) and control group (n=40) ensures equitable distribution and minimizes bias. The DI intervention, implemented over 12 weeks, includes various strategies such as designed lesson plans, flexible grouping, and personalized feedback. Pre- and post-tests, utilizing a standardized autonomy questionnaire, assess students' autonomy levels. Statistical analysis, including individual sample t-tests and paired sample t-tests, evaluates the effectiveness of the intervention. Findings indicate a significant positive impact of DI on student autonomy, suggesting its importance in promoting student engagement, motivation, and proficiency in English writing. Conclusions emphasize the integration of DI practices, collaborative lesson planning, continuous assessment, and technology integration to foster an inclusive and supportive learning environment conducive to student autonomy and academic success.

**Keywords:** Differentiated Instruction (DI), Student Autonomy (SA), English Writing

## Introduction

In the field of education, researchers have extensively explored the effectiveness of various teaching methods. One approach that has gained considerable attention is differentiated instruction (DI), primarily because it addresses the diverse learning needs within a classroom. This study looks at how teaching methods and student autonomy relate to each other, specifically as it relates to English writing. By exploring the specifics of differentiated instruction and student autonomy, this research seeks to understand how DI influences students' independence in their writing tasks.

Differentiated instruction, as described by Tomlinson and Allan (2020), includes altering instructional strategies, curriculum, and materials to meet the particular requirements of every learner. This method encourages teachers to be flexible and adaptable, fostering a learning environment that accommodates a range of interests, skills, and learning styles. Differentiated instruction in the area of English writing may involve methods such as offering multiple ways for students to express themselves, providing step-by-step support, and encouraging students to take charge of their learning (Tomlinson, 2017).

Autonomy in education refers to the level of self-regulation, independence, and decision-making ability that students exhibit (Deci & Ryan, 2000). In English writing, autonomy is evident when students can choose their own topics, genres, and writing processes, as well as when they can assess and revise their work independently (Benson, 2011). Autonomy is crucial for academic achievement and lifelong learning, as it enhances intrinsic motivation and helps students take ownership of their educational journey (Deci & Ryan, 2000). This research aims to investigate the connection between differentiated instruction and students' autonomy in English writing. By exploring how DI affects autonomy, the study seeks to enhance our understanding of teaching practices that foster student agency and engagement in writing. Through empirical research and analysis, the goal is to mention the possible benefits of implementing strategies for varied instruction in English writing schools. One of the most important subjects in contemporary education is the value of student autonomy in English writing, especially when it is accompanied by varied instruction. Advocated by educators such as Tomlinson (2001), differentiated instruction centres on customising instructional strategies and resources to match the diverse requirements of pupils. This method places a strong emphasis on encouraging students' autonomy and giving them the freedom to interact with writing in ways that best suit their unique interests, skills, and learning preferences (Santangelo & Tomlinson, 2012). In addition to increasing motivation, this individualised instruction fosters a greater sense of ownership and participation in the writing process.

At the core of autonomy in English writing is the idea of learner agency, where students actively control and direct their learning journey (Deci & Ryan, 2000). Differentiated instruction empowers students to choose their writing topics, genres, and strategies, thereby taking more responsibility for their academic growth. This sense of ownership enhances intrinsic motivation and cultivates critical thinking skills as students make meaningful decisions (Deci & Ryan, 2000). According to Benson (2011), autonomy in writing tasks encourages learners to think critically, evaluate their work, and make informed revisions to improve their writing's clarity, coherence, and effectiveness.

Developing autonomy in English writing is also crucial for preparing students for real-world communication. In today's interconnected world, strong written communication skills are essential in various academic, professional, and social contexts. Differentiated instruction helps learners gain the confidence and skills needed to express themselves clearly and persuasively (Benson, 2011). Success in the classroom is just one benefit of this preparation; other benefits include lifetime learning and success in a variety of personal and professional domains.

Several studies have indicated the positive impact of DI on autonomy in English writing. For example, research by Johnson and Smith (2021) found that students who experienced differentiated instruction were more autonomous in choosing writing topics, using resources, and engaging in self-assessment compared to those in traditional classrooms. Similarly, longitudinal studies by Huebner (2010) indicated that ongoing exposure to through progressive increases in student autonomy, tailored instruction helped students become more confident and self-sufficient writers. These results show how well diversified instruction works to foster students' independence and capacity for self-directed learning when it comes to English writing. In order to promote personalised learning, ownership, critical thinking, practical communication skills, and lifetime learning habits, it is imperative that English writing instructors cultivate their students' autonomy through diversified instruction. Differentiated education promotes the growth of competent, self-assured, and autonomous writers by giving students the freedom to direct their own writing and learning processes.

Previous researches extensively examined the effect of DI on students' autonomy across various educational settings, offering valuable insights into how instructional methods influence student independence in English writing. Differentiated instruction is essential in educational contexts, especially for shaping English language skills. The core of differentiated instruction is acknowledging the diverse needs and learning styles of students and tailoring teaching methods accordingly (Toofani, 2019). In English writing, educators who use differentiated instruction adapt their approaches to grammar, syntax, and sentence structure to provide targeted support for students with different proficiency levels. They also focus on expanding vocabulary and improving word usage (Kótay-Nagy, 2023). By personalizing learning experiences through varied instructional materials and techniques, teachers can engage students in vocabulary-building activities that align with their individual learning preferences (Huebner, 2010). This creates an additional inclusively effective environment for learning where students can navigate the complexities of writing at their own pace and according to their unique learning styles (Crossley & McNamara, 2012).

Recent educational studies are increasingly conducting researches on the influence of DI on language development at the secondary school level (Zólyomi, 2022). This approach's significance lies in its ability to meet diverse learner needs, promote deeper engagement, and enhance language skills. For example, Johnson and Smith (2021) found that differentiated instruction positively affects students' vocabulary development and comprehension in secondary school English classes. Their study underscores the importance of exploring how students perceive the impact of differentiated instruction on their language skills and academic success (Baecher, 2011).

Additionally crucial to the successful application of individualised teaching is the role that teachers play. Davis and Anderson (2019) emphasize the importance of comprehensive teacher training and professional development for successfully differentiating instruction in English language teaching. Teachers' beliefs, attitudes, and perceptions significantly influence the outcomes of differentiated instruction (Richards, 2020). Recent research has focused a lot of attention on the benefits of individualised teaching for language development and academic achievement (Whitley et al., 2019). Scholars have investigated its efficacy in diverse educational contexts and its effect on students' language skills. Tomlinson and Allan (2020) highlight the importance of differentiation in language arts instruction, noting its potential to meet varied learner needs and promote deeper engagement. Vygotsky's sociocultural theory, which highlights the significance of scaffolding and support in language development (Vygotsky, 1978), aligns closely with the principles of differentiated instruction. Jackson and Smith (2020) found that differentiated instruction can foster a more positive attitude toward language learning, enhancing students' formal and lexical language skills. Hall and Strangman (2019) also emphasize the significance of teacher training in effective differentiation, noting that well-prepared educators can create environments conducive to language skill development. Teachers' beliefs and attitudes toward differentiated instruction are integral to its success (Hall & Hord, 2018).

A study by Smith and Jones (2020) explored how differentiated instruction affects autonomy in writing tasks among middle school students. Their findings showed that students who received differentiated instruction displayed higher levels of autonomy in choosing writing topics, using writing resources, and engaging in self-assessment compared to those in traditional classrooms. This study highlighted the potential of differentiated instruction to boost students' autonomy and self-directed learning skills in English writing. In contrast, a meta-analysis by Brown and Smith (2019) reviewed findings from multiple studies on the efficiency of DI in promoting autonomy across various subjects, including English writing. While the meta-analysis recognized the benefits of DI in undertaking variety of learning styles and enhancing engagement, it also noted the variability in how these instructional methods were implemented and their outcomes. The authors stressed the need for further research to clarify the specific ways through which differentiated instruction influences student autonomy in English writing contexts.

Although there are few studies directly examining the effect of DI on learner autonomy in subject English writing in Pakistan, several broader research efforts offer relevant insights. For example, research by Aljaser (2019) looked at the use of student-centred approaches, including differentiated instruction, in Pakistani classrooms. While this study mainly focused on teaching practices and student perceptions, it indirectly highlighted the function of such approaches in nurturing student autonomy by offering chances for self-directed learning and decision-making. Additionally, qualitative studies by researchers in Pakistan, such as Ismail and Al Allaq (2019) and Irshad (2016), have explored various aspects of English language teaching and learning, including innovative instructional methods. Although these studies did not specifically focus on autonomy, they contribute to a broader understanding of educational practices in Pakistan, which can inform discussions on the outcome of DI on student

autonomy in subject of English writing. These studies highlight the need for further empirical research tailored to the Pakistani context to develop effective teaching strategies and promote student autonomy in English writing.

### Research Question

Q.1 Does differentiated instruction intervention affect students' autonomy level in English writing at secondary school level?

### Research Hypothesis

Following four null hypothesis were formulated. No statistical difference between the students' autonomy mean scores in ...

H<sub>01</sub>: the experimental group (EG) and the control group (CG) in English writing before treatment.

H<sub>02</sub>: the experimental group (EG) and the control group (CG) in English writing after treatment.

H<sub>03</sub>: the experimental group (EG) in English writing before and after treatment.

H<sub>04</sub>: the control group (CG) in English writing before and after treatment.

### Research Design

To investigate the effect of independent variable (differentiated instruction intervention) on dependent variable (students' autonomy level), a true experimental design under the frame work of scientific realism was used. This design allows for the investigation of the effect of the independent variable on the dependent variable while controlling for other factors. Participants are randomly allocated to either an EG or a CG. These designs are highly valued in science because they may demonstrate cause-and-effect links. By ensuring a fair distribution of participants across the experimental and control groups, random assignment helps to improve the study's internal validity and minimise selection bias (Cook et al., 2002).

In an experimental study, the component that is thought to cause an effect was exposed to the experimental group, in this example, the differentiated instruction intervention. In the meantime, the control group acts as a benchmark because it is comparable in every way but for this particular treatment. A standardized questionnaire was used to measure the outcome, or pupils' degree of autonomy, which was a reflection of the intervention's effectiveness. While keeping the control group's environment unchanged, the researcher applies the intervention to the experimental group. The experiment's internal validity was increased by utilising random assignment and controlling for unimportant variables, increasing the likelihood that the independent variable was responsible for the observed effects (Cook et al., 2002). The researcher used blinding techniques both when administering the treatment and when assessing the dependent variable in order to reduce bias. In order to avoid bias, eighty grade 9 pupils from government secondary schools were randomly assigned to the EG (n = 40) or the CG (n = 40). The experimental group receives the differentiated instruction intervention, whereas the control group adheres to the usual curriculum and conventional teaching techniques common in government institutions. To maintain consistency in the characteristics of the teachers and reduce their impact on post-test outcomes, the teachers for both groups are chosen according to pre-established criteria. For both groups, pre-tests are administered under the guidance of a researcher to determine the initial degrees of student autonomy.

The intervention involves carefully designed lesson plans aligned with grade-9 textbook content covering 5 units. Over 12 weeks, the experimental group receives differentiated instruction comprising a combination of strategies informed by literature review. These strategies include:

- Designed lesson plans at different levels of complexity to match students' readiness, allowing them to select tasks aligned with their abilities.
- Arranged students into various groups based on their learning needs, fostering collaboration and peer support.
- Offered a range of resources, such as texts and multimedia, to cater to diverse learning preferences and styles.
- Provided students with options to choose writing topics, genres, and formats, promoting engagement and ownership of their learning.
- Offer structured support and personalized feedback to assist students in their writing tasks and assess their progress at individualized levels.

To accommodate different learning needs and preferences, a variety of teaching methodologies were used, such as inquiry-based learning, hands-on activities, cooperative learning, and problem-based learning. Thus, to assess the efficacy of the differentiated instruction (DI) intervention, a post-test was given to both the groups (EG and CG), and the findings were statistically analysed. Using SPSS software for quantitative data analysis, individual sample t-tests and paired sample t-tests were carried out to investigate the four null hypotheses developed for the study. Throughout the study, the researcher made sure that ethical criteria were followed and that research ethics were adhered to. Furthermore, because the researcher used a standardised instrument, the reliability and validity of the research questionnaire had already been validated.

A standardised learners' autonomy questionnaire by Gholami (2016) was used in this study to compare the autonomy levels of students writing in English before and after the intervention. 44 items total, arranged into nine dimensions that represented the students' varying levels of independence and dependence, made up the questionnaire. The study instrument for data collection was completed following feedback from the education department's doctorate committee. The number of items in each dimension varied and included the following: Six items for Self-direction Readiness, Seven elements of working independently in language learning, Class/teacher importance has eight items, Teacher's Role: Explanation and Supervision has Five Items, Activities for Language Learning Outside of the Classroom included 4 items, Choosing Three Items of Content, Three elements on intrinsic motivation, Four-item of assessment and motivation and Four items for Interest in Different Cultures. Students who participated, were invited to rate the statements of questionnaire on a 5-point Likert scale that went from "always true" to "never true." This survey was administered to students in the experimental and control groups before and after treatment to gauge their degree of autonomy when writing in English in a secondary school setting.

H<sub>01</sub>: No statistical difference between the students' autonomy mean scores in the EG and CG in English writing before treatment.

**Table 1: Comparison of Students' Autonomy (SA) Mean Scores before Treatment**

	Groups	N	M	SD	SEM	t-value	Sig.	Effect Size
SA	Pre-Exp	40	119.6	11.52	1.821	0.806	0.423	0.093
	Pre-Cont	40	116.8	18.48	2.922			

*Not significant*

The contrast between the EG (N = 40, M = 119.6, SD = 11.52, SE = 1.821) and CG (N = 40, M = 116.8, SD = 18.48, SE = 2.922) SA scale scores before to treatment is shown in Table 1. The t-test give a p-value of 0.423 and t-value of 0.093. The SA scores of the two groups do not differ statistically significantly since the p-value is much higher than the significance level of 0.05. These results show that, prior to receiving any kind of treatment, there is not a noticeable distinction in the mean SA scores of students in the experimental group (Pre-Exp) and the control group (Pre-Cont) in English writing. It also ensured the equity among the two groups (experimental and control). With a Cohen's D of 8.68, the effect size is comparatively big. There is a substantial practical difference in SA scores between the two groups, even though the mean difference is not statistically significant. According to this research, there appears to be no statistically significant difference between the mean SA scores of students in the experimental group (Pre-Exp) and the control group (Pre-Cont) for English writing before any kind of treatment or intervention. H<sub>01</sub> is therefore accepted.

H<sub>02</sub>: No statistical difference between the students' autonomy mean scores in the EG and CG in English writing after treatment.

**Table 2: Comparison of Students' Autonomy (SA) Mean Scores after Treatment**

	Groups	N	M	SD	SEM	t-value	Sig.	Effect Size
SR	Po-Exp	40	163.2	16.47	2.604	13.974	0.000	2.51
	Po-Cont	40	124.3	14.74	2.331			

The EG (Po-Exp) (N = 40, M = 163.2, SD = 16.47, SE = 2.604) and the CG (Po-Cont) (N = 40, M = 124.3, SD = 14.74, SE = 2.331) compare their post-treatment SA scale mean scores in English. The difference between these two groups was assessed using a t-test, which produced a very significant t-value of 13.974. Following treatment, there was a statistically significant difference in the SA scores between the experimental and control groups, as indicated by the related p-value (Sig.) of 0.000, which is less than the traditional significance level of 0.05. The effect size is 0.942, which indicates a rather big effect size according to Cohen's D. This implies that the two groups' SA scale scores differ significantly in real-world applications. H<sub>02</sub> is rejected in accordance with the statistical analysis. The results clearly shows that, following treatment, there was a significant difference in the mean SA scale scores in English between the experimental group (Po-Exp) and the control group (Po-Cont). Furthermore, the large effect size suggests that this difference has practical significance in addition to statistical significance, with important real-world ramifications. H<sub>02</sub> is therefore not accepted.

H<sub>03</sub>: No statistical difference between the students' autonomy mean scores of experimental group in English writing before and after treatment.

**Table 3: Comparisons of Students' Autonomy (SA) Scale Scores in EG before and after Treatment**

Test	N	M	SD	SEM	Correlation (p)	Paired Difference			t (p)
						M	SD	SEM	
Pre	40	119.6	11.52	1.821	0.51 (0.754)	-4.35	19.61	3.10	-14.04 (0.000)
Post	40	163.2	16.47	2.604					

The EG mean scores on the students' autonomy scale during the pre-test (N = 40, Mean = 119.6, SD = 11.52, SE = 1.821) and post-test (N = 40, Mean = 163.2, SD = 16.47, SE = 2.604) are shown in Table 3. There is a strong association between the post and pre SA scale scores, as indicated by the correlation coefficient (r=0.51) and p-value of 0.754. The mean, standard deviation, and SE mean of the post-test and pre-test in pairs are -4.35, 19.61, and 3.10, respectively. With a t-value of -14.04 and a p-value of 0.000, below 0.05, the difference in the experimental group's SA scale scores between the pre- and post-test is statistically significant. Strong evidence is shown by these results to refute the null hypothesis H<sub>03</sub>. Taken another way, the mean SA scales of the experimental group before and after the treatment differ significantly. This shows that, in the context of the English course, the treatment had a major effect on the students' SA scale scores. H<sub>03</sub> is therefore not accepted.

H<sub>04</sub>: No statistical difference between the students' autonomy mean (M) scores of CG in English writing before and after treatment.



**Table 4: Comparisons of Students' Autonomy (SA) Scale Scores in Control Group before and after Treatment**

Test	N	M	SD	SEM	Correlation (p)	Paired Difference			t (p)
						M	SD	SEM	
Pre	40	116.8	18.48	2.92	0.924 (0.000)	2.525	7.43	1.175	-2.149 (0.038)
Post	40	124.3	14.74	2.33					

The control group's SA scale results for the pre-test (N = 40, Mean = 116.8, SD = 18.48, SE = 2.92) and post-test (N = 40, Mean = 124.3, SD = 14.74, SE = 2.33) are displayed in Table 4. There is a highly significant association between the post- and pre-SA scale scores, as indicated by the correlation coefficient ( $r = 0.924$ ) and p-value of 0.000. A mean of 2.525, standard deviation of 7.43, and SE mean of 1.175 are displayed in the paired differences between the post-test and pre-test. The SA scale ratings before and after the test do not, however, differ in a way that is statistically significant; the t-value is 2.149 and the p-value is 0.038, both of which are higher than 0.05. Based on these results, the comparison of SA scores in the control group before and after treatment yielded a paired t-value of 2.149 with a p-value of 0.038 using the paired t-test. The p-value, on the other hand, is rather high (higher than the generally accepted significance level of 0.05), suggesting that there is no discernible change in the mean SA scores for the English subject in the control group before and after therapy. It is possible to draw the conclusion that there is insufficient evidence to reject the null hypothesis  $H_{04}$ , indicating that the treatment had no discernible impact on the control group's self-regulation scores in the English subject.  $H_{04}$  is therefore accepted.

### Discussion

This study looked into how students' autonomy levels in English writing at the secondary school level were affected by differentiated instruction (DI) interventions. The investigation was led by the research questions and hypotheses, and the findings were properly contextualised and interpreted by a comparison of the results with the body of existing literature. Thus, the study's findings offer strong proof of the value of varied instruction in raising students' writing autonomy in English. Specifically, the significant difference in mean autonomy scale scores between the experimental and control groups post-treatment suggests that DI intervention positively influenced students' autonomy levels. This finding aligns with prior research conducted by Guay et al. (2017), Sapan and Mede (2022), and Betts (2004), which also reported positive outcomes associated with the implementation of DI strategies. Guay et al. (2017) highlighted the moderating effect of teacher structure on students' autonomous motivation, emphasizing the importance of frequent utilization of DI strategies. Our study corroborates this notion by demonstrating a significant impact of DI intervention on students' autonomy levels. Furthermore, Sapan and Mede (2022) emphasized the perceived effectiveness of DI among both students and teachers, supporting our findings regarding the positive influence of DI on students' autonomy in English writing. Pozas et al. (2020) indicated variations in the implementation of DI practices among secondary school teachers, with advanced tracks exhibiting lower frequency. Although our study did not directly investigate teacher practices, the observed differences in autonomy scale scores between the experimental and control groups suggest that effective implementation of DI can contribute to enhanced student autonomy. The study's conclusions have an enormous effect on how English instructors in secondary schools teach the subject. Incorporating DI strategies can not only improve students' autonomy but also enhance their overall language proficiency and motivation, as evidenced by previous research (Anillo Babilonia, 2016; Flaherty & Hackler, 2010). Likewise, Aljaser (2019), and Ismail and Al Allaq (2019) underscored the importance of DI in fostering self-actualization and cooperative learning, further emphasizing the need for its integration into educational practices.

### Conclusion and Recommendations

The integration of Differentiated Instruction (DI) practices is crucial for all involved in education, including policymakers, school administrators, and teachers. To achieve this goal, it's vital to organize professional development workshops and training sessions. These sessions equip educators with effective DI strategies that cater to diverse student needs and learning styles. Encouraging collaborative lesson planning among teachers ensures the smooth implementation of DI in English classrooms. This fosters a supportive learning environment that nurtures student autonomy and academic success. Implementing continuous assessment strategies, such as peer evaluation and self-assessment, is also important. These strategies empower students to take charge of their learning process and develop self-regulation skills in English writing. Likewise, embracing flexible grouping techniques accommodates varying proficiency levels and learning preferences, which in turn promotes autonomy and intrinsic motivation among students. By prioritizing these practices, educational stakeholders can create an inclusive and engaging learning environment that benefits all students.

Despite the fact that this study yielded valuable information, there are several significant limitations to be aware of. The generalizability of the results might have been impacted by the intervention's length and sample size. Furthermore, contextual elements like curriculum alignment and teacher preparation were not specifically looked at. By performing longitudinal studies with bigger and more diverse samples and investigating the role of teacher traits and institutional support in effectively adopting DI, future research could address these shortcomings. Therefore, the results of this study add to the expanding body of research on the effects of varied instruction on student autonomy in English writing. The present study emphasises the importance of DI intervention in fostering student engagement, motivation, and self-regulation in the classroom by offering empirical evidence of its positive perks.

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