



International Journal of Language Studies

ISSN: 3078-2244 (Online)

2026, Vol. 3, No. 4, pp. 199–215

DOI: <https://doi.org/10.60087/ijls.vol3.n2.012>

Journal homepage: <https://ijlangstudies.org>



The Effectiveness of The Think-Talk-Write Technique in Enhancing Diagram-Based IELTS Academic Writing Task 1 Performance among Grade 11 Students

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Abstract

This study examined the effectiveness of the Think-Talk-Write (TTW) technique in improving Grade 11 students' performance in Diagram-based IELTS Academic Writing Task 1 (AWT1) at Pathway Tue Duc High School in Ho Chi Minh City, Vietnam. A quantitative quasi-experimental design was used with two intact classes comprising 38 students. The experimental group ($n = 20$) received an eight-week intervention using the TTW technique for diagram-based IELTS AWT¹, while the control group ($n = 18$) received traditional writing instruction. Data were collected through pretest and posttest writing tasks, a questionnaire, and structured classroom observations. The groups demonstrated comparable pretest performance, with mean scores of 5.990 for the experimental group and 5.911 for the control group ($p = .798$). Both groups improved after the intervention, but the experimental group showed a larger gain (1.085 vs. 0.289 points). At posttest, the experimental group achieved a higher mean score than the control group (7.075 vs. 6.200, $p = .011$). Questionnaire responses reflected positive perceptions and attitudes toward the TTW technique, while observations recorded active engagement, peer collaboration, and participation in writing activities. The findings provide evidence that the TTW technique can support students' diagram-based IELTS AWT¹ writing performance and promote an active classroom learning environment.

Keywords: Think-Talk-Write technique; Diagram-based IELTS Academic Writing Task 1; diagram-based writing; EFL writing; collaborative learning

Article information: Received: 12/05/2026;

Accepted: 08/06/2026;

Published: 25/06/2026

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1. Introduction

English has become an important means of communication in international education and professional contexts, increasing the demand for recognized measures of English proficiency. The International English Language Testing System (IELTS) is widely used for academic and migration purposes, making IELTS preparation an important component of English education in many contexts. Among its four components, writing is particularly demanding for English

as a Foreign Language (EFL) learners because it requires the simultaneous management of ideas, organization, vocabulary, grammar, and communicative purpose (Hyland, 2003). These demands are especially evident in IELTS AWT1, where test-takers must interpret visual information, select relevant features, organize information logically, and produce an accurate written response within a limited time. Such tasks require learners to coordinate multiple cognitive and linguistic processes during writing (Kellogg, 1996).

These challenges are particularly relevant in the Vietnamese EFL context. Previous research has reported persistent difficulties among Vietnamese learners in academic writing, including limited vocabulary, grammatical problems, difficulties with paraphrasing, and weak organization of ideas (Nguyen & Nguyen, 2022). Writing instruction may also place considerable emphasis on language forms and model responses, which can leave limited opportunities for learners to develop the planning, interaction, and idea-generation processes involved in writing. Hyland (2019) argues that effective second-language writing instruction needs to recognize writing as a purposeful and process-oriented activity rather than focusing solely on the final written product. For IELTS AWT1, this issue is particularly important because students must transform visual information into a logically organized written response rather than simply reproduce memorized language.

The TTW technique provides a potential instructional approach to these challenges. The technique involves three stages: individual thinking and planning, collaborative discussion, and individual writing. This sequence allows learners to examine a task independently, exchange and develop ideas with peers, and subsequently apply those ideas in their own writing. Its emphasis on interaction and collaborative meaning-making is consistent with sociocultural perspectives on learning, particularly the role of social interaction in supporting learners' development (Vygotsky, 1978). Previous studies have reported positive effects of the TTW technique on students' writing performance and classroom participation. However, the application of the TTW technique to IELTS AWT1 remains relatively underexplored. In particular, limited attention has been given to diagram-based AWT¹ tasks among Vietnamese high school students, despite the cognitive demands involved in interpreting and organizing information presented in diagrams.

To address this gap, the present study investigated the effectiveness of the TTW technique in improving Grade 11 students' performance in diagram-based IELTS AWT1 at Pathway Tue Duc High School in Ho Chi Minh City, Vietnam. It also examined students' perceptions of the effectiveness of the TTW technique and their attitudes toward its use in IELTS AWT1 instruction. The study employed a quantitative quasi-experimental design involving two intact Grade 11 classes, with one group receiving instruction through the TTW technique and the other receiving conventional writing instruction over an eight-week intervention. Accordingly, the study addressed two research questions:

To what extent does the TTW technique affect Grade 11 students' performance in diagram-based IELTS Academic Writing Task 1?

What are students' perceptions of the effectiveness and their attitudes toward the use of the TTW technique in learning diagram-based IELTS Academic Writing Task 1?

This study contributes to EFL writing research by examining the TTW technique in a specific IELTS AWT1 context that has received limited attention, namely diagram-based writing among Vietnamese high-school students. By combining evidence from writing performance, students' questionnaire responses, and classroom observations, the study provides a broader account of how the TTW technique may function as a writing instructional technique. The findings also offer practical implications for teachers seeking to incorporate structured pre-writing activities, peer discussion, and individual writing into IELTS AWT1 instruction in EFL classrooms.

2. Literature Review

The present study draws on five complementary perspectives: Schema Theory, Sociocultural Theory, Collaborative Learning Theory, the Output Hypothesis, and Cognitive Process Theory of Writing. Schema Theory explains how learners' existing knowledge can support the interpretation and organisation of new information (Carrell & Eisterhold, 1983). Sociocultural Theory emphasizes the role of social interaction and scaffolding in learning, particularly through support within the learner's Zone of Proximal Development (Vygotsky, 1978). Collaborative Learning Theory provides a basis for understanding the role of peer interaction in constructing and developing knowledge during the Talk stage (Dillenbourg, 1999; Storch, 2002). The Output Hypothesis highlights the role of producing language in noticing gaps in linguistic knowledge and developing greater control over language use (Swain, 1985, 1995). Finally, Cognitive Process Theory of Writing views writing as a set of interrelated processes involving planning, translating, and reviewing (Flower & Hayes, 1981). Together, these perspectives provide a theoretical basis for examining how the TTW technique may support learners' interpretation of visual information, idea development, peer interaction, and individual written production.

2.1. The Think-Talk-Write Technique

The TTW technique is a learning strategy that integrates thinking, oral interaction, and writing into a sequential process. Originally introduced by Huinker and Laughlin (1996) in mathematics education, it involves three stages. In the Think stage, learners individually examine a task, generate ideas, and make notes. In the Talk stage, they share and discuss their ideas with peers, allowing them to clarify, compare, and develop their thoughts. In the Write stage, learners use the ideas developed through the preceding stages to produce an individual written response. The technique therefore combines individual preparation, peer interaction, and individual written production.

Previous empirical studies have applied the TTW technique to different types of EFL writing. Setiawan et al. (2017) found that students who received TTW instruction achieved higher performance in descriptive writing than those taught through Presentation-Practice-Production. In a study of tenth-grade students, Aprilia et al. (2022) likewise reported that TTW instruction led to higher achievement in recount writing than conventional instruction. Herlina et al. (2022) compared the TTW technique with clustering in university-level descriptive writing and found higher posttest performance among students in the experimental group. These findings provide empirical support for the use of the TTW technique in EFL writing, although

the tasks examined in these studies were mainly conventional writing genres rather than IELTS AWT1.

The three-stage sequence of the TTW technique is particularly relevant to process-oriented writing because it gives learners opportunities to develop and organize content before producing a final text. The Talk stage also creates opportunities for learners to exchange and refine ideas before they write independently. These features may be particularly useful for diagram-based IELTS AWT1, in which learners need to interpret visual information, identify relevant features or stages, organize them logically, and transform them into a coherent written response.

2.2. Diagram-based IELTS Academic Writing Task 1

IELTS AWT1 requires test-takers to describe, summarise, or explain visual information in their own words, using at least 150 words in approximately 20 minutes. The visual input may include a diagram of an object, device, process, or event (IELTS, n.d.). In the present study, diagram-based IELTS AWT1 refers specifically to tasks involving process diagrams, diagrams of objects or devices, and diagrams of a sequence of events. Candidates are required to interpret the relevant visual information and present the main content in a clear, well-organised written response.

According to the IELTS Handbook (2006), candidates are assessed on their ability to "organise, present and possibly compare data, describe the stages of a process or procedure, describe an object or event or sequence of events, or explain how something works." Based on these descriptions, the present study focuses on three types of diagram-based tasks. Process diagrams show a series of stages through which a process or procedure develops. Object or device diagrams present the parts, features, or operation of an object or device. Sequence-of-events diagrams show events or developments occurring in a particular order and require the writer to describe the main stages and their relationships.

2.3. Previous Studies on the Effectiveness of the TTW Technique

Previous empirical studies have generally reported positive effects of the TTW technique on EFL students' writing performance across different educational levels and text types. Setiawan et al. (2017), for example, examined 56 students in a two-group pretest-posttest experimental study of descriptive writing and found that students taught through the TTW technique outperformed those receiving Presentation-Practice-Production instruction. Similarly, Aprilia et al. (2022) investigated 44 tenth-grade students in a true experimental study of recount writing. The experimental group achieved a higher posttest mean than the control group (78.868 vs. 60.532), with the difference reaching statistical significance. These studies provide evidence of the effectiveness of the TTW technique in EFL writing instruction.

The effectiveness of the TTW technique has also been examined in comparison with alternative writing strategies and conventional instruction. Herlina et al. (2022) conducted a quasi-experimental study with 42 university English Department students and found that the group instructed with the TTW technique achieved a higher posttest mean than the group taught through clustering in descriptive writing (64.68 vs. 53.05). In Jordan, Mohammad and Abdallah (2023) examined 40 tenth-grade students through a quasi-experimental design and reported

differences between the TTW technique and conventional instruction across several dimensions of writing performance, with moderate to large effect sizes. More recently, Siahaan et al. (2024) examined 64 eighth-grade students in a quasi-experimental study of recount writing. The group taught with the TTW technique showed greater improvement from pretest to posttest than the control group. Collectively, these studies support the use of the TTW technique across different instructional conditions.

2.4. Previous Studies on Students' Perceptions and Attitudes toward the TTW Technique

Beyond writing outcomes, previous research has examined students' responses to the TTW technique, particularly their perceptions, participation, and collaborative engagement. Anggraeni and Apsari (2021) investigated eighth-grade students' responses to the TTW technique through a descriptive qualitative study and reported generally positive perceptions of the technique. Students perceived the TTW technique as helpful for writing development and as making the learning process more interesting. Similarly, Totoil (2021) examined the TTW technique in writing instruction among 20 eighth-grade students using classroom observations and an interview with the English teacher. The findings highlighted benefits related to student independence, cooperation, clearer thinking, speaking fluency, and systematic writing. However, the study also identified unequal participation during group work, as more active students could dominate less active members. These studies suggest generally positive student responses to the TTW technique.

Recent research has provided further evidence of positive learner responses. Nasihah and Mubarak (2025) examined 30 tenth-grade students through interviews, classroom observations, and questionnaires and reported positive perceptions of the TTW technique, together with improvements in idea organization, vocabulary development, grammatical accuracy, and collaborative skills. Aulia et al. (2025) used an explanatory sequential mixed-methods design with 12 eighth-grade students and found improvements in writing performance, particularly in content, organization, and vocabulary. Qualitative findings also suggested better idea organization and a more enjoyable learning experience, although difficulties with idea generation and outlining remained. These findings provide further support for positive student experiences with the TTW technique while highlighting some continuous challenges in writing development.

2.5. Research Gap

Although previous studies have reported positive effects of the TTW technique on students' writing ability, two gaps remain in the literature. First, existing research has largely examined conventional EFL writing tasks, including descriptive, narrative, recount, and announcement texts, with limited attention to diagram-based IELTS AWT1. Unlike these tasks, diagram-based IELTS AWT1 requires learners to interpret visual information, select and organize key features, and express them in an appropriate academic form. Evidence concerning the application of the TTW technique to this type of writing task therefore remains limited. Second, research on the TTW technique has been conducted predominantly in contexts such as Indonesia and Jordan, while evidence from Vietnam remains relatively limited. Given differences in educational contexts and learning objectives, further research is needed to

determine whether the benefits reported in previous studies are also observed among Vietnamese high school students preparing for IELTS writing tasks.

The present study addressed these gaps by investigating the effectiveness of the TTW technique in enhancing diagram-based IELTS AWT1 performance among Grade 11 students at Pathway Tue Duc High School in Ho Chi Minh City, Vietnam. It extended previous research by examining the TTW technique in a specific IELTS writing context and providing empirical evidence from Vietnamese high school learners.

3. Methodology

3.1. Research Design and Participants

This study employed a quantitative quasi-experimental design to investigate the effectiveness of the TTW technique in enhancing students' diagram-based IELTS AWT1 performance at Pathway Tue Duc School in Ho Chi Minh City, Vietnam. Two intact Grade 11 classes with comparable English proficiency participated in the study ($n = 38$). Class 11P2, consisting of 20 students (13 males and 7 females), was assigned to the experimental group, while Class 11P1, comprising 18 students (11 males and 7 females), served as the control group. All participants were 17 years old and enrolled in an IELTS preparation course using the *Mindset for IELTS Level 2* textbook. The two groups were taught by the same teacher and followed the same curriculum and writing content. The study was conducted over eight weeks in regular face-to-face classes. The experimental group received instruction through the TTW technique, whereas the control group received conventional writing instruction. The intervention focused specifically on diagram-based IELTS AWT1, including diagram analysis, introduction and overview writing, planning and organization, body paragraph development, and complete process reports.

3.2. Instruments and Data Collection

Three instruments used in this existing study were a writing pretest and posttest, a student questionnaire, and a classroom observation checklist. The pretest and posttest were the primary measures of writing performance. Both followed the IELTS AWT1 format, requiring a minimum of 150 words within 20 minutes, and were administered to both groups under supervised, paper-based conditions. Written responses were assessed using the IELTS AWT1 Band Descriptors for Task Achievement (TA), Coherence and Cohesion (CC), Lexical Resource (LR), and Grammatical Range and Accuracy (GRA). The pretest, administered one week before the intervention, required students to describe a line graph, while the posttest, administered immediately after the eight-week intervention, required them to describe a man-made process.

The demographic information section was administered to students in both groups before the intervention to collect background information. After the intervention, the experimental group completed 10 closed-ended questionnaire statements rated on a five-point Likert scale. Five items examined students' perceptions of the effectiveness of the TTW technique, while the other five assessed their attitudes toward using the technique to learn diagram-based IELTS AWT1.

A structured classroom observation checklist provided supplementary evidence of students' participation, interaction, and engagement during the intervention. Two raters, the researcher-teacher and an independent teacher, independently evaluated the experimental group using the same checklist. The checklist included 10 behavioral items and five overall categories: task engagement, active participation, active idea contribution, peer collaboration, and classroom interaction.

3.3. Intervention and Procedure

The intervention lasted eight weeks. Both groups received instruction on eight diagram-based IELTS AWT1 units, with one unit taught each week. The instructional content covered diagram analysis, introductions and overviews, planning and organisation, body-paragraph development, complete process reports, the use of the present simple passive and sequencers, and timed writing practice. Each course lasted 45 minutes, with four courses conducted per week.

In the experimental group, instruction followed the three stages of the TTW technique. During the Think stage, students individually analysed the diagram, identified key stages or features, noted relevant details, and generated vocabulary and ideas using guiding questions or planning worksheets. During the Talk stage, students worked in small groups to compare and develop their ideas, clarify their understanding of the diagram, discuss vocabulary and grammatical structures, and plan the organisation of the report. The teacher facilitated the discussion and provided support when necessary. During the Write stage, students independently produced a complete IELTS AWT1 response using the ideas developed during the preceding stages.

The control group covered the same instructional content but received conventional writing instruction. Lessons focused on teacher explanations of task requirements, analysis of model answers, vocabulary presentation, and individual writing practice. Interaction was primarily teacher-led, with limited opportunities for structured peer discussion and collaborative planning.

One week before the intervention, both groups completed the pretest under supervised, paper-based conditions. Students had 20 minutes to complete the task individually, and no task-related instruction or feedback was provided during the test. Following the eight-week intervention, both groups completed the posttest under comparable conditions. The questionnaire was then administered to the experimental group in paper form. Students completed it anonymously and were informed that their responses would be kept confidential for research purposes. Classroom observations were conducted throughout the intervention in the experimental group.

3.4. Data Analysis

The collected data were analyzed using descriptive and inferential statistics. Microsoft Excel was used for data organization and preliminary calculations, while SPSS was used for the statistical analyses. The analysis covered the pretest and posttest writing scores, questionnaire responses, and classroom observation data.

For the writing test data, means and standard deviations were calculated to summarize students' pretest and posttest performance in the experimental and control groups. Paired-samples *t*-tests were conducted separately for the two groups to examine changes in writing performance from pretest to posttest. Independent-samples *t*-tests were used to compare the experimental and control groups at pretest and posttest. The pretest comparison assessed the comparability of the groups before the intervention, while the posttest comparison examined differences in writing performance following the intervention.

For the questionnaire data, frequencies and percentages were calculated for the demographic items, while means, standard deviations, and response percentages were calculated for the Likert-scale items. Section A was analyzed to examine students' perceptions of the effectiveness of the TTW technique in supporting diagram-based IELTS AWT1 writing, whereas Section B examined their attitudes toward the use of the technique in learning diagram-based IELTS AWT1. The questionnaire findings were treated as supplementary evidence concerning students' perceptions and attitudes toward the TTW technique.

For the classroom observation data, descriptive statistics and inter-rater reliability analysis were conducted. The ratings provided by the two observers were compared to examine the consistency of their evaluations of students' participation, engagement, idea contribution, peer collaboration, and classroom interaction. Inter-rater reliability was assessed using the Intraclass Correlation Coefficient (ICC). A two-way mixed-effects model with absolute agreement was used because the same two raters independently evaluated the same observations. Both single-measures and average-measures ICCs were calculated. The ICC was treated as the primary measure of inter-rater reliability. The observation findings were considered alongside the writing test and questionnaire results as supplementary evidence of students' classroom engagement and interaction during the TTW intervention.

3.5. Ethics Statement

Ethical considerations were addressed throughout the research process. Before data collection, official permission was obtained from the management board of Pathway Tue Duc School. The participants were informed about the purpose and procedures of the study and were invited to participate voluntarily. Written agreement was obtained from all participants, and they were informed that they could withdraw from the study at any time without penalty. All collected data were treated confidentially and used solely for academic research purposes. Participants' identities were anonymized to protect their privacy.

4. Results

The present study employed a quantitative quasi-experimental design. This design was selected because the participants were drawn from two existing intact Grade 11 classes. The study involved two intact Grade 11 classes. One class ($n = 20$) received instruction through the TTW technique, while the other class ($n = 18$) received conventional writing instruction. The former was the experimental group, and the latter was the control group.

4.1. Writing performance

Table 4.1. *Pretest and Posttest Scores and Mean Gains by Group*

Group	<i>n</i>	Pretest M (SD)	Posttest M (SD)	Mean gain	Within-group <i>t</i>	<i>p</i>
Control	18	5.911 (1.062)	6.200 (1.160)	.289	-7.638	< .001
Experimental	20	5.990 (.822)	7.075 (.832)	1.085	-10.077	< .001

As shown in Table 4.1, the two groups had comparable performance before the intervention. The control group ($n = 18$) obtained a mean pretest score of 5.911 ($SD = 1.062$), compared with 5.990 ($SD = .822$) for the experimental group. The difference was not statistically meaningful, $t(36) = -.257$, $p = .798$. This result established a similar baseline level of IELTS AWT1 performance across the two groups.

Both groups improved between the pretest and posttest. The control group's mean score increased from 5.911 to 6.200, representing a mean gain of 0.289 points. The paired-samples *t*-test confirmed that this increase was statistically significant, $t(17) = -7.638$, $p < .001$. The experimental group showed a larger increase, with its mean score rising from 5.990 to 7.075, corresponding to a mean gain of 1.085 points. This change was also statistically significant, $t(19) = -10.077$, $p < .001$.

The difference between the groups became more pronounced at posttest. The experimental group achieved a mean score of 7.075 ($SD = .832$), whereas the control group obtained 6.200 ($SD = 1.160$). An independent-samples *t*-test showed that the experimental group outperformed the control group at posttest, $t(36) = -2.693$, $p = .011$, with a mean difference of .875 points.

In conclusion, the results show that although both groups improved over the study period, the experimental group demonstrated a substantially larger gain than the control group. The experimental group increased by 1.085 points compared with 0.289 points in the control group, and the posttest comparison further confirmed the higher performance of the experimental group. These findings support the alternative hypothesis for Research Question 1, indicating that the TTW technique was associated with improved performance in diagram-based IELTS AWT1.

Table 4.2. *Normality and Mann-Whitney U Test Results for Gain Scores*

Group	<i>n</i>	Shapiro -Wilk W	<i>p</i>	Mean Rank	<i>U</i>	<i>Z</i>	<i>p</i>	Effect size (<i>r</i>)
Control	18	.87	.018	9.78				

Group	n	Shapiro -Wilk W	<i>p</i>	Mean Rank	<i>U</i>	<i>Z</i>	<i>p</i>	Effect size (<i>r</i>)
Experimental	20	.885	.022	28.25				
Mann-Whitney U test					5	-5.156	< .001	.84

To further examine whether the two groups differed in the extent of their improvement, gain scores were calculated by subtracting the pretest score from the posttest score for each student. As shown in Table 4.2, the Shapiro-Wilk test indicated that the gain scores were not normally distributed in either the control group ($W = .870, p = .018$) or the experimental group ($W = .885, p = .022$). A Mann-Whitney U test was therefore conducted to compare the gain scores between the two groups.

The experimental group had a substantially higher mean rank (28.25) than the control group (9.78). The difference in gain scores was statistically significant, $U = 5.00, Z = -5.156, p < .001$. The effect size was large ($r = .84$), indicating a substantial difference in the extent of improvement between the two groups. Thus, the gain-score analysis provided further evidence that students who received TTW-based instruction made considerably greater progress in diagram-based IELTS AWT1 than those who received conventional writing instruction.

4.2. Students' Perceptions and Attitudes toward the TTW Technique

Table 4.3. *Students' Perceptions of the Effectiveness of the TTW Technique*

Items	M	SD	Agree/Strongly Agree (%)
A1: The TTW technique improves my ability to analyze and interpret information in visual representations.	3.50	1.10	45
A2: The TTW technique helps me generate and expand more relevant ideas before writing.	3.80	.95	65
A3: The TTW technique helps me organize my ideas into a logical structure before writing.	3.65	.81	55
A4: The TTW technique enhances my ability to select and use appropriate language in writing.	3.85	.93	70
A5: The TTW technique improves the clarity and overall quality of my written responses.	3.75	.85	50
Overall	3.71	—	57

The questionnaire results revealed generally positive perceptions of the effectiveness of the TTW technique (Table 4.3). The overall mean was 3.71, with 57% of responses falling in

the Agree or Strongly Agree categories. Among the five items, students rated the technique most positively for selecting and using appropriate language ($M = 3.85$) and generating and expanding relevant ideas ($M = 3.80$). Perceptions were relatively less positive regarding the analysis and interpretation of visual information ($M = 3.50$).

Table 4.4. *Students' Attitudes toward the TTW Technique*

Item	M	SD	Agree/Strongly Agree (%)
B6: I enjoy thinking about what I already know before writing my response.	3.85	.88	65
B7: I enjoy discussing ideas with classmates during TTW activities.	3.80	.77	60
B8: I feel comfortable sharing my part when working with classmates during TTW activities.	3.95	.61	80
B9: I like exchanging and explaining my ideas aloud before writing.	3.80	.89	60
B10: I like planning my ideas before I start writing	4.05	.69	80
Overall	3.89	—	69

Students also expressed positive attitudes toward the TTW technique (Table 4.5), with a higher overall mean of 3.89 and 69% of responses in the Agree or Strongly Agree categories. The highest ratings concerned planning ideas before writing ($M = 4.05$) and feeling comfortable sharing ideas with classmates ($M = 3.95$). The remaining items also received favorable ratings, with means ranging from 3.80 to 3.85. Overall, the questionnaire findings showed that students viewed the TTW technique favorably and were particularly positive about planning and sharing ideas before writing.

4.3. Results of the observation checklist

Table 4.5. *Inter-Rater Reliability of Observation Checklist of Two Raters*

Reliability measure	Coefficient	95% CI	F	df1	df2	p	Interpretation
ICC - Single Measures	.75	[.304, .930]	7.75	9	9	.003	Good agreement
ICC - Average Measures	.857	[.466, .964]	7.75	9	9	.003	Good agreement

As shown in Table 3.12, the observation checklist demonstrated good inter-rater agreement. The ICC was .750 for single measures and .857 for average measures, with both

estimates reaching statistical significance ($p = .003$). These results indicate good consistency between the two raters' evaluations.

Table 4.6. Comparison of Overall Observation Ratings Between the Two Raters

No.	Overall Observation Items	Rater 1	Rater 2	Difference	Agreement
1	Task Engagement	4	4	0	Exact agreement
2	Active Participation	3	3	0	Exact agreement
3	Active Idea Contribution	3	3	0	Exact agreement
4	Peer Collaboration	4	4	0	Exact agreement
5	Classroom interaction	4	4	0	Exact agreement
Exact agreement					5/5 (100%)

Classroom observations provided supporting evidence of students' engagement during the TTW intervention. As shown in Table 4.5, Task Engagement, Peer Collaboration, and Classroom Interaction were rated Very Good, while Active Participation and Active Idea Contribution were rated Good. The two raters demonstrated complete agreement across the overall observation ratings, with an exact agreement rate of 100%. The ratings were generally positive, ranging from Good to Very Good, providing supplementary evidence of students' classroom engagement and interaction during the TTW intervention.

5. Discussion

The findings provide evidence that the TTW technique was more effective than conventional writing instruction in improving students' diagram-based IELTS AWT1 performance. This finding is consistent with Mohammad and Abdallah (2023), who reported better writing performance among students receiving TTW instruction than those receiving conventional instruction. It also supports the findings of Setiawan et al. (2017), who found that TTW contributed to greater improvement in students' writing performance. While these studies examined other writing contexts, the present study extends the evidence to diagram-based IELTS AWT1, where students are required to interpret visual information, organize ideas, and express them accurately within a limited time. The improvement observed in the experimental group may be related to the structured sequence of individual planning, peer discussion, and independent writing, which gave students opportunities to prepare and refine their ideas before producing the final text.

The positive student responses further support the value of the TTW technique from the learners' perspective. Students generally perceived the technique as useful for developing and expanding ideas before writing and expressed favorable attitudes toward learning through the TTW technique. This finding is consistent with Anggraeni and Apsari (2021) and Nasihah and Mubarak (2025), who reported positive learner responses to TTW, particularly in terms of idea

development, collaboration, and the learning experience. The classroom observation findings provide further contextual support, as students demonstrated generally positive levels of participation, engagement, peer collaboration, and classroom interaction during the intervention. However, these observations should be interpreted as supplementary evidence of students' classroom involvement rather than direct evidence of improvement in writing performance.

Several factors may explain the observed effectiveness of the TTW technique. The Think stage gives learners individual preparation time to examine the visual information and formulate initial ideas before interacting with peers. This may be particularly useful for diagram-based AWT1 because students need to identify stages, relationships, and key information before beginning to write. The Talk stage then provides opportunities to compare and refine ideas, while the final Write stage requires students to transform the ideas developed through individual and collaborative preparation into an independent written response. The sequence may consequently reduce the cognitive demands associated with generating, organizing, and expressing ideas simultaneously.

5.1. Theoretical Implications

The findings can be interpreted through the five theoretical perspectives underlying the study. From the perspective of Schema Theory (Carrell & Eisterhold, 1983), the Think stage may activate learners' existing knowledge and help them connect familiar language and organizational patterns with new visual information. This process may facilitate the interpretation and organization of diagram content before writing.

The findings also support the relevance of Sociocultural Theory (Vygotsky, 1978) and Collaborative Learning Theory (Dillenbourg, 1999; Storch, 2002). The Talk stage creates opportunities for learners to exchange ideas, clarify interpretations, and receive assistance from peers. Such interaction can provide forms of peer support and scaffolding that may help learners move from individually generated ideas toward more developed and organized responses. The positive classroom interaction and collaboration observed during the intervention are consistent with this interpretation.

The Output Hypothesis (Swain, 1985, 1995) offers another explanation for the role of the Write stage. By producing their own written responses, learners are required to convert their ideas into language and may become more aware of limitations in their vocabulary, grammar, or ability to express relationships between stages and processes. Repeated opportunities to produce language may consequently support greater control over written language.

Finally, the findings are consistent with Cognitive Process Theory of Writing (Flower & Hayes, 1981), particularly its emphasis on planning, translating, and reviewing. The TTW technique separates important aspects of the writing process into structured stages rather than requiring students to generate ideas and compose their responses simultaneously. The technique therefore provides a pedagogical structure that may help learners manage the cognitive processes involved in diagram-based writing.

In conclusion, these theoretical perspectives suggest that the effectiveness of the TTW technique may arise not from any single stage but from the interaction of individual preparation,

social negotiation, and independent language production. The study consequently provides empirical support for viewing TTW as a process-oriented approach that connects cognitive, social, and linguistic dimensions of EFL writing.

5.2. Practical Implications

The findings have several implications for IELTS writing instruction. First, teachers may consider incorporating structured pre-writing interaction into diagram-based AWT1 lessons rather than moving directly from visual analysis to individual writing. The TTW sequence can provide students with a clear pathway from interpreting visual information to organizing ideas and producing a written response. Second, the Talk stage can be used strategically to encourage students to compare interpretations and identify relevant information before writing. Teachers may provide guiding questions or prompts to keep discussions focused on the main features of the diagram, sequence, relationships, and language needed for the report. This may be particularly beneficial for learners who experience difficulty generating or organizing ideas independently. Third, the findings suggest that collaborative discussion should complement rather than replace individual writing. The final Write stage maintains individual responsibility for producing the IELTS response, allowing students to apply ideas discussed with peers while developing independent writing skills. Teachers should also monitor group interaction to ensure that participation is distributed among members, given previous research showing that more active students may dominate collaborative activities (Totoil, 2021).

5.3. Limitations

Several limitations should be considered when interpreting the findings. First, the study involved only 38 students from two intact classes at one private school. The use of intact classes was appropriate for the classroom context but limits the extent to which the findings can be generalized to other student populations or educational settings. Second, the intervention lasted eight weeks and focused specifically on diagram-based IELTS AWT1. The findings may therefore not extend directly to other IELTS AWT1 task types or to longer-term writing development. Third, the questionnaire was administered only to the experimental group and relied on students' self-reported perceptions and attitudes. These responses provide useful evidence of learners' experiences but cannot independently establish the effectiveness of the technique. Similarly, classroom observation was used as supplementary evidence, and one of the two raters was also the classroom teacher and researcher. Although the use of a second independent rater strengthened the reliability of the observations, the possibility of observer-related bias cannot be completely excluded. Finally, the study measured writing performance immediately following the intervention and did not include a delayed posttest. It therefore cannot determine whether the observed improvement was sustained over time. Future studies could address these limitations by recruiting larger samples from multiple schools, including different IELTS AWT1 task types, extending the intervention period, incorporating delayed posttests, and using additional sources of evidence to examine students' writing development.

6. Conclusion

This study examined the effectiveness of the TTW technique in enhancing diagram-based IELTS AWT1 performance among Grade 11 students at Pathway Tue Duc High School in Ho

Chi Minh City, Vietnam. The findings support the use of the TTW technique as a structured approach to pre-writing, particularly in helping learners process visual information, develop and organize ideas, and prepare for individual writing. The study also contributes to the existing literature by extending research on the TTW technique to diagram-based IELTS AWT1 and providing evidence from a Vietnamese upper-secondary context. Students' positive perceptions and classroom engagement further support the potential value of the technique for IELTS writing instruction.

In instructional practice, the TTW technique can be incorporated into diagram-based AWT1 lessons as a structured sequence of individual thinking, peer discussion, and individual writing. Future research could examine the technique with larger and more diverse samples, longer intervention periods, and other IELTS AWT1 formats to determine whether its benefits can be extended to broader writing contexts and sustained over time.

Acknowledgements

The author would like to thank the school administrators, English teachers, and Grade 11 students at Pathway Tue Duc High School for their support and participation in this study. The author also gratefully acknowledges the teachers who assisted with the assessment and classroom observation.

Funding

This research received no external funding.

Author Contributions

All authors contributed to the conceptualization, methodology, and design of the study; participated in data curation and investigation; drafted and critically revised the manuscript; and approved the final version for submission.

Conflicts of Interest

The authors declare that there is no conflict of interest.

Ethics Statement

The study was conducted in accordance with the ethical requirements applicable to research involving human participants at the study site. Ethical principles were carefully observed throughout the research process. All data were collected and analyzed solely for academic research purposes. Participants' information was kept confidential and used only for the study.

Informed Consent Statement

Informed consent was obtained from the participants and, where applicable, their parents before participation in the study. Participation was voluntary, and the confidentiality of participants' information and responses was maintained.

Data Availability Statement

The data supporting the findings of this study are not publicly available because they contain information relating to student participants. The data may be made available by the author upon reasonable request, subject to applicable ethical and privacy restrictions.

Declaration of Generative AI and AI-Assisted Technologies

During the preparation of this manuscript, the author used AI to support language editing and refinement of academic wording. The author reviewed and edited the output, verified the accuracy of the content and references, and takes full responsibility for the final content of the manuscript. Artificial intelligence (AI) tools were used only for language refinement, including improving grammatical accuracy, clarity, and academic expression. AI was not used to generate the research ideas, conceptual framework, methodology, data, analysis, interpretation, or findings. All intellectual content, research decisions, analyses, interpretations, and conclusions presented in this study are the authors' own work.

Declaration of Generative AI and AI-Assisted Technologies

The authors declare that no generative AI or AI-assisted technology was used in the preparation of this manuscript.

References

- [1]. Anggraeni, I. Y., & Apsari, Y. (2021). STUDENTS' RESPONSES TOWARD THINK TALK WRITE STRATEGY IN TEACHING WRITING. *PROJECT (Professional Journal of English Education)*, 4(4), 568. <https://doi.org/10.22460/project.v4i4.p568-573>
- [2]. Aprilia, Y., Rositasari, T., Septarini, D., & Saraswaty, D. R. (2022). The influence of Think Talk Write to improve the tenth grade students' writing skill at SMA Negeri 2 Sekampung. *English Community Journal*, 6(2), 87–95. <https://doi.org/10.32502/ecj.v6i2.5521>
- [3]. Borg, S. (2003). Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. *Language Teaching*, 36(2), 81–109. <https://doi.org/10.1017/s0261444803001903>
- [4]. Carrell, P. L., & Eisterhold, J. C. (1983). Schema Theory and ESL Reading Pedagogy. *TESOL Quarterly*, 17(4), 553. <https://doi.org/10.2307/3586613>
- [5]. Dillenbourg, P. (1999). Collaborative learning : cognitive and computational approaches. <https://openalex.org/W1524402640>
- [6]. Flower, L., & Hayes, J. R. (1981). A Cognitive Process Theory of Writing. *College Composition and Communication*, 32(4), 365. <https://doi.org/10.2307/356600>
- [7]. B, H., Rahman, M. A., & Abduh, A. (2022). Improving Students Skill in Writing Descriptive Text by Using Think-Talk-Write and Clustering Techniques. *Celebes Journal of Language Studies*, 23–40. <https://doi.org/10.51629/cjls.v2i1.79>
- [8]. Schwartz, M. (1979). Talking Your Way into Writing. *The English Journal*, 68(7), 42. <https://doi.org/10.2307/814522>
- [9]. Hyland, K. (2003). *Second Language Writing*. Cambridge University Press. <https://doi.org/10.1017/cbo9780511667251>
- [10]. Dörnyei, Z. (1998). Motivation in second and foreign language learning. *Language*

- Teaching*, 31(3), 117–135. <https://doi.org/10.1017/s026144480001315x>
- [11]. Kovalenko, M. (2018). The Validation Process in the IELTS Reading Component: Reading Requirements for Preparing International Students. *Journal of language and Education*, 4(1), 63–78. <https://doi.org/10.17323/2411-7390-2018-4-1-63-78>
- [12]. Kellogg, R. T. (1996). A model of working memory in writing. <https://openalex.org/W2922565083>
- [13]. Mohammad, M. A., & Abdallah, B. (2023). The Effect of “Think-Talk-Write” Strategy on EFL Tenth-Grade Students' Writing Performance. *Journal of International Education and Practice*, 6(1), 1. <https://doi.org/10.30564/jiep.v6i1.5388>
- [14]. Nasihah, Z., & Mubarak, H. (2025). THE IMPLEMENTATION OF THINK TALK WRITE (TTW) IN TEACHING WRITING DESCRIPTIVE TEXT. *EDUTECH*, 24(3), 2023–2035. <https://doi.org/10.17509/e.v24i3.89954>
- [15]. Nguyen, H. N., & Nguyen, D. K. (2022). Vietnamese Learners' Performance in The IELTS Writing Task 2. *International Journal of TESOL & Education*, 2(1), 170–189. <https://doi.org/10.54855/ijte.222111>
- [16]. Setiawan, R., Sujana, I. M., & Aprianto, K. (2017). The effect of Think-Talk-Write (TTW) technique on students' writing ability. *ELT Tech: Journal of English Language Teaching and Technology*, 1(1), 31–39. <https://doi.org/10.17509/elt%20tech.v1i1.9429>
- [17]. Siahaan, S., Sinaga, M., & Damanik, B. A. R. (2024). The effect of Think-Talk-Write strategy to the students' writing achievement of recount text of the eight grade students of SMP Negeri 2 Siantar. *TOFEDU: The Future of Education Journal*, 3(5), 1208–1215. <https://doi.org/10.61445/tofedu.v3i5.196>
- [18]. Storch, N. (2002). Patterns of Interaction in ESL Pair Work. *Language Learning*, 52(1), 119–158. <https://doi.org/10.1111/1467-9922.00179>
- [19]. Swain, M. (1985). Communicative competence : Some roles of comprehensible input and comprehensible output in its development. *Medical Entomology and Zoology*, 15, 165–179. <https://openalex.org/W167880415>
- [20]. Swain, M. (1995). Three functions of output in second language learning. *Medical Entomology and Zoology*, 125–144. <https://openalex.org/W207698892>
- [21]. Totoil. (2021). The use of Think Talk Write strategy in teaching writing. *The Ellite of Unira*, 4(2). <https://doi.org/10.53712/ellite.v4i2.1850>
- [22]. Gagen, T., & Faez, F. (2023). The predictive validity of IELTS scores: a meta-analysis. *Higher Education Research & Development*, 43(4), 873–888. <https://doi.org/10.1080/07294360.2023.2280700>
- [23]. Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. <https://openalex.org/W2135943618>