THE EFFECT OF CONTENT SCHEMA ON THE READING COMPREHENSION: A PERSPECTIVE OF GRADE 12TH STUDENTS

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ABSTRACT

In the Khyber Pakhtunkhwa province of Pakistan, rural students share socioeconomic backgrounds, and educational experiences yet lack motivation to engage with reading comprehension due to rote-teaching methods. Their comprehension skills suffer, as they rely on memorisation, translation, and ready-made notes, leading to high failure rates and a fear of understanding texts. This study evaluated a content schema teaching strategy to improve reading comprehension using English textbook passages. Fifty-one grade-12 Pre-Medical students (ages 18–21) from Government Higher Secondary School, Manyal, Dir Lower, participated in a quasi-experimental mixed-method design, non-randomly assigned to experimental and control groups. Assessment tools included pre- and post-tests, and semi-structured interviews with 12 key informants, which were analysed thematically. Results indicated that activating content schema, providing background knowledge related to text topics, enhanced students' ability to interpret passages, broadened their perspectives, and boosted confidence. Interviewees reported greater comprehension and critical thinking in lessons. Findings suggest replacing traditional recitation methods with content schema strategies to foster deeper understanding and practical learning in reading comprehension classrooms at the secondary level. Future research could explore the applications of this strategy. Results underscore the strategy's potential for adoption.

Keywords: *content schema, schema theory, reading comprehension, teaching method, EFL learners.*

1. Introduction

The learning of English language skills has become imperative for students worldwide, especially in areas where English is the main language of instruction (Akram & Abdelrady, 2023, 2025). English has been recognized as the language of choice for worldwide communication due to the increasing demand for efficient communication on a global scale (Ahmed, Pathan, & Khan, 2017; Akram & Oteir, 2025). For successful English language teaching and learning, researchers have focused on the effective integration of four skills: speaking, writing, listening, and reading. In order to assist students achieve the necessary requirements and improve their communication ability, these abilities should be developed and

mastered (Sadiku, 2015). Among the four abilities involved in learning a foreign language, reading becomes the most important and crucial for students, particularly those in higher secondary schools or at intermediate level (Li & Akram, 2023, 2024). Unfortunately, the way English has been taught over the last few decades has revealed that students struggle with reading comprehension in particular and are vulnerable to reading in general (Ramzan et al., 2025, 2023, 2020). They are far from being satisfactory in terms of reading comprehension and reading skills. Schema theory offers an effective way to assist students to improve and develop their reading comprehension

Schema theory, specifically content schema, has had a major effect on reading comprehension, which is considered to be an interactive process requiring the execution of several mental processes at once. One of these behaviours and processes, according to Berhnardt (1991) and Brantmeier (2004), may be the activation of content schema, or previous knowledge. Multiple research investigations (Murray, 1980; Anderson, 1994) on the role of previous knowledge have proven its great influence on reading comprehension. These research studies have made it clear that understanding and implying the function of content schema plays in the reading process offers valuable insights into the reasons behind students' success or failure in understanding the written texts. The use of prior knowledge, content schema, and its activation in reading comprehension, as well as what strategies and activities to apply in the classroom to activate it, have not been extensively investigated, despite a greater number of studies on the prior knowledge on the reading skills of students have found out (e.g. Johnson, 1981; Carrell and Eisterhold, 1983; &Barnet, 1989). According to Chen (2003), who referenced August and Hakuta (1997), more research is required to determine how to improve reading comprehension instruction, particularly in EFL environments. Therefore, a thorough analysis of the use of content schema, the importance of information and prior knowledge in reading comprehension, and the techniques and strategies of instruction that are employed to activate the schema or background knowledge are needed.

Abraham (2002) states that in order to effectively teach reading, teachers must assist students recollect the prior knowledge and background information they have about the topic. This activates the students' schema during the pre-reading stage. Carrell and Floyd (1987), opined that teachers must assist students in relating and connecting new information to their prior knowledge by supporting them and giving them the relevant schemata that they lack. In the same way, Al-Issa (2006) believes that reading instructors need to remember that each written material requires prior knowledge. Thus, reading instructors should offer students and readers the opportunity to use their prior knowledge through creative problem-solving and effective strategies that make use of their resources or information (Abdelrady & Akram, 2022). In teaching and learning, students have to activate and use their background knowledge and previous experience; teachers are facilitating them to become good readers.

Therefore, in content schema teaching strategy, reading comprehension classes should adopt and practice pre-reading activities to activate preexisting knowledge; teachers ought to provide students the necessary background information and experience. Chen (2003) makes a similar argument, saying that teachers must recognize the background information and experiences that students bring to the reading task. Before reading a topic or passage, instructors can then use suitable pre-reading activities to activate prior knowledge. Such as pre-teaching of key vocabulary using semantic map, making predictions and previewing, asking questions and discussing the ideas and concepts.

The majority of students from rural backgrounds— about 70% of people live in remote, rural areas—are reluctant to learn English, claims Siddiqui (2007). This illustrates the present state of teaching reading comprehension (Siddiqui, 2007). Teachers and educators who, as Sidiqui (2007) inquiries, have little skill and potential in English and who claim that Pakistan ought to maintain the standards of Oxford and Cambridge further aggravate the situation (Haider, 2012). Thus, it was found that most English teachers employed the grammar translation method (GTM), which is merely translating the text and memorizing the important questions and answers, to teach English as their own teachers had taught it to them.

Reading is carried out in our (Pakistani) reading comprehension classes only for the teacher's benefits and gain. Basically, rather than learning to read, students are reading to learn. Instructors only offer translation to students; they do not engage them in any kind of practical activities using the same outdated and static Grammar Translation Method (Siddiqui, 2007). Unfortunately, exposing and examining the process, as well as summarizing and writing it down, need extensive investigation. However, an extensive amount of study has been conducted in this field and proved elsewhere.

The current study's aim is to develop students' reading comprehension by employing a content schema teaching strategy. Developing students' reading comprehension will contribute to their overall reading comprehension ability. This is because students' competence in reading short falls of the required reading comprehension standard due to rote learning teaching methodology. Besides, this study intends to discover students' reading comprehension by engaging them in the content schema activation activities and to investigate how content schema activation activities affect their competence in reading using reading comprehension lessons of their English textbook as source materials. These activities used for prior knowledge activation may contribute towards developing their reading comprehension.

1.2. The Concept of Content Schema

Content schema that comprises, background knowledge, previous experience, global knowledge and subject matter/topic knowledge (Alderson, 2000; Brown, 2001; Carrell & Eisterhold, 1983; Nassaji, 2007). According to Brown (2001) quoted in Erten and Razi, (2009), it refers to prior knowledge regarding the topic or content area of a work, for example knowledge of people, the world, culture, and the universe etc. It was referred to as domain/content-specific prior knowledge by (Olaofe and Masembe 2006). Background information or prior knowledge on a text's subject matter is referred to as content schema (Carrell & Eisterhold, 1983).Content knowledge or background information about the topic of the text is another name for content schema (Carrell & Eisterhold, 1983; Eskey, 1986; Fisher & Frey, 2009). (Alderson, 2000; Carrell & Eisterhold, 1983; Nassaji, 2007) Other names for it include subject matter familiarity, schematic knowledge, domain knowledge, prior understanding of the problem, and knowledge of the subject matter. Content schema is necessary for the understanding process (Weaver & Kintsch, 1991). Students are "adrift to an unknown sea" if the issue is outside of their experience or knowledge base, according to Aebersold & Field (1997). Formal and content schemas are frequently important in ESL/EFL reading comprehension. Effective ESL/EFL readers must use both types of schemata in an interactive manner in order to increase comprehension, despite some researchers' claims that formal schema had less of an effect on comprehension than content schema (Carrell & Eisterhold, 1983; Eskey, 1998; Stanovich, 1980). ESL/EFL readers will find it difficult to understand the text if they are unable to activate the schema or do not have it at all (for example, because of insufficient prior knowledge, difficulty in understanding clues, or a lack

of conceptual understanding) (Al-Issa, 006; Carrell & Eisterhold, 1983; Johnson, 1982; Rumelhart, 1980; Rumelhart and Ortony, 1977); Steffensen, oag-Dev, & Anderson, (1979); Yorio (1971). Currently, a good strategy for improving ESL/EFL readers' comprehension of the texts is to use many pre-reading activities to activate or develop schema (Johnson, 1982; Hudson, 1982).

2. LITERATURE REVIEW

A simultaneous process of obtaining, producing, and building meaning through participation and interaction with written language is known as reading comprehension. The term implies the three dimensions as the reader or decoder, the text or written language, and the activity. The characteristics and abilities of readers, the valued and accessible texts, and the ways in which readers interact with those texts (Snow 2002). Reading comprehension, according to Lenz (2005), is the method of gaining insight from the text. It suggests that the reader's capacity to associate and relate the meanings and purposes of the text to their prior knowledge and reading purpose is a necessary component of the reading comprehension process. The procedure then provides a meaning and comprehension of the material that the reader can understand. In Grabe (2009), Koda further argues that understanding happens when a reader collects and extracts various pieces of information taken from a text, relates and combines it with prior knowledge, and makes connections between the new information and previous learning. Furthermore, according to Carrel and Eisterhold (1983), understanding a text entails a combination of the text and the reader's past knowledge. To effectively comprehend a text or topic, one must be able to connect its content to prior knowledge. The aforementioned research suggests the reader's prior knowledge and experience play a crucial role in the comprehension process. According to Moreillon (2007), understanding the significance of background knowledge for comprehension is crucial because, before integrating and organizing new information, we make connections between it and our past knowledge. A theory of reading as a transaction including the reader, the text, and the author's intention was developed by (Rosenblatt and Moreillon 2007). Every reader, in her opinion, contributes their unique feelings, experiences, and prior knowledge to the text. She further argued that previous knowledge is what the reader contributes to the reading.

According to Tang Hongyan (2019), In English assessments, reading comprehension is extremely important. The traditional method of teaching English in high school, which emphasises the infusion of vocabulary and grammar, is crucial and challenging since it can cause students' enthusiasm in the subject to diminish (Akram et al., 2020; Ahmad et al., 2022; Amjad et al., 2021). As soon as possible, it is critical to identify an effective teaching strategy for high school students (Akram et al., 2022, 2021, 2019; Nawaz et al., 2021). Students' schema, usually referred to as their background knowledge (Khanam et al., 2022; Ma et al., 2024), is essential to their understanding of the texts they read (Ramzan & Alahmadi, 2024; Khan et al., 2017).

According to research, Ministry of Education of the People's Republic of China (2020) putting schema theory into practice helps students develop their critical thinking skills in addition to their linguistic skills. Students get experience analysing and comprehending complicated texts when they can make connections between new material and their preexisting schemas. This theory encourages a greater degree of understanding and active participation with the subject matter.

Schema theory has been shown to be relevant to psychopathology, namely personality disorder in younger people (Phillips, K., Brockman, R., Bailey, P. E., & Kneebone, I. I. 2020).

Schema theory has proved useful in the field of education in developing techniques for the building, activation, and consolidation of schemas, which improves learning outcomes. (McVee et al., 2005; Wang & Chen, 2022; Ramzan & Khan, 2024).

Xia et al. (2022) investigated the use of schema theory in educational contexts and emphasised how it may improve memory, promote learning, and lessen knowledge forgetting. Liu Tingting (2023), says that in order to create a new teaching mode known as the Teaching Trilogy Mode, this study will combine cooperative learning and task-based learning. It will also investigate any potential issues and the effects of this mode on students' ability to read comprehension and develop critical thinking skills. Furthermore, the importance of linguistic, content, and formal schemas in various domains is shown by the applicability of schema theory to language instruction and translation (Chen & Ramzan, 2024; Lyu & Fang, 2023; Zhu, 2017). Hu, W. (2024) is of the opinion that applying schema theory helps students develop their critical thinking skills in addition to their linguistic capabilities. Students get experience analysing and comprehending complicated texts when they can make connections between new material and their preexisting schemas. Senior high school students' English reading comprehension has been substantially enhanced by the application of schema theory. The cognitive psychology paradigm known as schema theory highlights the importance of readers' past experiences and expertise in helping them understand new information.

2.3 Schema

Kant (1781) coined the term "schema" in the eighteenth century and believed it to be an innate framework and structure that humans use to arrange and make sense of the outer world (Ajideh, 2003). Bartlett (1916) refers schema to a dynamic arrangement of those previous responses, reactions and experiences.

Schema activation is widely acknowledged as the process by which certain textual cues, signals, and indications lead readers in the right direction or location so they may locate and bring up appropriate schema from memory for the current reading assignment or passage (Li & Cheng, 1997). Additionally, Carrell and Eisterhold (1988) contended that textual clues have a significant part in identifying and determining the schema. If a textual indication strongly suggests a certain schema, then an entire schema can be triggered and activated. The process via which readers access and apply their prior knowledge to the information in a text is known as schema activation (Vacca & Vacca, 2002). Schema activation thereby helps in students' comprehension, decoding, and recall of information. Schema activation also refers to a variety of methods, activities, and plans intended to awaken students' past knowledge and experience in relation to a text or lesson (Brunning and associates, 2004).

Al-Faki and Siddiek (2013) define schema activation as the process of bringing the prior knowledge that students have about a subject through various activities and strategies. Reading comprehension and schema activation are closely related; if a student's schema is missing for a topic, the text, or topic may seem arbitrary and challenging to comprehend and remember (Thompson & Carr, 1996). According to Readenc; et al. (2005), all students' past knowledge and experience serves as a means of taking in and processing new information found in the text. Thus, it is crucial to engage students' schemata with a sequence of activities that will improve their understanding by helping them decode and identify the text's meaning more precisely. According to Wilson and Anderson (1986), students who are able to activate or develop a schema will be able to understand a topic more quickly; however, this can happen only when the objects and events represented in the schema are clearly described. Schemata assist in reading

comprehension by helping students draw conclusions and comprehend information. Additionally, according to Anderson (1994), students struggle and become confused while trying to understand a topic because they lack relevant schemata that fit the text's content simply and smoothly.

Reading comprehension may not be affected by readers' lack of suitable schema, but rather by their inability to activate it, (Carrel, 1983) and (Williams, 1987). Schema theory states that in order to increase understanding of the text or topic, reading requires schema activation prior to reading (Al-Jahwar & Al-Humaidi, 2015). Thus students may find a text unintelligible if they are unable to find and activate a schema that matches the content or passage (Anderson, 1994). Similarly, Pearson et al. (1979) asserted that integrating new information with pre-existing schemata is a necessary component of understanding. Marzano (2004) and Kendeou et al. (2003) emphasized the significance of schema presence and discovered that students perform poorly when there is no schema activation.

2.5 Schema Theory and Reading Comprehension

The schema theory explains the way the reader interprets written language by adding information, experience, prior knowledge, emotion, and background context (Brown, 2001). The idea behind schema theory in reading is that a text cannot convey meaning on its own. Schemata, previous information, knowledge, emotions, experiences, and existing knowledge are brought by readers, while reading a text or topic. As a result, readers consistently obtain more information than what is printed on the page. Because they read, readers comprehend what they read because they tend to take clues and hints to relevant concepts and ideas that are already ingrained in their minds, going beyond just the visual portrayal. In order to enhance readers' understanding, the reading process necessitates the identification of context, background, and topic. All of these factors activate schemata. Thus, a key component of reading comprehension is the schemata of previous experiences and prior knowledge.

Adams and Collins (2011) discussed the purpose of schema theory in relation to reading comprehension. They argued that a text does not have meaning in and of itself; instead, readers must use the instructions and clues provided to reconstruct or retrieve meaning from their prior knowledge. They explained that the theory seeks to define the interface between the reader and the text, or how the reader's knowledge interacts with and shapes the information on the page and how that knowledge needs to be organized to facilitate the interaction. This assumes that comprehension occurs when readers are able to effectively connect what they have learned from the text with what they already know. If the new information does not match the readers' prior knowledge, it may be misinterpreted, and disregarded.

Under the umbrella of schema theory, readers' comprehension and interpretation of the text are identified and determined by activation of their schema (Zhao and Zhu, 2012). They further argued that occasionally, though, students' minds may not be sufficiently activated to build an appropriate schema by the information and clues presented in the texts. Teachers can assist and provide students the chance to activate prior schema and construct suitable and appropriate schema through various tasks and activities during the pre-reading stage when students fail to store the required schema. Pre-texting, pre-teaching, pre-discussion, brainstorming, and questioning are the simplest and most effective pre-reading activities.

3. Research Methodology

This study employed a mixed-methods quasi-experimental design to explore how content schema affects 12th grade students' reading comprehension at Government Higher Secondary

School Manyal, Dir Lower. The mixed-methods approach was chosen to address research questions from multiple perspectives, combining quantitative and qualitative data collection to overcome validity issues inherent in single-methodology studies and provide comprehensive understanding of the phenomena.

The quasi-experimental design focused on behavioral and attitudinal changes before and after intervention without employing randomization. Two intact groups were selected as experimental and control groups, with baseline characteristics as similar as possible. This approach was necessary since random assignment is often unfeasible in educational settings. The study utilized pre-test, intervention, and post-test procedures to collect quantitative data, while semi-structured interviews provided qualitative insights.

Data collection instruments included Writing Assessment Rubrics for Reading Comprehension, pre-tests, post-tests, and semi-structured interviews. The intervention incorporated content schema activation strategies including prediction, previewing, semantic mapping, anticipation guides, KWL charts, brainstorming, questioning, and discussion activities applied to English textbook reading comprehension lessons.

To ensure objectivity, a reading comprehension lesson was randomly selected from thirteen available lessons using a basket method, with a colleague selecting "Jahangir Khan, The Conqueror" for both pre-test and post-test assessments. All lessons were equivalent in content, language, vocabulary, and difficulty level. The pre-test was administered to both groups before treatment, while post-test questions were reworded to prevent memorization while maintaining similar difficulty levels.

The experimental group received nine weeks of intervention using content schema activation activities, while the control group continued with traditional Grammar Translation Method teaching. Participants included pre-medical discipline students aged 18-21, with data collected from 51 students who met attendance and participation criteria of 85% minimum.

Assessment utilized five-band rubrics adapted from established sources, evaluating comprehension competencies from inadequate to exceptional levels. These rubrics assessed not only understanding but also grammar, spelling, capitalization, and punctuation usage, ensuring authentic and reliable evaluation of reading comprehension responses.

Semi-structured interviews were conducted with twelve selected students representing highest, medium, and lowest scoring categories from both groups. Interview guides were adapted separately for experimental and control groups to reflect their different experiences during the study period.

Data analysis employed paired t-tests for within-group comparisons and independent t-tests for between-group analysis of pre-test and post-test scores. Qualitative data underwent thematic analysis, with findings integrated to provide comprehensive understanding of content schema's effectiveness in improving reading comprehension compared to traditional teaching methods.

4. Data Analysis and Discussion

In answer to research question three *"What is the attitude of the students of EG towards Content Schema Teaching Strategy after the intervention, treatment*, every interview from each group was transcribed, and thematic analysis was employed for analysis.

To begin, thematic analysis was used in this study to analyze the interview data from the students as it identifies patterns and themes in the data. According to Marks and Yardley (2004), thematic analysis gives analysts the capacity to understand a potential issue or issues in general. According to Namey et al. (2008), "thematic analysis goes beyond simple word or sentence

counting to identify and characterize implicit and explicit concepts. Next, as summary markers for further analysis, the codes generated for concepts or themes are applied to or linked with raw data. This analysis might involve comparing the relative frequencies of themes or subjects in a data collection, searching for co-occurrences of codes, or visually representing links between codes." As a result, this research makes it possible to identify the connections between concepts and evaluate it using data that has been repeated.

Of the two options provided by Braun and Clarke (2006), the researcher chose the theoretical theme analysis (Top down) because the researcher was interested in the students' personal narratives, their experiences and points of view. They are Bottom Top, or more data driven, and Top down, or theoretical thematic analysis driven by particular research challenges and issues. Given that the analysis in this study relies on research questions, theoretical thematic analysis was deemed appropriate.

It is considered important to note that interview questions were used in the interview analysis. In order to do this, the researcher created and applied a number of "structural" codes to the data that was obtained from the interview questions by following the "structural" codes pattern. This method is effective when data is gathered via focus groups or interviews that are organized or semi-structured and include unique questions and probes that are repeated throughout several files in a data collection. Every individual query was given a code, which was then connected to the question, along with the probes that went along with it.

Semi-structured interviews were employed in this study, as used by (Namey and Guest, 2008), with the students who took part and participated in this study. This was done in order to get data about the experiences and opinions of the participants about taking part in the study and carrying out various activities/tasks. Interview questions were categorized according to several areas of inquiry;

- students' experiences about the treatment or intervention in the study
- The improvements they attained in this study
- the difficulties in applying content schema teaching strategy
- developing understanding of reading comprehension lessons/readings

The following procedures and steps were used in order to analyze the interview data.

Step 1. To Become Familiar with the Data

The researcher initially transcribed the students' interview data, and then reviewed it again because the initial stage of any qualitative analysis is to read the data again. This is done in order to familiarize the researcher with the study's data. Additionally, it is critical to record the impression in the form of rough notes. Reading the written record again is the first step in any qualitative study. Below are some preliminary impressions from the early period.

In EG students who scored the highest appeared to credit their improvement to content schema activation activities. On the contrary, students in the CG class ascribed and blamed the traditional GTM teaching methodology—which denies interactive activities among the class — for their low scores and poor performance. It was evident from their extreme confidence that doing different activities and sharing ideas in the class guide and promotes to effective understanding of reading comprehension lessons and intellectual growth.

Step 2. To Generate Initial Codes.

In order to reduce and minimize the vast amount of data into a manageable format at this stage, codes are created to organize the data in a systematic and comprehensible manner. The data was arranged at this step in a methodical and relevant manner. By creating programmes big

data is therefore reduced to a comprehensible form.

When it comes to coding, there are several approaches to use, and the specific research questions determine which approach is best. However, theoretical thematic analysis was employed to examine the data and answer specific research questions. Each data segment was therefore classified based on its relevance to the research question or its ability to capture an interesting concept.

When completing the first step, having preliminary ideas about codes, such as discussing the students' experiences comparing the content schema teaching strategy and the traditional method GTM, as well as the improvements they made in this study, was a common topic that came up almost exclusively in the interviews. These concepts were carefully examined, reexamined, and discussed with a supervisor as well as another researcher of a similar caliber and stage. This resulted in the formation of some initial concepts regarding codes. As a result, every question was carefully reviewed and categorized as either addressing or being related to the study issue.

After this procedure was completed, the codes created were reviewed, reconsidered, and discussed with a researcher who was a University of Malakand (UOM) student.

Additionally, the supervisor was consulted following every stage of the study, whether it was for discussion about the codes, the themes that emerged, or any other significant issue that came up. The original codes were discussed with the supervisor and other researchers, and changes were made to the ones that already existed. New codes were also created when the remaining data was analyzed.

Step 3. Looking for Themes.

A theme is a pattern that emerges from the data and represents something important and captivating. Hard and fast guidelines about what constitutes a theme do not exist (Braun and Clake, 2006). Regardless of the volume of data, the relevance of a theme determines it. Some of the codes that were deemed to be relevant throughout the code examination fit within a theme. For example, a number of codes pertaining to what students anticipated from the topic schema teaching approach or their comparative experiences with content schema activation activities were collated into initial theme, "Comparative Experience of Content Schema and GTM".

As this step came to an end, the developed codes were compiled and grouped into broader and more general themes that focused on distinctive or particular aspects of the study research question. The themes described patterns in the data that were connected to the research question and were descriptive in nature. Table 3.4 presents the themes that were first identified together with the corresponding codes. It is crucial to remember that some codes are connected and associated with a single theme, while others are connected to several themes. Almost every code in the sample below falls under more than one theme.

Table 3. 4 Preliminary Themes (Practicality of CST Strategy, Experience of CST Strategy and GTM, Understanding and Improvement)

Theme: Practicality ofContent Schema Teaching Strategy	Theme: Experience of CST Strategy and Traditional Teaching/GTM	Theme: Improved Understanding and Comprehension.
• Improved reading skills (comprehension) • Helped learn how to read a	• No activity by students in GTM • The boring and	• New meaning • Working actively • Profound and enduring

lesson • Effective, productive and reliable • Students' self improvement • Instructor as a guide only • Freedom from dependence • Independence • Effective student coordination and interaction • A variety of activities enhance comprehension • Improved understanding • A fruitful and realistic increase in comprehension of lesson • Discussion is the most fruitful and advantageous	uninspired approach is to blame for GTM • GTM focuses on grammar • Feeling envious of other students who share their thoughts in GTM • A focus on memorization and translation GTM • Content knowledge less information interest/motivation • Exchanging concepts and supporting one another in CST strategy • Eliminates jealousy • Promote understanding in CST strategy • Understanding through activities are important and comprehension and thinking are improved in CST strategy • Different activities of schema activation leads to effective understanding CST • Discussion and other activities help them to understand a lesson	• Improvement results by exchanging concepts and experiences through activities. • Students engage in active learning • Ideas are concepts are prioritized over grammar • The learning process belongs to the students. • Brainstorming and discussion fosters comprehension • Readers who place too much emphasis on translation and memorizing become blind. • Rote learning is a short term. Surface-level or artificial (for the time being) • Efficient and trustworthy • A higher comprehension level • Schema activation values understanding

Step 4. Reviewing the Themes

Step 4 involved developing and refining the themes identified in Step 3. This is because it signifies the critical turning point where the themes reach and bringing the themes to their final stage. This is a crucial stage when all the information pertaining to each theme was collected to ensure that the final themes accurately emerged the research question. The Microsoft cut and paste option was used to complete this task.

How the data related to each theme was found in this worked example is displayed in table 3.3 below. To determine if the data actually supported the themes that had been selected,

the researcher took into account all of the data that was related to each of them. The themes' compatibility with the overall data set's context was then examined. Each of the themes was distinctive from the others and made sense. It was found that there was very little data available for the "Practicality of CST Strategy" or that it overlapped with the theme "Comparative Experience of CST Strategy." The theme of "Improving reading comprehension," "Sharing and exchange of ideas," and "Helping each other" all showed the same pattern. As a consequence, new themes started to emerge, such as "Developing Students' Reading Comprehension and Understanding."

The same was true for the sub-codes, which included "students are active learners," "long lasting learning," "activity based learning leads to enrichment or improvement," and "reading comprehension through schema activities." Other themes were developed as a result of these codes appearing to capture another theme, which include "Interaction and Improvement in Reading Comprehension". In conclusion, the themes underwent a number of revisions at this stage; the finalized themes are shown in Table 3.5 below. Four themes in all, with two sub-themes embedded in the first and second themes.

Table 3. 5 Themes Developed and Modified at the End of Step 4

Function of CST Strategy	Interaction and Improvement	Developing Reading Comprehension	Difficulties in CST strategy
• Students' own development. • Teacher as guide only to activate content schema or prior knowledge. • Freedom from dependence. • Gain self-reliance. • Productive and useful • Improve reading comprehension. • Promote Coordination among students. • Sub-theme: Comparative Experience of Content Schema activation.	• Promoting collaboration by sharing ideas gathered through content schema activities. • Encouraging comprehension inside the classroom • Collaborating to discover new meanings and ideas • Determining that learners engage in full participation with the activation of prior knowledge and content schema • Subtheme: comprehension ability building • Doing content schema activation activities improved	•Developing competence to defend position inexams. •Improving understanding and comprehending of any lesson or reading. • Developing understanding and reasoning • Developing reading comprehension ability • Employing several activities to approach the reading comprehension lessons from various dimension • Improving comprehension	• Having issues and finding it challenging to understand on one's own • Having trouble completing various schema activation tasks • Having difficulties since they are new to and unaware about CST strategy. • Lacking the vocabulary and word choice necessary to communicate. • Having difficulty in getting their prior knowledge to activate.

• Focus is on ideas/concepts understanding not grammar rules, ready-made answers and mere translation • Students are involved in their learning • Focus on schema activation/background knowledge produce good readers • Rote learning is short term and superficial Students takes ownership of their learning	understanding and comprehension. • Empower one to deal with new circumstances • Making one able to do comprehension on their lessons/topics • Feeling confident and bold to share ideas and discuss it to class.	skills refining the process of understanding	

Step 5. Defining the Themes

In order to "identify the 'essence' of what each theme is about," the themes emerged and developed in the previous step were refined at this step (Braun & Clarke, 2006). This is to ascertain the subject matter of each theme. Look for any sub-themes that relate to and engage with one another as well.

This step (step 5) of refining the themes was followed by post-test or answers of the reading comprehension questions. However, after the analysis of the answers, it was found that there was a consistency between the analyses. It suggests that the patterns were examined and themes identified. According to Perry (2005), using this approach improves the verbal data's quality and is useful in determining if the patterns seen are reliable and credible.

5.   Conclusion

As proposed in this research paper, this research paper attempted to address the issue of how to improve students' reading comprehension at the 12th grade level, as suggested. This study aimed to use the content schema teaching strategy to the teaching and learning of reading comprehension based on the literature relevant to reading of teaching. Based on the results obtained in the research study, this study recommends using this method to teach and develop reading comprehension at the intermediate level, or grade 12. This would allow and enable the students to approach reading comprehension from schema strategy in order to understand readings. As the result of content schema during the reading comprehension that students gradually develop their ability to comprehend a reading over time. Besides, they also know that understanding and improving reading comprehension lessons need the application of content schema teaching strategy.

Reading comprehension classrooms should implement the content schema teaching method in light of the findings and outcomes from the data collected during the interview as well as the pre- and post-tests administered throughout the intervention. The results of the study show that the traditional technique used in the present teaching methodology restricts students' capacity to think beyond memorization of certain concepts and questions from their textbooks.

The findings made it clear that students using GTM, a conventional method, lacked sufficient understanding and comprehension skills. It comes to the conclusion that the conventional technique restricts students' understanding since it focuses more emphasis on memorization, translation, and linguistically acceptable forms and structures than it does on the cognitive process of reading comprehension. Comparably, implementing the content schema technique in reading comprehension classes would provide students with several opportunities to try out different ways of expressing themselves and would also aid in their awareness of understanding a lesson. Furthermore, as they were on the verge of reaching a higher level in their academic lives, this method will enable them to understand any readings at a greater level in the future. After completing their intermediate studies, they would enter their higher education, when knowledge and understanding will be crucial to their success.

According to the conclusions drawn from the qualitative data, reading comprehension is significantly improved by the activation of content schema. Additionally, it is anticipated and expected that the study's conclusions will provide teachers and students with new insights on reading comprehension and the problems associated with its teaching. Furthermore, it is expected that the insights from this research would assist practitioners and educationists in conceptualizing of the teaching practices of reading comprehension.

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