Systematic review for designing theoretical framework and instructional procedures of text structure instruction in expository writing for primary school English as Foreign Language learners

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### Abstract

This systematic review aims to investigate the effectiveness of text structure instruction (TSI) on students' expository writing and, using the insights obtained from the review, to develop theoretical frameworks and instructional procedures for TSI that will mainly serve the types of learners targeted by the present study. With this in mind, inclusion and exclusion criteria were set, and 14 experimental and quasi-experimental studies conducted on primary school students were selected. The review revealed that TSI could improve the inclusion of main ideas in written summaries and enhance the quality of expository text structure writing. Specifically, it can improve students' ability to identify the main ideas and supportive details from the source text. Moreover, the study revealed a lack of consistent reporting on the fidelity of implementation and comprehensiveness, which are limitations of the reviewed studies. The review also revealed that an explicit TSI that integrates reading and writing skills and encourages the gradual release of student responsibilities during the writing process may enhance the ability of primary school EFL learners to write expository texts.

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#### **KEYWORDS**

Text structure instruction, expository text writing, systematic review, writing from source text

## Introduction

In Ethiopia, English is a foreign language that is taught as a subject starting from grade 1 and used as a medium of instruction for all students starting from grade 9. However, many regions in the country use English as a medium of instruction before grade 9. For example, in the Amhara National Regional State, students start learning subjects such as General Science, Mathematics, Information Technology, Citizenship Education, and Career

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and Technical Education in English from grade (Federal Democratic Republic of Ethiopia Ministry of Education, 2021).

This requires students to develop their reading and writing skills to be successful in their learning. At school, students need to read and critically analyze information presented in textbooks and other classroom materials to be successful in their learning (Berman, 2009; Graham et al., 2017a; Graham et al., 2021; Graham & Hebert, 2011; Kirmizi & Kasap, 2017). In particular, writing an expository text after reading source texts is essential for the academic success of students as it deepens and broadens their understanding of content materials and assesses their level of understanding (Graham et al., 2017b; Graham et al., 2021; Graham & Hebert, 2011).

Many scholars have noted that students at early grade levels are expected to learn narrative texts or story-like structures that facilitate their learning to read; however, as they progress through upper-grade levels, they need to read expository texts far more often than narrative texts to succeed in college and beyond (Akhondi et al., 2011; Kirmizi & Kasap, 2017; Pugh et al., 2000). By the third and fourth grades, there should be a noticeable shift in reading texts for information that is often dense and written in long passages (Akhondi et al., 2011).

With this in mind the new English syllabuses of Ethiopia give proper emphasis to teaching reading and writing informational texts starting from grade five. The new English language curriculum framework developed by the Ministry of Education (2021) of the Federal Democratic Republic of Ethiopia explicitly enumerates writing sentences using words from the listening and reading texts, implementing stages of paragraph writing, differentiating the types of paragraphs, and writing short expository paragraphs as minimum learning competencies (MLCs) of 6th-grade students. In the same way, these contents are included in the MLCs of 7th and 8th-grade students with some progressions.

Nevertheless, it is often reported that the English language skills of students in Ethiopia at different grade levels, in general, is below what the MLCs prescribed (e.g., Amogne, 2013; Gebremariam, 2005; Gezahegn, 2005; Yigzaw, 2005; Yigzaw, 2013) and the writing skills of students at different grade levels in the country, in particular, is one of the major weaknesses that they exhibit (Amogne, 2013; Melese, 2007; Mulugeta, 2018). Above all, expository text writing of primary school students in Ethiopia is often seen as not engaging their readers (Amogne, 2013; Gebremariam, 2005).

Pugh et al. (2000) pointed out that information texts incorporate multiple graphic presentations, so it makes establishing logical connections between ideas and writing expository text difficult for learners. Shanahan et al. (2010) stressed that expository texts typically present essential information through complex and implicit means, unlike narrative texts. Consequently, children who lack sufficient knowledge of expository text structures in reading may struggle with utilizing them in writing (Hebert et al., 2021).

Most often, primary school students have limited exposure to expository texts (Hebert et al., 2021). For this reason, they lack the necessary background knowledge and vocabulary to write about topics that are related to these kinds of text structures (Hebert et al., 2021; Sáenz & Fuchs, 2002). That means, they are not much familiar with topics or contents of expository texts, and hence they lack enough input to write about it.

Moreover, unlike the typical story structure, for example, expository text structures contain technical vocabulary, a high density of facts, unfamiliar content and cognitively demanding concepts (Roehling et al., 2017; Pugh et al., 2000), and linguistic features that may not be commonly observed in narrative ones (Denton et al., 2015; Lupo et al., 2019).

As they are unaware of the structural organization of expository texts, students face problems while reading such texts; for example, they approach reading without planning (Zarrati et al., 2014). Additionally, this may make writing an expository text after reading from source texts more challenging for EFL learners in general, and the problem is more critical for primary school EFL students, in particular, since they have little text structure knowledge (Teng, 2020, 2021). This may be the case that the task of writing an expository text might be too demanding for Ethiopian primary school students to do.

Hence, it appears essential for learners of all ages to develop text structure awareness so that they can be effective in their reading as well as writing skills (Hebert et al., 2016; Meyer & Ray, 2011a; Zarrati et al., 2014). This can be improved through TSI since the most central information is often embedded in the text's structural elements (e.g., the problem and solution in a problem-and-solution essay, or the similarities and differences in the compare-and-contrast passage) (Roehling et al., 2017).

Cognizant of this, numerous research studies have investigated the impact of expository or informational text structures on students' reading and writing abilities at different grade levels and contexts although, to the best of the current researchers' knowledge, *there are no attempts which have been made in the Ethiopian context yet*. The five most common structures include compare-and-contrast, problem-and-solution, cause-and-effect, sequence, and description (Meyer & Ray, 2011b). Hebert et al. (2016), Pyle et al. (2017), and Bogaerds-Hazenberg et al. (2021) made meta-analyses of explicit expository TSI studies on students' reading comprehension. Nevertheless, none of these meta-analyses were assessed the efficacy of TSI on students' expository writing.

Similarly, Bohaty et al. (2015) reviewed the methodological status and trends in expository TSI efficacy research in general. Hall-Mills and Marante (2020) also conducted a systematic review of explicit TSI studies that have been conducted to support adolescents with learning disabilities in comprehending expository texts. However, again, no systematic review has been conducted so far to assess the efficacy of explicit text structure instruction on students' expository text writing quality, in particular.

Moreover, there is a notable scarcity of research exploring how students' awareness of specific text structures, such as cause-effect and problem-solution formats, impacts the writing skills of primary EFL learners. This gap is particularly striking when comparing these learners to their native-speaking counterparts, leaving a significant area of inquiry unexamined.

Therefore, this systematic review aimed to identify the most effective text structure instructional procedures for primary school expository text writing with the intent of adapting these methods for young EFL learners' expository text writing instruction. It also aims, to create a theoretical framework that may be used as a preliminary study to guide future researchers, and to enhance the growing body of meta-analyses and systematic reviews, contributing to a brighter future in language education.

To this end, the review sought answers to the following questions: (1) to what extent does explicit expository text structure instruction improve primary school students' expository text writing? (2) What theoretical framework can be formulated for EFL primary school students' expository text writing? (3) What instructional procedures can be designed for EFL primary school students' expository text writing? (4) What were the major limitations of the existing research on the effect of TSI on expository text writing?

### **Literature Review**

Expository texts are the primary source of reading materials used to deliver content in science and social sciences (Dymock, 2005; Meyer, 2003; Snow, 2010). As a result, students' academic success is closely linked to their ability to read, comprehend, analyze, and identify the main ideas and supporting details within these texts (Akhondi et al., 2011; Roehling et al., 2017). As students' progress through school, their awareness of text structure must evolve, shifting from reading narrative stories to reading informational content (Akhondi et al., 2011; Pugh et al., 2000). By third and fourth grades, students should experience a clear transition to reading more complex, dense texts that present information in longer passages (Akhondi et al., 2011).

As students read more, they enhance their writing abilities by becoming more skilled at using language and recognizing text-specific writing styles (Marzban & Adibi, 2014). Zarrati et al. (2014) argued that modern written texts can be seen as dialogues between the reader and the writer. To engage fully with a text, readers must move beyond the surface level, employing their knowledge of textual characteristics and strategies to deepen understanding. A crucial aspect of this is recognizing the two types of information in a text: content (content schemata) and structural (formal schemata) (Meyer & Ray, 2011b; Zarrati & Adibi, 2014). While content helps form a mental representation of the text, structural information organizes the content, facilitating comprehension (Zarrati et al. 2014).

Meyer and Ray (2011a) discussed how proficient readers construct coherent mental representations by understanding various text structures, generating inferences, and applying multiple strategies to make sense of the text. They argued that recognizing text structure allows readers to see how key ideas are interrelated and enhances their understanding. For example, recognizing patterns such as sequence, comparison, causation, or problem-solution structures helps readers visualize the ideas in their minds. Furthermore, readers can use external aids like templates, graphics, matrices, and outlines to reduce cognitive load and better organize the material (Meyer & Ray, 2011a).

However, a lack of awareness of text structure can lead to comprehension difficulties. Students who are unfamiliar with the structural organization of texts, particularly expository texts, often struggle to approach reading with an effective plan (Zarrati et al., 2014). Therefore, it is essential for readers of all ages to develop an awareness of text structure to succeed in both reading and writing (Hebert et al., 2016; Meyer & Ray, 2011a; Zarrati et al., 2014).

Akhondi et al. (2011) highlighted TSI as one of the most effective research-based strategies to improve comprehension of expository texts. TSI not only helps students better understand these texts but also enhances their ability to take notes and write informational

texts (Hebert, Bohaty, Nelson, Roehling & Christensen, 2018; Hebert et al., 2021; Stevens & Vaughn, 2020). For instance, taking notes on similarities and differences within the text can help students organize their writing while comparing and contrasting two concepts or ideas (Graham et al., 2017c).

In summary, Meyer and Ray (2011b) identified three major benefits of TSI: it helps readers follow the logical structure of a text and understand how the author organizes and emphasizes ideas; it aids in applying processes such as comparison, causal analysis, and problem-solving; and it supports readers in organizing their own writing, including summaries, recall, and essays.

# Methods

### Search Strategy

In order to conduct a comprehensive systematic review, we have made rigorous searches of various electronic databases, including ERIC, Google Scholar, and JSTOR. Our search terms also included a range of descriptors such as 'text structures', 'expository texts', 'informational texts', 'text structure instruction', 'expository text structures instruction', 'informational text structures instruction', 'effects of expository text structure instruction', 'effect of informational text structure instruction', 'teaching writing', 'teaching writing in Ethiopia', 'text structure instruction in Ethiopia', 'teaching writing in primary schools of Ethiopia', 'teaching writing in lower grades', 'teaching writing expository text structures', 'text organization', 'graphic organizers', 'effects of graphic organizers', 'using graphic organizers for student writing', and 'writing from source text', among others. Moreover, we also utilized the connected papers search engine and reviewed the references of selected research articles to ensure a thorough analysis.

### **Inclusion and Exclusion Criteria**

This systematic review examines the effectiveness of TSI on students' expository text writing. The aim is to create a TSI theoretical framework and instructional procedures that improve expository text writing among primary school EFL learners. The studies reviewed focus on TSI as the independent variable and the quality of expository text writing as the dependent measure.

The study aimed to identify relevant research through rigorous searches of metaanalyses and experimental designs, focusing on primary school students. Ultimately, 14 peerreviewed studies from grades 4 to 9 met the inclusion criteria. The excluded studies either combined text structure instruction with other methods, lacked detailed methods, or did not include control or comparison groups. The inclusion and exclusion processes were summarized using the Preferred Reporting Items for Systematic-reviews and Meta-Analyses (PRISMA) chart, adapted from Moher et al. (2009).

### **Data Analysis Techniques**

For the present study, data was gathered carefully from the selected studies and organized thematically. The analysis focused on two broad thematic areas, using insights

obtained from the meta-analyses of Bogaerds-Hazenberg et al. (2021), Hall-Mills and Marante (2020), and Hebert et al. (2016). The first area covered the descriptive features of the selected and the second area focused on the impact of TSI on students' writing, specifically investigating its efficacy on students' summary and essay writing. Figure 2 summarizes our inclusion and exclusion processes.

## Figure 1

PRISMA diagram detailing the search process of articles



# **Results**

### **Descriptive Features of the Selected Studies**

The literature review that we conducted included 14 research studies that met our selection criteria and that were conducted during the period between 1985 and 2024. A detailed summary of these studies is available in Table 1, which provides an idea of their scope and focus.

The studies aimed to evaluate the effectiveness of teaching text structures to improve students' writing across various grade levels, specifically focusing on early primary (grades 1 to 6) and upper primary (grades 7 and 8). Out of the 14 studies reviewed, 9 (64.3%) were conducted in early primary grades, while 4 studies (28.6%) focused on upper elementary grades (grade 7 and 8). Only one study (7%) included grades 7, 9, and 12 together (see Miller & Lignugaris-Kraft, 2002).

## Table 1

Studies	Design	Description of Conditions	Number of Participant (n)	Grade (s)	Targeted Text Structure (s)	Study Sessions (Total Hours)	Fidelity
Raphael & Kirschner (1985)	Q-Ex	T: TSI C: Traditional or BAU	n=45 T (n=22) C (n=23)	5 & 6 (L1)	CC	7 (5.25)	NR
Troyer (1994)	EX	T1:Mental Modeling T2:Graphic Organizer C: Read and answer	n=173 T1 (n=60) T2 (n=53) C (n=60)	4, 5 & 6 (L1)	DS; SQ; CC	5-7 (~5-7)	NR
Miller & Lignugaris- Kraft (2002)	EX	T: Text structure discrimination training CG1-CG3: Mean Scores of comparison groups	n=81 T (n=3) CG1 (n=28) CG2 (n=24) CG3 (n=26)	7, 9 & 12 (L1;LD)	DS; CC; SQ	14-30 (9-22)	R
Hammann & Stevens (2003)	Q-EX	T1: Summarization Skills T2: Text Structure instruction T3: Summarization skills plus TSI instruction C: Traditional or BAU	n=63 T1 (n=17) T2 (n=15) T3 (n=16) C (n=15)	8(L1)	CC	6 (4.5)	NR
Kirkpatrick & Klein (2009)	Q-EX	T: TSI C: Traditional or BAU	n=83 T1 (n=41): 7th (n=13) 8th (n=28) C (n=42): 7th (n=15) 8th (n=27)	7 & 8 (L1)	CC	6 (6)	NR
Reynolds & Perin (2009)	EX	T1:TSI using graphic organizers T2: SRSI using plan & write for summarization (PWS) C:Traditional or BAU	n=121 (62M, 59F); T1 (n=40); T2 (n=39); C (n=42)	7(L1)	NS	5 (3.75)	R
Hebert at al., (2018a)	EX	T: The Structures writing intervention C: Traditional or BAU	n=61 4th (n=20) 5th (n=12) T1 (n=32) 4th (n=20) 5th (n=12) C (n=29) 4th (n=18) 5th (n=11)	4 & 5 (L1)	DS; CC; SQ	12 (6)	R
Hebert et al., (2018b).	EX	T1: The Structures writing intervention C:Traditional or BAU	n=12 T (n=7) C (n=5)	4 (L1; LD)	DS; CC; SQ	8 (8)	R
Teng (2019)	Q-EX	T1: TSI T2: SRSI C: Traditional or BAU	n=133 T1 (n=45) T2 (n=45) C (n=43)	6(ESL)	SQ	20 (20)	R

# Descriptive Features of Included Studies of TSI and Study Information

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Studies	Design	Description of Conditions	Number of Participant (n)	Grade (s)	Targeted Text Structure (s)	Study Sessions (Total Hours)	Fidelity
Alwaely et al. (2020)	EXP	T: TSI C: Traditional or BAU	n=64 T1 (n=32) C (n=32)	8(EFL)	PS; CE	NR	NR
Teng (2020)	Q- EXP	T1: TSI plus SRSI T2: TSI T3: SRSI C: Traditional or BAU	n=108 T1 (n=34) T2 (n=36) T3 (38) C (36)	6(ESL)	NS	20 (20)	R
Hebert et al. (2021)	EXP	T: The Structures writing intervention C: Traditional or BAU	n=41 T (n=21) C (n=20)	4(L1)	SQ; DS; CE; SQ; PS	20 (20)	R
Teng (2021)	Q- EXP	T1: TSI plus SRSI T2: TSI T3: SRSI C: Traditional or BAU	n=178 T1 (n=45) T2 (n=45) T3 (n=45) C (n=43)	6(ESL)	SQ; DS; CE	20 (20)	R
Strong (2023)	Q- EXP	T1: TSI (Read STOP Write method) T2: Comprehension strategy (RARE Reading & Writing)	n=351 T1 (n=160) T2 (n=191)	4 & 5 (L1)	CC; CE; PS; SQ	32 (16)	R

*Note:* BAU=business as usual; EX=experimental; Q-EX= quasi-experimental; T1=treatment 1 group; T2=treatment 2 group; C=control group; R= reported; NR=not reported; ETS= expository text structures; DS=descriptive; CE= cause/ effect; CC=compare-and-contrast; PS=problem-and-solution; SQ=sequence; NS=not specified; CG1, CG2, CG3=comparison group 1, 2, 3; LD=students with learning disabilities

The studies employed experimental (50%) and quasi-experimental (50%) research designs. In total, 1,514 students participated in the studies. Of these, 1,166 were from studies conducted in early elementary grades, and 267 were from upper primary grades, excluding 81 participants included in Miller and Lignugaris-Kraft's (2002) study.

### **Quality Measures**

### **Fidelity**

Out of 14 studies, 5 (35.7%) did not present fidelity reports, while 9 (64.8%) studies included fidelity reports. Although fidelity report was not reported in 5 studies, we assume that the fidelity of treatments was taken seriously in three of these studies, considering how well-designed their instructional procedures were.

### **Comprehensiveness**

The studies were examined to determine whether all five types of text structures were included in the teaching and which text structures were most commonly focused on. Our findings revealed that 6 (42.9%) of the studies focused on descriptive text structure, while 8(57%) concentrated on sequence. The compare-and-contrast structure was explored in 9 (64.3%) of the studies, while cause-and-effect was the focus in only 4 (28.6%) of them. The problem-and-solution structure was explored in just 3 (21%) of the studies. A closer look at the data showed that 4 (28.6%) of the studies targeted descriptive, sequence, and compare-and-contrast text structures, while 3 (21%) focused solely on the compare-and-contrast structure. In terms of the number of structures targeted, 4 (28.6) of the studies focused on one

text structure, 1 (7%) focused on two structures, 5 (35.7%) on three text structures, 1 (7%) on four structures, and 1 (7%) on five structures. However, 2 (14.3%) of the studies did not report their focus. It was also analyzed the groups of learners that the studies targeted. Our results showed that 10 (71%) of the studies focused on first-language (L1) learners, 3 (21%) on ESL learners, and 1 (7%) on EFL learners. Additionally, 2 (14.3%) of the studies were conducted on students with learning difficulties.

### Intensity

Concerning the total number of sessions and hours, the findings of the review indicate a wide range of interventions were implemented to enhance students' writing skills in different text structures. Raphael and Kirschner (1985), Hammann and Stevens (2003), Kirkpatrick and Klein (2009), and Teng (2019) focused on a single text structure but they used 7 sessions (5.25 hours), 6 sessions (4.5 hours), 6 sessions (6 hours), and 20 sessions (20 hours) respectively. Troyer (1994), Miller and Lignugaris-Kraft (2002), Hebert et al., (2018a), Hebert et al., (2018b), and Teng (2021) conducted their study utilizing 5.7 sessions (5.7 hours), 14-30 sessions (9-22 hours), 12 sessions (6 hours), 8 sessions (8 hours), and 20 sessions (20 hours) respectively for three text structures. Strong (2023) employed 32 sessions (16 hours) for four text structures, and Hebert et al. (2021) used 20 sessions (20 hours) for five text structures.

However, Alwaely et al. (2020) did not report the length of their study which was conducted to instruct one expository text structure, while Teng (2020) employed 20 sessions (20 hours), but Teng (2020) did not specify the number or type of expository text structures examined.

### **Outcome Measures**

The inclusion and exclusion criteria indicated that the selected studies had to include expository text writing of students as at least one outcome measure, as a proximal or distal measure for their TSI intervention. Proximal measures are outcome measures directly linked to the study's instructional focus, while distal measures are outcome measures that aren't directly linked (Bohaty et al., 2015). Table 2 presents the outcome measures obtained from the selected studies, revealing that students' expository text structure writing was either their proximal or distal measure of the text structure interventions made by each study. Since the focus of the present study was to investigate the effects of TSI on students' expository text writing, writing outcome measures in the studies selected received particular attention. Raphael and Kirschner (1985), Reynolds and Perin (2009), and Teng (2019, 2020, 2021) made both summary writing and essay writing as the outcome measures of their interventions; whereas, Hebert, Bohaty, Nelson, Roehling and Christensen (2018) made students' note-taking skill as their intervention outcome measure. The rest of the studies focused on essay writing (see Alwaely, et al., 2020; Hammann & Stevens, 2003; Hebert, Bohaty, Nelson, Roehling & Christensen 2018; Hebert et al., 2021; Kirkpatrick & Klein, 2009; Miller & Lignugaris-Kraft, 2002; Reynolds & Perin, 2009; Strong, 2023; Troyer, 1994).

### Effects of TSI

The selected studies mainly explored the effects of TSI on students' essay and summary writing after reading expository source texts. The results of these studies are summarized in the following sections.

### Effects of TSI on Students' Summary Writing

Reynolds and Perin (2009) and Teng (2019, 2020 & 2021) conducted studies to explore the effectiveness of TSI interventions on primary school students' expository texts. The studies used similar instructional procedures and alternative treatments, despite being conducted in different contexts and times. Reynolds and Perin's (2009) study was conducted in Canada, where six seventh-grade social studies classrooms taught students who spoke a native language other than English. On the other hand, Teng (2019, 2020, and 2021) studied sixth-grade ESL students from four primary schools in Hong Kong using different alternative treatments.

Furthermore, Teng (2019, 2020, and 2021) employed the instructional procedures called "STRUCTURING" adopted from Reynolds and Perin's (2009) TSI interventions. The STRUCTURING process involves Scanning the passage, Thinking of structure and the main idea, Reading the paragraphs, Underlining the crucial point of each paragraph, Choosing one supporting detail, Taking notes using a frame, making a U-turn (repeat with second passage), Reviewing the organization of notes, Introducing the topic sentence, moving to the Next point, and finally, Going back and editing. This method aimed to improve students' ability to understand and analyze the structure of a text, which is a crucial component of good writing.

The results of all these studies have shown that TSI improved students' summary writing. Reynolds and Perin (2009) found that TSI resulted in better inclusion of main ideas in written summaries (d = 0.57). Similarly, Teng (2019, 2020, 2021) discovered that the TSI group demonstrated a significant effect on the inclusion of main ideas in written summaries (d = 0.80), ( $\eta$ 2 = 0.60), and ( $\eta$ 2 = 0.48) effect sizes respectively.

## Effects of TSI on Students' Essay Writing

The selected studies have tried to show the improvements yielded in TSI on students' essay writing quality either simply in terms of holistic measures or specific writing components. Holistically, many studies reported that students who received TSI performed better on post-tests than those in control or alternative treatment groups in their overall essay writing quality (Hammann & Stevens, 2003; Hebert, Bohaty, Nelson, Roehling, & Christensen, 2018; Hebert et al., 2021; Raphael & Kirschner, 1985; Reynolds & Perin, 2009; Teng, 2019, 2020, 2021; Troyer, 1994).

### Table 2

Studies	Outcome	Major Findings	Effect Size(s)
	Measures		
Raphael &	WQ	The instruction improved students' ability to identify	NR
Kirschner (1985)	FR	and organize expository writing, and enhanced their	

Major Findings of the Studies Included

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Studies	Outcome	Major Findings	Effect Size(s)
	Measures		
Troyer (1994)	SUM RC WQ	performance in free recall and free writing tests. The implementation of graphic organizers as a pre- reading technique to teach text structure resulted in improved reading comprehension among upper elementary students. The use of mental modeling as a pre-reading technique for teaching text structure to upper elementary students occasionally had an incidental impact on their writing	NR
Miller &	TSK	performance. The implementation of graphic organizers as a pre- reading technique to teach text structure resulted in improved writing performance among upper elementary students. One of the participants immediately improved her	NR
Lignugaris-Kraft (2002)	WQ	expository paragraph writing skills after the instruction, but two participants required additional instruction and feedback on their writing. After the instruction, participants' paragraph scores were found to be above the mean score of the normative comparison group.	
Hammann & Stevens (2003)	CK WQ	The students received TSI scored higher results in compare-contrast structure writing but lower scores in content compared to the other groups. The students who received instruction on summarization skills had lower scores in structure compared to the students in other groups.	NR
Kirkpatrick & Klein (2009)	WQ	TSI group showed a significant improvement in the quality of their writing, both holistically and structurally.	$\eta 2 = 0.36$
Reynolds & Perin (2009)	SMIs WQ CK	TSI resulted in better inclusion of main ideas in the written summary. PWS (SRSD) resulted in improved writing quality and content knowledge.	SMI: <i>d</i> = 0.57; WQ: <i>d</i> = 0.96 CK: <i>d</i> = 2.36
Hebert et al. (2018a)	WQ RC TSID	The results of the post-test revealed that the students who received the Structures Writing intervention performed significantly better than the control group. The Structures Writing intervention condition outperformed the control group in identifying text structures in reading passages.	WQ: DS (d= 0.66), CC (d = 0.61), SQ (d = 0.94) TSID (d = 0.94)
Hebert et al. (2018b)	NT OR	Report for two pilot studies: In the first study: the intervention group did not statistically outperform the control group on the note- taking measure. In their second study, the intervention group did not statistically outperform the control group on the note- taking measure	For the first study: NR For the second: g=0.75
Teng (2019)	SR WQ	TSI and SRSI groups showed improved writing outcomes when compared to traditional instruction. SRSI enhanced writing quality, while TSI improved the inclusion of main ideas in written summaries. Both TSI and SRSI group learners exhibited advanced syntactic complexity, content organization, and lexical variation in their compositions.	SR: d =0.80 WQ: d=0.69
Alwaely et al. (2020)	DS	TSI group outperformed the control group in their dialectical (organization) skills in writing.	$\eta p2 = 0.6$

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Studies	Outcome	Major Findings	Effect Size(s)
	Measures		
Teng (2020)	RC	Self-regulated strategy development and collaborative	RC: $\eta 2 = .753$
	SW	modeling of TSI led to better comprehension levels and	SW: $\eta 2 = .60$
	WQ	writing performance compared to BAS group.	WQ: $\eta 2 = .53$
		The combination of the two approaches resulted in a	
		significant improvement in content comprehension and	
		writing quality among primary school students.	
Hebert et al.,	EW	The Structures Writing intervention outperformed the	EW:
2021	SA	control group on measures of simple description,	DS: <i>g</i> = 0.54; CE:
	RC	compare/contrast, sequence, problem-solution, and	g=0.93;
		cause-effect writing.	CC: g=0.60; PS:
			g=0.57;S: g=0.76
			SI: g= 0.25
			RC: g= -0.28
Teng (2021)	RC	Both TSI instruction and SRSD instruction led to better	RC: $\eta 2 = 0.753$
	SW	writing outcomes, including summarizing main ideas	SW: $\eta 2 = 0.48$
	WQ	and writing essays.	EW: $\eta 2 = 0.61$
		The study suggests that the TSI+SRSD intervention	
		was particularly effective in enhancing primary school	
		ESL students' writing abilities.	
		This instructional approach shows promise in	
		improving ESL young learners' writing skills and	
		reducing struggling writers' compositional difficulties.	
Strong (2023)	SA	The Read STOP Write (TSI) method performed better	SA: TSI $(g =$
	RC	than those who received the RARE Reading & Writing	0.31)
	WQ	approach.	RC: GO ( $g =$
		The Read STOP Write method also demonstrated	0.50)
		positive effects on students' ability to identify	WQ: MI&SD ( $g =$
		informational text structures and their reading	0.57)
		comprehension skills.	
		Teachers perceived the goals, procedures and effects of	
		both interventions were as socially appropriate.	

Note: WQ= writing production; FR=free recall; SUM= summarizing; SMIs=summarization of main ideas; CK=content knowledge; DS= dialectical skill; EW=essay writing; SA= structure awareness; TSID =text structure identification; GO=graphic organizer; MI&SD=main ideas and supportive details; RC=reading comprehension; SW=summary writing; NT=note taking; OR=oral retell; TSK=text structure knowledge; SRSI=self-regulated strategy instruction; TSI= text structure instruction

The present study has obtained insights from a few notable previous studies, given the area is an emerging area of research, and the existing ones are from different contexts. Holistically, many studies reported that students who received TSI performed better on post-

tests than those in control or alternative treatment groups in their overall essay writing quality, with small to large effect sizes.

In brief, Raphael and Kirschner (1985) conducted a study on grade 6 L1 learners from varied ethnic backgrounds and ability levels, and they found that TSI enhanced students' performance in free writing skills. Troyer (1994) investigated the use of graphic organizers as a pre-reading approach for teaching text structure to upper elementary L1 students. This approach displayed potential for incidental transfer to their writing performance. Hammann and Stevens (2003), in their study on grade 8 L1 students' essay writing quality, found that students who received TSI had higher scores in their writing quality. Reynolds and Perin (2009) indicated that TSI improved the writing qualities of grade 7 English as second language (ESL) students in Canada.

Hebert, Bohaty, Nelson and Roehling (2018) and Hebert et al. (2021) conducted research using a carefully designed TSI called the 'Structures Writing' intervention on L1 grades 4 and 5 students and grade 4 L1 struggling students to improve their writing quality. The results of their studies revealed that students in TSI scored better than the control group in the quality of their writing. Teng (2019, 2020, 2021) also investigated that TSI led to better writing essay qualities of grade 6 ESL students in Hong Kong.

On the other hand, in terms of specific writing measures, several studies found that TSI resulted in better inclusion of main ideas in written summaries (Reynolds & Perin, 2009; Teng's studies, 2019, 2020, 2021). Similarly, other studies have reported that TSI enhances ability to identify main ideas and supportive details from source text (Raphael & Kirschner, 1985; Strong, 2019, 2020, 2023), write sentences having advanced syntactic complexity, exhibit more content, and lexical variation in their compositions (Teng, 2019), and organize their ideas coherently (Raphael & Kirschner, 1985; Alwaely et al., 2020), with effect sizes ranging from medium to large.

Overall, it can also be learned that explicit TSI that integrates reading and writing, along with scaffolding through gradual release of responsibility instructional procedures, focused instruction (I do it), guided instruction (we do it), collaborative learning (you do it together), and independent learning (you do it alone), is most effective for improving expository writing in grades 4 and 5 (see Hebert, Bohaty, Nelson, Roehling & Christensen, 2018; Hebert et al., 2021; Strong, 2019, 2020, 2023).

# **Discussion**

The primary objectives of this systematic review were to examine how explicit TSI can improve the expository writing skills of primary school students, assess the quality of current research in this field based on the findings, develop a theoretical framework, and design effective instructional methods for teaching expository writing to EFL primary school students.

From the present review, it was discovered that the first study on this topic was conducted by Raphael and Kirschner in 1985. The data analysis also revealed that the majority of the studies (64.8%) were conducted in early primary schools, targeting students in grades 4-6. Only 28.6% of the studies were focused on grades 6 and 7. The number of participants involved in the studies also varied, with 1,166 students participating in grades 4-6 and 348 students in grades 7 and above. Our analyses further indicated that 10 out of the 14 studies (71%) focused on L1 learners, 3 (21%) on ESL learners, and 1 (7%) on EFL learners. Additionally, 2 studies (14.3%) were conducted on students with learning difficulties.

Moreover, it has been observed that a considerable number of the studies (35.7%) reviewed did not include fidelity reports. However, out of these, only two studies had poorly designed procedures, which is a positive sign. This lack of fidelity reporting can be one of the limitations of these studies. The case is more serious in previous systematic reviews and meta-analyses that have acknowledged a lack of fidelity reporting in text structure instruction studies. Hall-Mills and Marante (2020) reported that consistent reporting of fidelity of implementation is lacking among explicit text structure instruction studies conducted to improve expository text comprehension for adolescents with learning disabilities that they

reviewed. Pyle et al. (2017) observed fidelity measures in only 11 of the 21 studies of TSI, while Hebert et al. (2016) pointed out that lack of consistent reporting of fidelity was a major limitation in the evidence base for text structure approaches.

Another significant limitation noted in the reviewed studies was the lack of comprehensive TSI. Out of the 14 studies analyzed, only one study focused on all five text structures. This indicates a need for further research in this area and highlights a significant gap in the current understanding of text structure instruction. The lack of comprehensive text structure instruction is a problematic finding, as it limits the evidence base for text structure approaches.

Concerning intensity, the review highlights the wide range of sessions and hours that researchers employed to enhance students' writing skills in different text structures. The duration and number of sessions utilized have varied significantly, with some studies employing as few as 5.7 hours and others as many as 32 sessions (16 hours) for four text structures. The review concludes that determining an appropriate number of sessions and hours for future research is a multifaceted task. Consequently, the reviewers underscore the importance of considering the unique needs of participants and tailoring interventions accordingly.

From the analyses of data, it has been learned that the efficacy of TSI is quite promising in improving primary school students' writing, in particular, as the instruction enables learners to improve the quality of their summary as well as essay writing. Concerning the efficacy of TSI for students' summary writing, Reynolds and Perin (2009) found that TSI resulted in better inclusion of main ideas in written summaries. Teng's studies (2019, 2020, 2021) also demonstrated that students who received TSI showed a significant improvement in their ability to include main ideas in written summaries, ranging from medium to large effect size.

Similarly, it has been reported that TSI enhances the quality of students' expository text structure writing, in general, (Hammann & Stevens, 2003; Hebert et al., 2018b; Hebert et al., 2021; Raphael & Kirschner, 1985; Reynolds & Perin, 2009; Teng, 2019, 2020, 2021; Troyer, 1994). Their ability to identify main ideas and supportive details from source text (Raphael & Kirschner, 1985), include main ideas and supportive details in their writing (Strong, 2023), write sentences having advanced syntactic complexity, exhibit more content, and lexical variation in their compositions (Teng, 2019), and organize their ideas coherently (Raphael & Kirschner, 1985; Alwaely et al., 2020), with effect sizes ranging from medium to large.

Although their primary focus was on studies conducted to improve students' reading comprehension through TSI, the meta-analyses of Bogaerds-Hazenberg et al. (2021), Hall-Mills and Marante (2020), Hebert et al. (2016) and Pyle et al. (2017) also reported that the efficacy of TSI has got positive outcome for students' reading comprehension (as their proximal measure), in particular, and other multifaceted distal measures of which writing can be one.

In summary, the majority of studies (71%) on TSI focused on L1 learners, with fewer targeting ESL (21%) or EFL learners (7%). Most research involved students in grades 4-6, highlighting a gap in understanding TSI's effects on older students. The variability in intervention duration and session numbers raises concerns about the lack of standardized

protocols, affecting the assessment of TSI's effectiveness. Despite these limitations, TSI shows promise in improving writing skills among primary school students, including summarizing, essay writing, and syntactic complexity, although results vary widely and effectiveness may differ across contexts and students.

From the analysis of data, in the L1 context explicit, it was also inferred that TSI that combines reading and writing, along with scaffolding during the writing process, has proven effective for expository text writing in grades 4 and 5 (see Hebert, Bohaty, Nelson, Roehling and Christensen (2018); Hebert et al., 2021; Strong, 2019, 2020, 2023). Concerning this, in their *Structures Writing Intervention Model*, Hebert, Bohaty, Nelson, Roehling and Christensen (2018) reflected that an intervention focused on text structure to improve students' expository writing should prioritize explicit TSI and highlight the significance of combining reading and writing skills and scaffolding of students during the writing process.

Many scholars have proved that students' text structure awareness helps them identify and retain crucial information, which they can later use in their writing (Meyer & Ray, 2011b; Dymock, 2005; Stevens & Vaughn, 2020). Such understanding also reduces the cognitive load during the writing process (Hebert, Bohaty, Nelson, Roehling & Christensen 2018), enabling students to effectively utilize writing strategies such as goal setting, summarizing, monitoring, visualizing, and analyzing (Graham et al., 2017c; Strong, 2020). Moreover, it offers students various experiences related to planning, syntactic choices, and organizing their expository texts (Hebert, Bohaty, Nelson & Roehling, 2018; Hebert et al., 2017; Meyer & Ray, 2011b).

The model also underscores the importance of integrating reading and writing skills and supporting the students throughout the writing process. The theoretical foundation for integrating reading and writing skills is well-established, as these skills are interrelated components of literacy (Harmer, 2007; Hebert, Bohaty, Nelson, Roehling & Christensen, 2018; Marzban & Adibi, 2014). They share knowledge representations such as metaknowledge, semantics, syntax, and text formats (Fitzgerald & Shanahan, 2000; Shanahan, 2016). These skills also encompass content, lexicons, rhetorical structures, and other essential conventions (Bai & Wang, 2020), along with ideas, vocabulary, grammar, paragraph organization, and diverse writing styles (Harmer, 2007; Marzban & Adibi, 2014).

The theoretical foundation of scaffolding also derives from Vygotsky's sociocultural theory (1978), which asserts that the 'zone of proximal development' emerges through social interactions between a learner and a more proficient individual in a specific subject area. The scaffolding process involves providing students with information for their writing, as well as text production and transcription skills (Hebert, Bohaty, Nelson, Roehling and Christensen, 2018). The scaffolding of information includes providing students with background knowledge, vocabulary, grammar, and spelling that they will use in their writing (Hebert, Bohaty, Nelson, Roehling & Christensen, 2018; Hebert et al., 2021).

The text production and transcription skills involve teaching students how to plan and organize text around five text structures: description, compare-and-contrast, sequence, problem-and-solution, and cause-and-effect, introduced one at a time. The process also involves teaching students how to relate ideas to one another within paragraphs using transition words and signal words for the text structure they are using (Hebert, Bohaty, Nelson, Roehling & Christensen, 2018; Hebert et al., 2021).

Nevertheless, this instructional approach may not be ideal for EFL contexts at these grade levels, as students' reading and writing abilities might be significantly lower than those of L1 learners at the same stages. Moreover, in some contexts, such as Ethiopia, the curriculum may not require students to write expository texts.

Given these challenges, we propose that this approach may be more suitable for upper primary students in grades 7 and 8 in Ethiopia. In this context, additional scaffolding can focus more on vocabulary, content, and grammar. It is also critical to use appropriate reading materials that align with students' language proficiency and curriculum needs to effectively support their writing development.

Moreover, it has been stated that a TSI designed for EFL primary school students to improve their expository writing skills should integrate reading and writing so that students are first able to identify a text structure while reading and then apply the same text structure in their writing (Hebert, Bohaty, Nelson, Roehling & Christensen, 2018; Strong, 2019, 2020, 2023). Moreover, during the writing process, there should be scaffolding for students.

The scaffolding for students can be provided either by the teacher or engaged peers, following the steps outlined in the gradual release of responsibility instructional framework by Fisher and Frey (2013). This model consists of four phases: focused instruction (I do it), guided instruction (we do it), collaborative learning (you do it together), and independent learning (you do it alone). Nevertheless, the stages can be adapted accordingly, for example, as modeling, collaborative practice, guided practice, and independent practice, as suggested by Strong (2019, 2020, 2023); modeling, and guided and independent writing, as recommended by Hebert, Bohaty, Nelson, Roehling and Christensen (2018) and Hebert et al. (2021).

## **Conclusions and Recommendations**

## Conclusions

This systematic review aimed to evaluate the effectiveness of explicit TSI in enhancing the expository writing skills of primary school students. Moreover, it aimed to design a TSI theoretical framework and TSI instructional procedure for instructing primary school learners in EFL on writing expository texts based on the insights obtained from the review. The review reveals that TSI significantly improves the expository writing capabilities of L1 primary school students, particularly those in grades 4 and 5, by enhancing their content organization, syntactic complexity, and ability to identify main ideas. However, the duration and number of TSI sessions varied widely across different studies, with some requiring as little as 5.7 hours, while others encompassed up to 32 sessions (16 hours) for four text structures. This variability underscores the need for tailored interventions that consider the specific needs of learners. Despite these encouraging outcomes, the review identifies a substantial gap in research focused on EFL learners, with only one study included. Furthermore, the review highlights inconsistencies in how the fidelity and comprehensiveness of TSI implementations are reported, which are seen as limitations. It is also important to note that, though empirical studies in this field remain limited, the review offers valuable insights into a theoretical framework and instructional procedures that may be applied to improve the expository writing skills of upper primary school EFL students through TSI.

### Recommendations

The review underscores the necessity for further studies to bridge existing gaps. There is a notable scarcity of research focused on EFL learners; i.e., only 1 study was conducted on EFL learners out of the 14 studies. This can be taken as a gap in future studies. Moreover, the reviewed studies consistently lack proper reporting of the implementation of fidelity and comprehensiveness, which are significant limitations. Hence, there is a need for further research in this area to address these limitations and fill the gaps in the current understanding of TSI. Future research, therefore, may focus on addressing these gaps, standardizing intervention methodologies, and innovating or refining the previously established theoretical framework and instructional procedures by the present study within EFL contexts.

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