



Effects of Self-Regulated Strategy Development Writing Instruction on Argumentative Essay Writing Performance and Writing Motivation: Third Year English Majors at University of Gondar in Focus

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Abstract

This study was conducted to examine the effects of Self-Regulated Strategy Development (SRSD) writing instruction on argumentative essay performance and writing motivation of 12 third-year English major students at University of Gondar. A single-group time series quasi-experimental design was employed. Three argumentative essay writing tests and a writing motivation questionnaire were used to gather quantitative data at both pre- and post-intervention stages. Non-parametric inferential statistics including Friedman Test, and Wilcoxon Signed-Rank Test along with post-hoc analysis of Pairwise Comparisons with Bonferroni Correction were used to analyze the data. The analysis of the writing test findings showed that SRSD writing instruction led to improvements in the general quality of participants' argumentative essays, with a reasonable size effect (Kendall's $W = .250$). In contrast, participants scored significantly higher in writing motivation test with strong Effect Size ($r = 0.883$) after they had received SRSD writing instruction. Based on these findings, SRSD writing instruction appears to enhance students' argumentative writing performance and motivation. Therefore, it is recommended to incorporate SRSD into undergraduate writing courses and instructional materials.

Keywords: Self-Regulated Strategy Development, argumentative writing, writing motivation, writing performance, EFL undergraduates

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Introduction

Proficiency in writing is essential across academic, professional, social, and personal contexts. Employers and institutions use writing for hiring, promotion, placement, and gatekeeping (Graham, 2008; Kroll, 2003; Leki, 2003; Oxford, 2004). Teachers and scholars publish scientific articles to join academia (Hei & David, 2015; Naghdipour, 2016), while students demonstrate linguistic and content knowledge through writing (Kroll, 2003; Oxford, 2004). Beyond these contexts, writing supports religious rituals (Haas & Bakke, 2015), therapeutic journaling, social media communication, and livelihoods for many writers (Brandt, 2005). Therefore, skillful writing is essential for success in academic, professional, social, and personal contexts. Consequently, it is imperative to help learners develop writing across varied purposes and demands (Dunn, 2021; Graham & Harris, 2009; McNamara & Allen, 2019).

However, learning to write is complex, constrained by linguistic, cognitive, affective, motivational, and socio-cultural factors (Graham, 2018, McNamara & Allen, 2019; Schoonen et al., 2003; Weigle,

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2005). From linguistics perspective, writers need command of grammar, syntax, vocabulary, and discourse conventions to convey ideas clearly (Graham, 2006; Schoonen et al., 2003). Cognitively, they must plan, generate, organize, revise, and edit while managing limited attention and working memory (Deane et al., 2008; Graham, 2006, 2018; McCutchen, 2006, 2011).

Motivation is equally important, as writing often involves sustained effort and engagement (Hawthorne, 2008). However, many students, particularly in EFL contexts, experience writing anxiety and low self-efficacy, which negatively affect their performance (Cheng, 2004; Bruning & Kauffman, 2016; Pajares, 2003). Social and cultural factors further complicate writing, as effective communication depends on understanding the audience and adhering to genre-specific conventions (Graham, 2018; Hyland, 2003). For example, academic writing, such as argumentative essays, imposes strict conventions (e.g., thesis statements, counterarguments, rebuttals) that many students struggle to internalize (De La Paz & Graham, 2002).

In summary, writing is both critically important and inherently challenging to master. To address this challenge, it is essential to understand the factors contributing to its difficulty (Doolan, 2020). This understanding can inform the design of effective teaching approaches and foster a supportive learning environment. One such approach is Self-Regulated Strategy Development (SRSD), which aims to reduce the constraints posed by the complex nature of writing (Graham & Perin, 2007; Harris, 2024; Harris & Graham, 2017; Torres & Ray, 2022).

First introduced by Harris and Graham in early 1980s as Self-control Strategy Training, SRSD had gone through lots of refinements and development before it took on its current name and form in 1992 (Harris & Graham, 2017). It is explicitly designed to help students learn general writing strategies (i.e. planning, drafting, revising, and editing), genre-specific writing strategies (e.g. strategies for writing argumentative, informational, or narrative essays) (Graham & Perin, 2007; Harris & Graham, 2017). It also helps students learn strategies to self-regulating their writing process and the difficulties most students face while learning to write (i.e. goal setting, self-instructions, self-monitoring, and self-reinforcement) (Graham & Perin, 2007; Harris, 2024; Torres & Ray, 2022).

SRSD is a flexible model comprising six stages: Develop It, Discuss It, Model It, Memorize It, Support It, and Independent Performance (Harris & Graham, 2009; Harris *et al.*, 2008). Specifically, first, students build foundational knowledge about writing (Develop It). Then, the teacher discusses (Discuss It) and models the strategy (Model It) to demonstrate its practical application. Next, students internalize the strategy (Memorize It), receive guided support (Support It), and gradually transition to independent writing (Independent Performance). These stages facilitate the development of genre-specific and general writing strategies while promoting self-regulation at the same time (Harris, Graham, & Adkins, 2014). The stages can be re-ordered, combined, modified or deleted to meet the needs of individual students (Harris, *et al.*, 2014; Graham & Harris, 2005).

To date, more than 100 studies have confirmed SRSD's efficacy in improving text quality, length, and motivation among diverse populations (Graham *et al.*, 2013; Harris & Graham, 2009). SRSD has proven effective across varied educational contexts, such as general education classrooms, special education environments (Harris *et al.*, 2008; Harris, 2024), and ESL/EFL programs

(Wang, 2023). Researchers have implemented SRSD successfully at all grade levels, spanning K-12 (Graham & Perin, 2007; Graham *et al.*, 2024). Additionally, SRSD has been adapted to multiple writing genres, including narrative, expository, persuasive, and argumentative writing (De La Paz & Graham, 2002; Harris & Graham, 2017; Harris *et al.*, 2008; Mason, Harris, & Graham, 2011).

A key focus of the present study was the use of SRSD to teach general writing process strategy (i.e., planning and writing), genre-specific writing strategy (i.e., argumentative writing), and writing motivation. In this regard, SRSD offers several validated strategies for writing in academic genres including argumentative essay writing (De La Paz, 2001; Jacobson & Reid, 2007). The argumentative genre, in particular, has received unique attention from SRSD and non-SRSD writing strategy researchers, not only because it is part of district, national (Harris, *et al.*, 2014) or international high-stakes exams (e.g., IELTS, ETS, TOEFL) but also due to the unique challenges it presents for ESL/EFL students. These challenges stem from variations in discourse structure (Tarawhiti, 2016; Torres & Ray, 2022) and the requirement for higher order cognitive skills, such as analytical reasoning and problem-solving abilities (Deane *et al.*, 2008).

In SRSD, argumentative essay is conceptualized as a text having such basic essay elements of argumentative discourse as a thesis statement with clearly expressed writer's position on a debatable topic, at least three reasons with details supporting this position, one or more counterarguments along with writer's refutations, and conclusion restating the thesis or summing up the reasons (De La Paz, 2001; Harris *et al.*, 2008). SRSD's application to argumentative writing involves explicit instruction in planning strategy using mnemonic devices like STOP and DARE (Harris, *et al.*, 2008). STOP stands for (**S** = *Suspend judgment*, **T** = *Take a side*, **O** = *Organize ideas*, **P** = *Plan more as you write*) while DARE – (**D** = *Develop a position statement*; **A** = *Add supporting details*; **R** = *Report & refute counterarguments*; **E** = *End with a strong conclusion*) (Harris, *et al.*, 2008). In the current study, STOP and DARE were used to help students write argumentative essays instead of others (e.g., POW + TREE) because the definition of argumentative text emanates from the mnemonic DARE itself (De La Paz, 2001).

Similarly, affective and motivational aspects of writing are also targeted under SRSD (ex)implicit instructional regimen (Graham & Harris, 2009,

Harris, et al., 2014). These aspects are presented throughout these components and stages (Graham & Harris, 2009). Ferretti and Graham (2019) note that the SRSD model deliberately uses instructional procedures and teaches students to improve such motivational aspects as self-efficacy, expectations for success, and attribution of their success to effort and strategy use. Harris, Graham, and Mason (2006) assert that SRSD-based writing instruction improves students' intrinsic motivation.

In Ethiopia, low writing performance among EFL learners at both secondary and tertiary levels has persisted for decades, with studies consistently reporting lack of improvement and revealing issues including poor sentence construction, lack of coherence, and minimal engagement with writing tasks (Abiy, 2013; Amare, 2018; Ebabu, 2019; Habtamu, 2018; Yonas, 1996). Factors contributing to this include: insufficient preparation in high school, lack of emphasis on writing in national examinations, and limited use of writing outside the classroom (Amare, 2018; Ebabu, 2019; Habtamu, 2018; Achamyeh, 2020). As a result, university students often lack the basic skills needed for academic writing, particularly in argumentative genre, which is required for academic success.

Students at University of Gondar (UoG), where this study was situated, in the Department of English Language and Literature (DELL) faced similar challenges. Third-year English majors take *Advanced Writing Skills* course in which argumentative writing is one of the academic genres emphasized. The results from preliminary investigation and researcher's experience revealed that these students struggle with writing in general, and argumentative essay writing, in particular, producing essays that lack basic essay elements such as thesis statements, evidences, counterarguments, rebuttals, and coherence. A possible reason could be that many students admitted to DELL are those with the lowest cumulative grades, often lacking interest in English. Previous research has demonstrated that students with low English proficiency level are less confident, have negative attitudes towards writing and themselves, and are less motivated (Brunning & Horn, 2000). Given the strong empirical evidence available in the literature for its effectiveness across different populations, settings, and genre (Harris & Graham, 2017), this study aimed to fill in this gap in skill by applying SRSD writing strategy approach with STOP and DARE planning and drafting strategies along with self-regulation strategies to teach argumentative writing

skill and help the participants of this study improve their argumentative writing performance and writing motivation.

In addition, the current study targeted to fill in the following empirical gaps. To begin with, most of SRSD writing strategy-based intervention studies were conducted in the US, English L1 elementary and middle school contexts (De La Paz & Graham, 2002; Finlayson, 2020; Graham & Perin, 2007; MacArthur, 2017). SRSD studies in secondary and post-secondary school (e.g college and university) in English L1 contexts remain scarce (MacArthur & Philippakos, 2013; MacArthur, et al., 2015), and even more so in EFL contexts (e.g. Alshammari, 2016; Chen et al., 2021; Wang, 2023).

Moreover, previous SRSD research on writing has focused more on writing, and argumentative writing outcomes, in particular, and less on writing motivation outcomes. This is despite the fact that motivation is one of the four essential components required for developing expertise in writing, the other three being skills, knowledge, and strategic behavior (Graham, 2006). The few existing SRSD studies that considered writing motivation are correlational studies in nature, and often are with mixed results (Graham et al, 2017). Even those SRSD studies that combine both writing performance and writing motivation outcomes as dependent variables tend to be specific with the latter variable by studying a single dimensional motivation component such as writing self-efficacy or writing attitude (e.g., Galbraith, 2014; Griswold, 2015; Roohani & Baghbadorani, 2012) as opposed to multi-dimensional motivational outcome measures which the present study considered as recommended by Troya and colleagues (2012, 2013).

Next, locally, to date, there are only three SRSD based writing strategy instruction related studies, namely Esayas (2021), Engidasew, Abiy, and Dawit (2023), and Yenenesh, Tamiru, and Mekuria (2023). Esaya's (2021) participants were elementary school students with Emotional and Behavioral Disorders, and his focus was on their Amharic story-writing skills. The present study differed from Engidasew and colleague's (2023) study by its focus on argumentative essay and a multi-construct writing motivation, and by its use of non-parametric data analysis method, while the latter study aimed at improving participants' descriptive essay writing skills and writing engagement, and the use of parametric tests as data analysis methods. Yenenesh et al.'s (2023) participants wrote descriptive paragraphs after

reading texts for information, while participants in the current study wrote argumentative essay and depended entirely on their background knowledge and life experiences to write about the topics. Hence, conducting the present study would provide new insights by examining SRSD's effect on argumentative essay writing and writing motivation, a gap currently missing in the local SRSD writing intervention research context. The study would also serve as an addition to the small, yet growing body of literature in this specific research context.

This study addressed the above gaps by applying SRSD for planning and writing argumentative essay using STOP and DARE strategies as well as self-regulation strategies in an Ethiopian EFL context to enhance third-year English majors' argumentative writing and motivation at UoG, offering a context-specific intervention absent in previous local and international research (e.g., Alshammari, 2016; Chen *et al.*, 2021; Esayas, 2021; MacArthur & Philippakos, 2013; Wang, 2023). By focusing on understudied university-level EFL learners in Ethiopia, the study aimed to provide practical insights that may inform efforts to support writing development in this context.

Accordingly, this study sought to answer the following research questions:

1. What is the effect of SRSD instruction on students' argumentative writing overall quality?
2. What is the effect of SRSD instruction on students' writing motivation?

By addressing these questions, the study can contribute to the limited research on SRSD in EFL contexts at the university level. It may also provide practical insights for teachers and curriculum developers aiming to enhance writing instruction in similar settings. Ultimately, the study aimed to cultivate autonomy in students' writing, preparing them to meet the expectations of their academic and professional writing requirements.

Research Methods

This study employed a single-group time-series design, a form of quasi-experimental research that permits repeated measurements before and after the intervention (Creswell, 2012). Creswell (2012) argues that interrupted time-series design is suitable for small, intact groups where random assignment is not feasible, making it ideal for classroom-based research like the present study. Moreover, the design aligns with SRSD studies

examining writing development trajectories (Graham *et al.*, 2012), where repeated measures capture incremental strategy mastery. To this effect, three pretests and three posttests were administered to examine trends in students' argumentative writing performance and writing motivation across time.

Research Site and Participants of the Study

The study was conducted at the University of Gondar (UoG), a first-generation public university in northern Ethiopia. The participants were twelve (N = 12) third-year English major students (11 male, 1 female) enrolled in the *Advanced Writing Skills I* course during the first semester of the 2023/24 academic year at UoG. Since there was a single naturally occurring group of students, comprehensive sampling techniques were used, and all 12 students participated. These students were selected due to the researcher's prior observations of their writing challenges in argumentative essays.

Data Collection Instruments

Data were collected using two primary instruments: argumentative writing tests and a writing motivation questionnaire.

Argumentative Writing Tests: Participants completed three argumentative essay tests before and three after the SRSD intervention. Essay prompts were designed to be relevant and engaging, drawing on students' general knowledge and life experiences, with topics selected for familiarity and debatability following Weigle's (2005) guidelines for EFL writing assessments. Essays were assessed for holistic essay quality using a primary trait scale (ranging from 0 to 6), describing specific performance levels, from "off-topic or no response" (score of 0) to "thoroughly supported, insightful, and logically sequenced essays" (score of 6) (Kihara *et al.*, 2012, p.343). To ensure ecological validity, essays were untimed and composed under natural classroom conditions. This is in line with previous SRSD studies (e.g. Harris *et al.*, 2006; Mason *et al.*, 2017).

Three trained raters, blinded to the study's purpose and test conditions, independently scored all essays. Inter-rater reliability was calculated using Cronbach's Alpha and ICC. Cronbach's Alpha ranged from .974 to .993, and ICC values ranged from .920 to .979 ($p < .001$), indicating excellent inter-rater reliability for holistic essay quality scoring (Cicchetti, 1994).

Writing Motivation Questionnaire: This study adapted “Self-Beliefs, Writing-Beliefs, and Attitude Survey (SWAS)” (Wright, Hodges, & McTigue, 2019, p.64) and used to measure participants' writing motivation. The SWAS is a multidimensional, 30-item 5-point Likert scale, assessing four subconstructs: “Self-Concept, Self-Efficacy, Beliefs about Writing, and Attitudes towards Writing” (Ibid, p. 74). Before use, a rigorous process of translation and back-translation techniques were undertaken to ensure the linguistic, conceptual, and cultural equivalence of the Amharic version of the instrument. Pilot testing of the Amharic version led to minor revisions for clarity. Content and face validity were established through expert reviews, and internal consistency reliability was tested during pilot administration. Cronbach's Alpha for the SWAS in this sample was pretest ($\alpha = 0.896$) and posttest ($\alpha = 0.934$), indicating that the 30 items collectively provide a highly reliable measure of participants' overall writing motivation (Cohen, 1988). This result is comparable with the reliability score reported by the developers in their validation study 1 and 2 ($\alpha = 0.936$ and 0.943) respectively.

Data Collection and Procedures

Over ten weeks, data collection occurred in three phases: pre-intervention, intervention, and post-intervention. In the pre-intervention phase, students completed three argumentative writing tests and the motivation questionnaire during the first two weeks of the study (i.e. Week 1, Session 1: Pretest 1; Week 1, Session 2: Pretest 2 and motivation questionnaire; Week 2, Session 1: Pretest 3). The intervention lasted seven weeks, with two 2-hour sessions per week, following the six instructional stages of SRSD model. Each stage involved specific activities and materials designed to promote students' understanding and application of both planning and genre-specific strategies (STOP and DARE), and self-regulation strategies (i.e., self-talk, goal setting, self-monitoring, and self-reinforcement). The intervention was delivered by the researcher, (also trained in SRSD), English language instructor with several years of experience in teaching writing.

During the post-intervention phase, three new essay topics were administered, and the writing motivation questionnaire was re-administered before the first post-test to minimize potential fatigue effects (i.e. Week 8, Session 1: Posttest 1 and writing motivation questionnaire; Week 8, Session 2: Posttest 2; and Week 9, Session 1: Posttest 3). The argumentative writing tests were administered under normal classroom condition,

with no time limits imposed on students to complete their essays. All students, however, completed their essays within no more than 90 minutes at all testing conditions.

Data Analysis Techniques

Quantitative data from essay scores and the motivation questionnaire were analyzed using SPSS v.27. Due to the small sample size and ordinal nature of the data, non-parametric statistics were used. For essay scores, descriptive statistics (Median, Interquartile Range) were reported, and Friedman Test with Bonferroni-corrected post-hoc pairwise comparisons and Kendall's W were applied to test significance and effect sizes. For writing motivation, the Wilcoxon Signed-Rank Test was used to examine pre-post differences in self-concept, self-efficacy, writing beliefs, and attitudes towards writing as well as overall writing motivation scores, with rank-biserial correlation r used as the effect size measure. Inter-rater reliability was assessed using ICC and Cronbach's Alpha.

Treatment (Implementation) Fidelity

Treatment fidelity was ensured through the use of a checklist for each lesson, detailing the step-by-step procedures. An independent rater reviewed audio recordings from one-third of the instructional sessions. The rate of agreement between the researcher and the independent rater was 100%, indicating high treatment fidelity.

Ethical Considerations

Ethical considerations were paramount throughout the study. Students were informed about the research project and their right to withdraw at any time without penalty. Informed consent was obtained from all participants. Anonymity and confidentiality were maintained through the use of pseudonyms and the removal of identifying information from data. All these were done after receiving approval for conducting the study from DELL at UoG and UoG's research ethics committee.

Results and Findings

This study investigated the effects of Self-Regulated Strategy Development (SRSD) writing instruction on third-year English major students' argumentative essay writing performance and writing motivation. This section presents the analysis and findings from quantitative data on argumentative essay holistic quality and writing motivation.

Research Question 1: Effects of SRSD on Holistic Essay Quality

This research question was posed to examine the effects of SRSD writing instruction model on the participants' writing performance as measured by essay holistic quality rated on a 7-point scale. Participants' argumentative essays written across the six time points were scored by three independent raters, and the average scores from three raters at each time point were used for analysis.

Table 1 below provides descriptive statistics for the holistic essay quality scores at six different time points: three pretests (Pre1_Ave, Pre2_Ave, Pre3_Ave) and three posttests (Post1_Ave, Post2_Ave, Post3_Ave). It includes summary statistics for range of scores (Minimum, Maximum), and key percentiles, including the median (50th percentile) and the interquartile range (*IQR*). The purpose is to provide a clear picture of the central tendency (median) and variability (*IQR*) of essay scores at each test point, allowing for an initial assessment of trends in performance.

At Pre1_Ave, the Median and Interquartile Range values were $Mdn = 2.17$, $IQR = 1.00$, respectively. This means students' holistic essay qualities correspond to the rubric's description of an essay that generally takes a position but shows little understanding of the issue, and with minimal support and unclear organization. At Pre2_Ave the median score improved ($Mdn = 2.83$), though variability also increased ($IQR = 2.00$), indicating inconsistent gains across participants. In terms of quality, students' essays show improvement in understanding and support, though organization remains unclear. With the last pretest, there was a slight decline ($Mdn = 2.00$, $IQR = 1.00$), indicating inconsistent performance. After SRSD intervention, students' essay qualities improved modestly at Post1_Ave and Post2_Ave (both with $Mdn = 3$, $IQR = 2.00$), depicting some understanding and better support, with a mixture of general and specific reasons. The median score slightly declined at Post3_Ave ($Mdn = 2.67$, $IQR = 1.00$), but still better than the two pretest scores. In general, there is an upward trend in essay quality after intervention which indicates the positive impact of SRSD.

Table 1: Descriptive Statistics for Holistic Essay Quality Scores

	N	Minimum	Maximum	Mean Rank	Percentiles			IQR*
					25 th	50 th (Median)	75 th	
Pre1_Ave	12	1	4	2.75	2.00	2.17	3.00	1.00
Pre2_Ave	12	1	4	3.33	2.00	2.83	3.75	2.00
Pre3_Ave	12	1	5	2.42	1.75	2.00	3.00	1.00
Post1_Ave	12	1	5	4.46	2.08	3.00	4.00	2.00
Post2_Ave	12	1	5	4.25	2.08	3.00	3.75	2.00
Post3_Ave	12	2	4	3.79	2.00	2.67	3.00	1.00

**IQR* = Inter Quartile Range; Pre1_Ave, Pre2_Ave.....Post3_Ave = Pretest 1 Average, Pretest 2 Average, Posttest 3 Average

Friedman Test was conducted to check whether the changes are significant, and the results are shown in Table 2. The Friedman Test revealed that there were statistically significant changes ($\chi^2 (5, N = 12) = 14.98$, $p = .010$) across time points, with a moderate effect size (Kendall's $W = 0.250$) (Cohen, 1988).

Table 2: Friedman Test and Kendall's W Test Statistics for Holistic Essay Quality Scores

N	12
Chi-Square ^a	14.984
Kendall's W ^b	.250
df	5
Asymp. Sig.	.010

a. Friedman Test

b. Kendall's Coefficient of Concordance

Note: Cohen's (1988) index for effect sizes' relative strength was used to report magnitude of the effect sizes (i.e., small = .01; medium = .03; large = .50).

Post-hoc pairwise analysis with Bonferroni corrections was conducted to find out when exactly the change(s) occurred. The results indicated that several pairs reached significance at $p = .05$ level. However, after the correction and with the new adjusted p - value ($0.05/15 = 0.0033$), these pairs failed to reach the new significance level.

Research Question 2: Effects of SRSD on Writing Motivation

The research question addressed how SRSD writing instruction intervention affected students' writing motivation, measured using the SWAS

questionnaire, comprising four subconstructs, which combine to provide the overall writing motivation score.

Accordingly, Table 3 presents descriptive statistics for SWAS overall score and subconstructs at pretest and posttest. It provides a summary of the data including minimum, maximum, median, interquartile range, and percentile scores. Median scores showed increases from pretest to posttest across all measures: Self-Concept ($Mdn = 2.00$ to

3.94), Self-Efficacy ($Mdn = 2.67$ to 4.50), Belief about Writing ($Mdn = 3.50$ to 4.71), Attitudes towards Writing ($Mdn = 1.94$ to 4.00), and Overall Writing Motivation ($Mdn = 2.56$ to 4.33). The interquartile range (IQR) remained constant at 1 for all sub-constructs and overall motivation from pretest to posttest. Scores generally shifted upwards, with minimum scores increasing and posttest maximum scores reaching 5 for most measures.

Table 3: SWAS Descriptive Statistics

Sub-Construct	Time	N	Min	Max	Mdn	IQR	Percentiles		
							25 th	50 th	75 th
Self-Concept	Pre	12	1	3	2.00	1	1.31	2.00	2.75
	Post	12	3	5	3.94	1	3.56	3.94	4.13
Self-Efficacy	Pre	12	2	3	2.67	1	2.17	2.67	2.83
	Post	12	4	5	4.50	1	4.17	4.50	4.67
Belief about Writing	Pre	12	3	4	3.50	1	3.14	3.50	3.71
	Post	12	3	5	4.71	1	4.11	4.71	4.86
Attitudes towards Writing	Pre	12	2	2	1.94	1	1.69	1.94	2.31
	Post	12	3	4	4.00	1	3.50	4.00	4.19
Writing Motivation	Pre	12	2	3	2.56	1	2.18	2.56	2.73
	Post	12	3	5	4.33	1	3.89	4.33	4.45

Note: Min = Minimum, Max = Maximum, Mdn = Median, IQR = Interquartile Range

From the descriptive statistics (Table 3) and ensuing analysis above, it can be inferred that there were substantial gains in scores for all the four SWAS subconstructs as well as for the Overall Writing Motivation scale. Specifically, after SRSD intervention, participants began perceiving themselves more as writers and believing more in their abilities to succeed in writing tasks. Participants also valued writing, and recognized the

importance of becoming skilled writer more than they did before SRSD intervention. The results seem to suggest that the intervention had a positive impact on participants' feelings towards and opinions about writing skill.

To see if these changes were statistically significant or not, Wilcoxon Signed-Rank Test was computed, and the results are presented in Table 4 below.

Table 4: ^a Wilcoxon Signed-Rank Test Statistics for Overall Writing Motivation

	Self-Concept Posttest - Pretest	Self-Efficacy Posttest - Pretest	Belief about Writing Posttest - Pretest	Attitudes towards Writing Posttest - Pretest	Writing Motivation Posttest - Pretest
Z	-3.068 ^b	-3.095 ^b	-2.909 ^b	-3.065 ^b	-3.059 ^b
Asymp. Sig. (2-tailed)	(2-.002)	.002	.004	.002	.002
Effect Size (r)	0.886	0.893	0.839	0.885	0.883

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

The Wilcoxon Signed-Rank Test (Table 4) revealed statistically significant increases in scores from pre-test to post-test in Self-Concept ($Z = -3.068$, $p = .002$, $r = 0.88$), Self-Efficacy ($Z = -$

3.095, $p = .002$, $r = 0.89$), Beliefs about Writing ($Z = -2.909$, $p = .004$, $r = 0.84$), Attitudes towards Writing ($Z = -3.065$, $p = .002$, $r = 0.88$), and Overall Writing Motivation ($Z = -3.059$, $p = .002$, r

= 0.88). Effect sizes were calculated as ($r = |Z| / \sqrt{N}$, with $N = 12$), indicating large effect sizes across all constructs, suggesting that SRSD writing intervention had a substantial practical impact on participants' writing motivation.

Ranking based on Effect Size, Self-Efficacy ($r = 0.89$) was the most improved SWAS sub-construct while Self-Concept ($r = 0.88$), Attitudes towards Writing ($r = 0.88$), and Overall Writing Motivation ($r = 0.88$) modestly improved and Belief about Writing ($r = 0.839$) was relatively the least improved.

Discussions

This study examined the effects of SRSD on participants' argumentative essay writing performance as measured by its holistic essay quality and overall writing motivation as well as its subconstructs. The results indicated that the SRSD writing instruction intervention significantly enhanced both the holistic quality of students' argumentative essays and their writing motivation. The evidence suggests a strong relationship between SRSD's direct instruction in strategies (STOP + DARE, plus the four strategies used to regulate the writing process) and the observed improvements in writing performance and motivational dimensions.

Regarding the first research question (i.e. SRSD's effects on participants' argumentative essay performance), descriptive data showed increases in overall holistic quality from baseline to post-intervention phases. The median scores showed an upward trend from pre-intervention (*Mdn* range 2.00 - 2.83) to post-intervention (*Mdn* range 2.67 - 3.00), suggesting a modest practical improvement. Students generally moved from producing essays with minimal support and unclear organization to essays showing some understanding and limited, uneven organization, or taking a position with some adequately supported reasons.

The Friedman Test (Table 2) confirmed significant differences across the six test points ($\chi^2(5) = 14.984$, $p = .010$), indicating that holistic essay quality varied over time. However, pairwise comparisons with Bonferroni corrections did not identify significant differences between specific test points (all adjusted $p > .05$). This suggests that the SRSD writing instruction brought about a statistically significant and positive impact on participants' overall argumentative essay quality, as shown by the overall pre-post-intervention comparison. However, specific changes between individual time points were not statistically

detectable, possibly due to the small sample size ($N = 12$) and the conservative nature of the correction method used.

Previous research on SRSD interventions has often reported positive effects on writing quality across various student populations, including EFL learners. For instance, Werunga (2018) reported that quality of writing increased from below two (out of eight) to above four for all primary school participants. Similarly, Hisgen et al. (2020) found that the students who were taught the STOP and DARE strategy showed a much greater increase in both text length and quality throughout the experiment than the ones in the control condition. Moreover, SRSD consistently resulted in significant improvements in the overall quality of argumentative essays of EFL students (e.g., Akhmedjanova, 2020; El-Henawy et al, 2012; Malpique & Simão, 2019; Mazeh & Safa, 2020; Wang, 2023). The current study's finding of an overall improvement is consistent with this body of literature although the more modest gains in median scores and non-significant pairwise comparisons highlight that the degree of improvement can vary and may be influenced by factors such as sample size, intervention duration, or participants' individual characteristics. For example, Kihara et al. (2012), whose rubric was adapted for this study, found significant improvements in persuasive writing quality for high school students using an SRSD approach. The current study's moderate effect might suggest that undergraduate EFL learners, despite the intervention, still require more extensive practice to achieve higher levels of argumentative complexity and organizational control as defined by the upper points of the rubric (i.e. rubric points 5 - 6). On a similar note, Knudsen, et al., (2025) reported that argumentative essay text quality did not show a statistically significant improvement post SRSD writing intervention with 7th grade Danish EFL participants, attributing the non-significant result to short intervention period (four weeks).

In contrast to the overall essay quality results, the SRSD intervention demonstrated a clear and statistically significant positive impact on all measured aspects of writing motivation, all with large effect sizes ($r > .83$). The median scores for overall Writing Motivation increased substantially from 2.56 to 4.33 on a 5-point scale. Ranking based on their Effect Size, Self-Efficacy ($r = 0.893$) was the most improved SWAS sub-constructs while, Self-Concept ($r = 0.886$) and Attitudes towards Writing ($r = 0.885$) improved modestly, and Beliefs about Writing ($r = 0.839$) relatively improved the least. The largest improvement in Self-Efficacy likely reflects SRSD's focus on teaching explicit

writing strategies, directly enhancing participants' belief in their capacity to manage writing tasks effectively. Attitudes towards Writing and Self-Concept showed large improvements, possibly because they are more sensitive to immediate changes in writing experiences facilitated by SRSD. Alternatively, the significant improvements in Attitudes towards Writing and Self-Concept suggest that SRSD's interactive and supportive instructional approach fostered positive emotional responses to writing, enhancing students' predisposition and self-perception as writers. The relatively smallest improvement in Belief about Writing may be due to the stable nature of beliefs about writing's value, which are less responsive to short-term interventions compared to confidence or attitudes.

Previous studies on SRSD in EFL contexts have shown similar positive effects on writing motivation. For example, a study by Fahim and Rajabi (2015) found that SRSD instruction increased writing motivation among EFL learners, with significant posttest differences in motivation scores ($p < .001$), reinforcing the current findings. Balsamo (2019) studied the effects of SRSD on the writing performance, sense of self-efficacy, and attitudes towards writing of postsecondary English Language Learner (ELLs). Findings revealed significant and encouraging transformations in participants' sense of self-efficacy, including elevated confidence, increased comfort, lowered anxiety, greater enjoyment, and increased patience and understanding of the writing process. In a non-EFL postsecondary context, a study by MacArthur *et al.* (2016) found positive effects on several motivation measures, including self-efficacy for tasks and processes, grammar, and self-regulation. Michael (2013) conducted a 12-week quasi-experimental study with low-proficiency Malay ESL learners at a Malaysian university. The study revealed a significant positive effect on all four components of writing skills: task response, coherence and cohesion, lexical resources, and grammatical range and accuracy. The treatment group demonstrably outperformed the control group in writing proficiency. The researcher also reported a significant positive effect on self-efficacy for low-proficiency Malay ESL learners receiving SRSD instruction.

However, the findings of the present study are also in contrast with other similar studies (e.g. Chen *et al.*, 2021; Miatin & Wiedarti, 2019; Roohani & Baghbadorani, 2012). Miatin & Wiedarti (2019) used SRSD to teach participants to write personal recount essays and measured changes in writing motivation in EFL students, and found that despite improvements in writing performance, they could

not provide evidence that SRSD was effective in fostering students' motivation in this specific study, noting that students still underestimated their motivation and effort. This contrasts with Chen *et al.* (2021), who, while finding minimal quantitative change in self-efficacy, noted qualitative improvements in students' self-judgments. Roohani & Baghbadorani (2012) explored the impact of SRSD on persuasive writing and self-efficacy with Iranian EFL undergraduate students. The results revealed that while self-efficacy in the SRSD group improved, the difference in posttest self-efficacy scores between the SRSD and non-SRSD groups was not statistically significant.

Generally, the foregoing discussion seems to suggest that SRSD writing instruction positively impacted both writing performance and motivation. Discrepancies between motivation gains and modest writing improvements may reflect the intervention's duration. While seven weeks sufficed to enhance motivational beliefs, longer-term practice may be necessary to internalize complex argumentative skills. Prior studies (Harris & Graham, 2009) similarly note that motivation often precedes measurable skill gains in SRSD contexts.

Conclusions, Limitations, and Implications

Conclusion

Based on the results and discussion of the study, the following conclusions were drawn:

1. SRSD writing instruction, incorporating STOP + DARE and self-regulation strategies, improved participants' overall argumentative essay quality, with a moderate effect size (Kendall's $W = 0.250$).
2. The SRSD writing instruction, with STOP + DARE and self-regulation strategies, significantly enhanced third-year EFL students' writing motivation, with large effect size ($r = .883$).
3. It follows from this that SRSD can be a valuable instructional approach for enhancing argumentative essay writing skills and motivation of similar EFL undergraduates in another context.

Limitations

While the results of this study are promising, this study has several limitations that should be considered when interpreting the findings. First, the study was conducted with a small sample size of 12 undergraduate EFL participants, and absence of control group which may limit the generalizability of the findings. Another limitation was regarding

the period of intervention. That is, the study was conducted over a relatively short period of time (10 weeks, 4 hours per week), which may not be sufficient to capture the long-term effects of the SRSD intervention on both writing quality and motivation. The third limitation was concerning the nature of holistic scoring rubric. Although inter-rater reliability was excellent, holistic scoring provides a general impression of quality and may not capture subtle changes in specific aspects of argumentative writing (e.g., counterarguments, rebuttals) as effectively as analytic scoring might. Moreover, the study relied on self-report measures for assessing writing motivation, which may be subject to bias.

Implications

Despite its limitations, this study offers several important implications. Pedagogically, the findings suggest that the SRSD model can be a valuable tool for EFL teachers who are looking to enhance their students' argumentative essay writing skills and writing motivation. Hence, educators should integrate SRSD's explicit strategy instruction and self-regulation techniques to enhance motivation and support argumentative essay writing tasks. Indeed, literature has long established the fact that SRSD writing instruction can be seamlessly integrated with the existing writing curriculum, be it writing process or genre-based writing instruction, or both (Harris, 2024) which the current research in the field advocates. Similarly, curriculum developers and material writers for EFL writing courses may want to consider incorporating SRSD's principles and strategies for better results.

Research wise, to enhance generalizability and statistical power, future studies should aim to replicate the findings of this study with larger sample size. Moreover, adding a control group would also increase the ability to make causal inferences about the effectiveness of the SRSD intervention. Further studies are also needed to see if participants could maintain the results long after the intervention. Given the course (Advanced Writing Skills) also includes other academic genres such as expository, narrative and descriptive writing, future studies may also investigate the effects of SRSD on these and other academic written text types. This is important to address students' writing performance deficits across genres. Finally, participants wrote essay on prompts requiring only their general and background knowledge. Future studies could allow participants to write their argumentative essays after reading or listening texts, and Yenenesh *et al.*'s (2023) work is an attempt in this direction.

This is in line with the research studying the reading-writing connection, suggesting the discontinuation of studying the skills separately.

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