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Impact of familiar cues on reading comprehension: an investigative study of Pakistani English language learners

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Language development is influenced by a number of factors, one of them is existing knowledge. Previous studies suggest that contextualizing language learning materials can help low-skilled learners improve their performance. This study is grounded in Frederic Bartlett's schema theory (1932), which posits that individuals use prior knowledge to interact with new information. A sample of 60 students was divided into an experimental group (EG) and a control group (CG), with 30 students in each. Both groups read an excerpt from The Secret Garden by Frances Hodgson Burnett, but the experimental group received instruction that included familiar cultural cues to aid comprehension. The groups were assessed through comprehension questions, which were evaluated based on vocabulary, evaluation, and inferential skills. A post-assessment survey using a Likert scale examined students' perceptions of the contextualization's impact on their performance. The results indicated that students performed better when academic content was familiar. The experimental group demonstrated stronger analytical and inferential skills, displaying the benefits of using culturally relevant cues to improve comprehension and engagement. This study supports the previous findings and emphasizes the value of contextualized learning to enhance students' interest and comprehension.

KEYWORDS

comprehension, cultural cues, English language teaching, reading skills, schema theory

Introduction

One of the fundamental language skills is reading comprehension that enables individuals to understand, analyze, and interpret written texts. It plays a crucial role in academic success, as well as in everyday life, by allowing individuals to extract information, make connections, and derive meaning from the written word. Academic reading has been defined by Grabe (2009) as interpreting information from the texts according to the goals one is assigned, and such contexts require the reader to "synthesize, interpret, evaluate, and selectively use information from texts" (p. 5). Thus, the process of reading comprehension involves not only understanding the individual words but also comprehending the overall meaning of the text, therefore incorporating two levels of processing, "lower-level processes, including word recognition, syntactic parsing, and meaning encoding" and "higher-level processing, including text model formation (what the text is about), situation-model building (how we decide to interpret the text), inferencing, executive-control processing (how we direct our attention), and strategic processing" (p. 21). This paper is concerned with Grabe's definition of comprehension which emphasizes the interactive and strategic nature of reading comprehension, highlighting the reader's active involvement in constructing meanings from the written texts.

Reading comprehension is considered a multifaceted phenomenon; and the comprehension of a foreign text is considered even more complex as it is affected by multiple variables like text related factors such as length, structure and complexity of text, and reader oriented variables such as aptitude, memory and background knowledge (Ölmeza, 2016). While the differences between first language (L1) and second language (L2) can have an impact on L2 reading comprehension, as Grabe (2009) explains that when the linguistic difference or linguistic distance between L1 and L2 is distinct, there is more linguistic processing interference in L2; this study is limited to exploring the impact of employing culturally familiar clues, while teaching a foreign text, on the reading comprehension of the students who are learning English as L2. The L2 learners may have linguistic skills and reading strategies, but they might not have specific cultural knowledge (Singhal, 1998).

English is a lingua franca; with each passing day, its importance is growing across the world. Every field of life, regardless of its nature, requires people with good or exceptional English language skills. Most of the countries where English is not spoken as first language, for instance, India, Pakistan, China, Bangladesh, etc. English language is being taught as a compulsory subject from kindergarten levels to high school. Thus, when a language is taught as a course subject, it minimizes the focus on the skills, this exam-oriented approach limits the students to memorization-based learning, which does not necessarily help with educational attainment and long-term learning skills (Carnoy and Loeb, 2002).

Thus, in addition to this factor, when most of the academic content is based in unfamiliar contexts, it does not help the English language learners (ELLs) to develop cognitive or critical skills rather they feel distracted and fail to learn the language. In Pakistan, the educational curriculum, specifically, English language curriculum is largely exam-driven; having high-stakes examinations at all levels, the teaching prioritizes rote memorization, grammar rules, and formulaic writing over the development of linguistic competence and real-world learning. Assessment procedures influence teaching as teachers begin to focus on helping the students to score better instead of increasing their understanding and developing higher cognitive skills (Aftab et al., 2014).

The teachers already face numerous obstacles hindering effective language teaching in Pakistan, syllabus, being one of them, as "poor text material often fails to increase the interest of students due to outstanding focus on grammar drills and vocabulary learning through memorization" (Soomro et al., 2020). However, there are multiple strategies to improve reading comprehension of L2 learners. The purpose of this paper is to explore the relation between teaching strategy of employing schema and reading comprehension performance.

The research is based on Schema theory, proposed in 1932, by a Gestalt psycholinguist F. C. Bartlett; the theory's basic proponent is that previous knowledge plays a key role in the production of new knowledge. The theory deals with cognitive processes of thinking and perceiving, it basically puts forward an idea that mind constantly constructs psychological material, also known as schema, which helps in perceiving and recognizing. According to the psycholinguist's experimental studies, when an individual is presented with a familiar setting or its constituent, it can lead to a meaningful impact because of recognition of that schema; thus, meanings emerge (Bartlett, 1932).

An American psychologist, David Everett Rumelhart, has defined the concept of schema or schemata as following:

> Schemata can represent knowledge at all levels-from ideologies and cultural truths to knowledge about the meaning of a particular word, to knowledge about what patterns of excitations are associated with what letters of the alphabet. We have schemata to represent all levels of our experience, at all levels of abstraction (Rumelhart, 1980, p. 42).

Schemata have been categorized into three types, namely language, content, and formal schema. The language schema covers understanding the rules of the language, including grammar, speech, etc.; content schema focuses on the background of the text, and the way events lead to each other, and knowledge related to the topic; finally, formal schema deals with the knowledge about genre of the text, and the structure in which it is presented. This study focuses on the content schema and its impact on L2 reading comprehension, when readers are provided with a certain text containing familiar settings and content, such stimuli can activate their schema, hence easing the process of comprehension (An, 2013).

With time, the Schema theory was applied to education, and the link between schema and reading comprehension was studied. Hall (1994) explains that literacy develops naturally over a period of time. Thus, children cannot be taught to become literate, rather it is a natural process and does not wait for the children to reach a certain age to become ready, it emerges the same way as children's oral language is developed (Hall, 1994). Hence, its emergence occurs in a certain context and is influenced by external factors; this concept of literacy being social is further reiterated by Vygotsky (1978), children learn from their surroundings, they imitate what they are offered, and as a result learn beyond their own abilities. As literacy emerges in a social context and children's minds are developed according to the resources available in their surroundings, therefore, the cultural context is a crucial factor shaping the students' learning processes.

Although there has been a lot of research on English language teaching methodologies in Pakistan and across the world, but there are very few papers analyzing the English language textbooks being taught to the Pakistani students, at middle school level. This study explores the instructional strategy of using cultural schema to teach the language; it provides a detailed analysis of learners' performance in reading skill assessments according to the approach through which the unfamiliar foreign content is taught to them.

The objective of the study is to cover the research gap in the field of English language teaching (ELT) in Pakistan by answering the following question:

1 How does incorporating culturally relevant cues into instructional strategies impact on the reading comprehension of a foreign text among 5th-grade students?
2 What is the perception of the students regarding the effectiveness of using culturally familiar content to enhance their English language reading comprehension skills?

Literature review

Reading comprehension is not limited to identifying words or evaluating surface knowledge, "when a reader reads to construct

meaning from text (rather than merely to identify words), various interactive processes are going on more or less simultaneously" (Weaver, 1998, p. 25). The process of reading requires the reader to utilize different factors, both internal and external, to comprehend the passage; Sadeghi (2007) explains these different variables, internal refers to reader centered elements, such as their knowledge, skills and abilities, whereas external refers to text centered features. In accordance, reading comprehension is not a passive process, rather it involves active involvement on the behalf of the reader. One of the learning processes involved in the reading comprehension is defined by Rumelhart and Norman (1976) as "the gradual accretion of information, through the fine tuning of conceptualizations we already possess, or through the restructuring of existing knowledge." Therefore, using culturally appropriate cues and creating a relatable context can significantly enhance the students' performance and retention of language by creating a motivating environment. As found by an in-depth analysis of contextualization, it is believed that low-skilled learners can improve their results if they are taught through contextualization, "the creation of explicit connections between situations is critical if students are to transfer their knowledge and skills outside the classroom, whether it is to another context or to an abstract testing situation" (Perin, 2011). Similarly, a meta-analysis of 54 articles on prior knowledge and its activation to improve reading comprehension suggested that this strategy indeed helps the learners' to perform better, it further reveals that there is a wide range of techniques to maximize the learning through learners' previous knowledge (Hattan et al., 2023). Likewise, another research shows that content which is not relatable to learners' culture or beliefs often causes difficulties for them, they are not able to fully comprehend the material and improve their language skills (Yang, 2019). It is also seen that guiding learners to utilize context clues can boost both word learning and overall understanding of texts (Al-Ghazo and Ta'amneh, 2022). Similarly, personalized books and relevant cues are used to improve the perception of parents and children's interests (Mendive et al., 2023).

There is a lack of focus on language skills in countries where English is spoken as L2; among the four skills, reading, speaking, listening, and writing, reading has a major influence on English language proficiency and academic performance. Time and again, it has been mentioned in the studies that reading comprehension tests often fail to choose a text which complies with the learners' knowledge and abilities, such as Arshad et al. (2020) explains in depth on the choice of the test material, "a test constructor should select the text according to students' linguistic level (i.e., grammar, vocabulary and syntactic complexity), cultural schema and their content level" (p. 1292), similarly, suggests that "the texts (to be selected for the test) should support the development of formal schemata (i.e., background information and cultural experience to interpret it effectively). As evident through research, "children who are proficient in reading outperform their counterparts on all academic performance indicators" (Nyarko et al., 2018, p. 2). Everyday content motivates students to read more than the distant and unfamiliar elements, "familiar materials are more engaging and lead to higher learning effects" (Kucirkova and Ciesielska, 2024, p. 30).

Studies from Pakistan have also suggested the same course of action, as students require support in their academic journey, especially English language learners reading complex texts as

non-native readers. Hussain et al. (2022) revealed that there is a clear disparity in comprehension levels between native and non-native readers, indicating a need for targeted support and resources for the latter group. Similarly, teaching strategies have a direct impact on students' performance (Teevno and Raisani, 2017), so if the students' needs are not met it can cause poor results. In a similar vein, a nurturing and positive environment must be created by the teacher to effectively deliver instruction (Aqdas et al., 2023). Similarly, studies from the other non-western contexts also reveal that familiar cues can help with language acquisition; this familiarity can be built by expanding on the prior knowledge and linking it with learners' own culture and values (Zhang, et al., 2022). Failure to present relevant cues either in the text or the instruction can cause distractions for the learners and can reduce the motivation rates. Hence, intensive research presents results of connecting culture and language, and the impact and the need of proficient English language to succeed in the world.

Research methodology

Drawing upon different contributions to cognitive psychology and language acquisition, the framework aims to explain the cognitive processes involved in comprehension and the influence of sociocultural context on language learning. Schema Theory posits that individuals interpret new information by relating it to existing knowledge structures, or schemas, stored in their minds. These schemas are influenced by a variety of factors, including cultural background, personal experiences, and prior exposure to similar concepts. The theory serves as a basis in understanding how individuals interpret and recall information based on their existing schemas. One of the key principles of schema theory is that individuals actively construct meaning from their experiences and interactions with the world. Rather than passively receiving information, individuals actively engage in the process of encoding, interpreting, and organizing new information within the framework of their existing schemas. This process of cognitive restructuring involves assimilating new information into existing schemas or accommodating existing schemas to incorporate new information that does not fit existing cognitive structures. Therefore, having a prior knowledge not only helps the learner to recall but also to expand on the topic.

Schemas play a crucial role in guiding perception, comprehension, memory, and problem-solving. They serve as mental frameworks that help individuals interpret and organize incoming information, make predictions about future events, and guide behavior in familiar situations. Within the context of language learning, schema theory suggests that individuals' prior knowledge and cultural background significantly influence their interpretation and understanding of linguistic input. When an individual encounter text or spoken language, they draw upon their relevant schemas to make sense of the material, infer implicit meanings, and fill in gaps in comprehension, "it is assumed that readers not only possess all the relevant schemata, but also that these schemata actually are activated. Where this is not the case, then some disruption of comprehension may occur" (Stott, 2007). By aligning instruction with students' cognitive schemas, educators can enhance engagement, comprehension, and retention of academic content across diverse learner population; "when students

have a personal connection to the text, they are more likely to connect to the book" (Mills, 2019, p. 5).

Analogous to the notion "all incoming impulses of a certain kind, or mode, go together to build up an active, organized setting" (Bartlett, 1932, p. 201), Piaget's theory of cognitive development centers on schema. He introduced the concept of "liberated conviction" as "when the child replies after reflection, drawing the answer from the stores of his own mind, without suggestion, although the question is new to him" (Piaget, 1929, p. 11). According to Piaget, schemas are formed through the process of assimilation and accommodation; assimilation involves incorporating new information into existing schemas, while accommodation involves modifying existing schemas to fit new information. As children progress through these stages, their schemas become more complex and differentiated, allowing them to engage in increasingly sophisticated forms of thinking and reasoning. Thus, schema theory provides a powerful framework for understanding how individuals process and make sense of the world around them. By illuminating the role of prior knowledge, cognitive schemas, and cultural context in shaping perception and comprehension, schema theory enhances the understanding of human cognition and informs effective teaching and learning practices in educational settings.

Method

The study focuses on the students at middle school level. Purposive sampling was used to select a sample of 60 students from a private school enrolled in 5th grade in an urban area in Pakistan, ensuring that the sample was homogeneous and there were no significant markers affecting individual differences to conduct in-depth research. A written consent form was obtained by the participants to be involved in the study. Ethical approval was obtained by the school's ethical committee. Firstly, the participants were recently promoted to the 5th grade, assuring consistency in age (10–11 years old) and grade level. Additionally, they were attending English language classes in the same school, affirming a similar academic learning environment. Moreover, the sample included students from similar socioeconomic backgrounds (middle-class families), thus, reducing potential confounding variables associated with socioeconomic status. To warrant comparable English language proficiency levels, a pre-test was conducted to assess the students' performance prior to the study, students with similar scoring were included in the sample to provide a baseline measure to conduct a comparative study.

A mixed methods approach was utilized, combining both quantitative and qualitative data collection methods to provide a comprehensive understanding of the research questions. First, a pre-test was administered to establish a homogeneous sample of participants, it included a reading passage from "The Secret Garden" by Frances Hodgson Burnett, adapted by H. Q. Mitchell - Marileni Malkogianni, followed by comprehension questions. The selected text was listed as a literature text for the 5th grade, ensuring that it was age and level appropriate for the sample. The story follows a young girl named Mary Lennox who is sent to live with her uncle in a mysterious manor in England. As she explores the estate, Mary discovers a hidden garden that has been locked away for years. With the help of her new friend Colin and a gardener named Dickon, they work together to bring the garden back to life and heal not only the garden but also their own spirits. Moreover, as the sample had recently commenced

their school year, the text was unfamiliar to them. Hundred participants were provided with the chosen passage and given a designated time of 60 min to read it and answer the accompanying questions. Limited instruction was provided during this stage to avoid influencing the sample's responses, the guidance was limited to format-related inquires, such as explaining the marking criteria, time management, etc.

This quantitative component of the methodology aimed to measure participants' initial reading comprehension skills in a standardized manner, providing numerical data on their performance. The pre-assessment questions involved combination of questions; multiple choice statements, to examine the participants' knowledge about the content and central themes; matching the words with their meanings, to test the vocabulary knowledge, and short questions, including wh- questions to assess sample's understanding beyond the surface knowledge, including inference making skills. The questions were chosen from the activity section of the selected textbook to avoid personal biases or influences. A sample of 60 high scorers was selected through the pre-assessment; this selection criterion ensured a focused analysis of students with comparable proficiency levels, reducing variability caused by differing baseline skills. During the next stage, the sample was equally divided into experimental group (EG) and control group (CG), 30 students in each. Another passage from the same course book was assigned to both groups, with similar format of comprehension questions as the pre-assessment. However, during this stage of assessment, thorough instruction was delivered; as the sample was selected via a pre-assessment, the instruction did not focus on revisiting the reading strategies, such as skimming or scanning, however it focused on explaining a brief overview of the story, the main characters, and the setting for 30 min prior to the assessment. The differing variable between both groups was that in the experimental group, participants received instruction that focused on relating the story to the Pakistani context. The Schema Theory informs the approach to comprehension instruction by emphasizing the importance of activating students' prior knowledge and incorporating culturally relevant cues to enhance understanding. The teacher connected elements of the story to local cultural aspects and experiences, as compared to CG where the story was explained in the context it was narrated in.

Experimental instruction

The instructions to the EG comprised of drawing parallels between the text's themes and local cultural norms and themes like family bonds, communal support, and the nurturing role of nature, which resonate deeply within the students' cultural schema. Moreover, ideas like village settings or familial gatherings were discussed to help them visualize and relate to the story's events. Additionally, vocabulary from the text was contextualized using examples from everyday life, and students' local culture and traditions, such as describing "manor" as ancestral homes commonly found in rural areas. Visual aids, such as images of similar gardens and landscapes from Pakistan, were used to reinforce these connections. This approach aimed to activate students' prior knowledge and create meaningful connections, thus, facilitating better comprehension of the text.

Table 1 shows the rubric which was provided as an assessment criterion for both assessments, developed by the researcher, based

on the study's focus on analytical understanding and schema activation. The purpose of using this assessment criteria was to provide a fair review; it has been suggested in numerous studies that using a rubric makes the process of evaluation accurate. One of such research studies has revealed that rubrics help the reviewers to be consistent in their judgment and their evaluation does not vary from student to student (Kenneth Wolf, 2007). The rubric was based on existing assessment frameworks, and Bloom's taxonomy (Anderson and Krathwohl, 2001). The rubric was further reviewed by three experienced (10+ years of experience) English language teachers to ensure that it aligned with the comprehension assessment objectives.

After the post-assessment, both groups were joined to assign five closed-ended questions to gather their opinions regarding the impact of using familiar cues to enhance readers' comprehension skills. Likert scale of five points was employed to examine the results. The survey presented the participants with a key for the scale, where 1: strongly disagree, 2: disagree, 3: neutral, 4: agree, and 5: strongly agree. The reason behind this scaling technique was to analyze every response separately and accurately. Based on Bartlett's (1932) Schema Theory, the study aimed to elucidate the impact of culturally relevant cues on comprehension and cognitive processes among 5th-grade students. Quantitative data were analyzed using statistical methods to identify patterns and trends, while qualitative data were analyzed thematically to uncover underlying themes and perspectives, qualitative insights were also gathered through participants' responses to open-ended questions, allowing for a deeper understanding of their thought processes and comprehension strategies. Thus, both components were interwoven throughout the study to ensure a nuanced exploration of the research questions, capturing both the breadth and depth of participants' experiences and perceptions.

Hypotheses

Based on the specific aim of the study, which is to investigate whether providing instruction with a focus on relating the story to the Pakistani context (EG) results in higher reading comprehension scores compared to providing standard instruction (CG), following hypotheses were formulated:

Null Hypothesis (H0): There is no significant difference in mean reading comprehension scores between the Experimental Group (EG) and the Control Group (CG).

Alternative Hypothesis (H1): There is a significant difference in mean reading comprehension scores between the Experimental Group (EG) and the Control Group (CG).

The null hypothesis suggests that any observed difference in mean scores between the groups is due to chance variation, while the alternative hypothesis posits that the observed difference is not due to chance and reflects a true difference in reading comprehension performance between the groups.

Data results

A total of 12 questions, 4 matching the words with their meanings, 4 multiple choice statements, and 4 short questions were designed for the pre-assessment. As the sample fulfilled all the other criteria for a homogenous sample, including similar geographical location, socio-economic backgrounds, age levels, etc.; their reading comprehension skills were the final variable to secure a homogenous sample from the larger sample, thus, 60 high scorers were selected to ensure a relatively larger sample for greater precision and enhanced validity. Descriptive statistics revealed the following results gathered from the assessment for the 60 participants.

In Table 2, "Measure" represents the statistical measure being reported, and "Value" represents the corresponding value calculated from the pre-assessment results of the selected sample of top scorers. These statistics provide a concise summary of the data's central tendency, variability, and distribution.

The comparative statistics gathered from the EG and CG are displayed in the Table 3.

The above data in Table 3 allowed for a comparison of central tendency and variability between the two groups, providing insights into the effectiveness of the intervention. Subgroup analyses investigated differential effects of the intervention based on participants' characteristics, such as English language proficiency or prior reading experience.

Standard deviation was found using Equation 1,

$$\sigma = N \sum i = 1 N \left(xi - \overline{x} \right) 2 \qquad (1)$$

Where: σ is the population standard deviation. N is the total number of observations. xi is each individual score, $\overline{x}$ is the mean score of the group.

TABLE 1 Overview of rubric.

Criteria	Advanced	Basic	Below basic
Vocabulary	Uses a wide variety, and shows excellent understanding of the words	Uses basic vocabulary, and shows a limited understanding of words	Uses limited vocabulary, and does not have a clear understanding of words
Main Idea	Communicates an insightful understanding of the text, identifies the central theme of the text accurately and provides strong supporting evidence	Communicates basic understanding of the text, identifies the main idea or central theme of the text but may require some support or provide limited evidence	Communicates a poor understanding of the text, struggles to identify the main idea or central theme of the text and provides weak or insufficient supporting evidence
Inferencing	Demonstrates excellent critical thinking skills, relates the argument to several textual and real-world references	Demonstrates limited critical thinking skills, relates the argument to limited textual and real-world references	Demonstrates straightforward argument with no textual and real-world references

TABLE 2 Overview of data.

Measure	Number of students	Total number of questions	Mean score	Median score	Range of scores
Value	60	12	9.25	9.5	7–10

TABLE 3 Overview of comparative statistics.

Measure	Number of students	Total number of questions	Mean score	Median score	Range of scores	Standard deviation	$t(58)$	p (two tailed)
Experimental group (EG)	30	12	9.75	10	9–12	0.26	8.34	<0.001
Control group (CG)	30	12	8.67	9	7–10	0.66		

Using Equation 2, Experimental Group (EG) Standard Deviation (σ EG) in Equation 3 was found:

$$\sigma EG = \sqrt{\frac{(10-9.733)2+(10-9.733)2+\ldots+(10-9.733)2}{30}} \quad (2)$$

$$\sigma EG = 0.269 \quad (3)$$

Likewise, using Equation 4 Control Group (EG) Standard Deviation (σ CG) in Equation 5 was found:

$$\sigma CG = \sqrt{\frac{(8-8.667)2+(9-8.667)2+\ldots+(8-8.667)2}{30}} \quad (4)$$

$$\sigma EG = 0.667 \quad (5)$$

Furthermore, t-test was used to compare the mean reading comprehension scores of the EG and CG, as shown in Table 3. This test assessed whether the difference in means between the two groups is statistically significant. A significance level of $\alpha = 0.05$ was chosen to perform the test,

$$t = \frac{\overline{x}1 - \overline{x}2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \quad (6)$$

Where, in Equation 6, $\overline{x}1, \overline{x}2$ are the means of the two groups (EG and CG), s_1, s_2 are the standard deviations of the two groups, n_1, n_2 are the sample sizes of the two groups.

Substituting the values, as in Equation 7:

$$t = \frac{9.75 - 8.67}{\sqrt{\frac{0.26^2}{30} + \frac{0.66^2}{30}}} \quad (7)$$

$$t \approx 8.34 \quad (8)$$

To determine if this t-value is statistically significant, it is compared to the critical t-value at $\alpha = 0.05$ with degrees of freedom, according to Equation 9:

$$(df) = n_1 + n_2 - 2 = 30 + 30 - 2 = 58 \quad (9)$$

The calculated t-value (8.34) in Equation 8, was much greater than the critical t-value, therefore, the null hypothesis was rejected, and it was concluded that there was a difference in mean reading comprehension scores between the EG and CG (discussed further in the discussions).

As the results were examined according to the provided rubric in Table 1, detailed values were processed for the CG and EG showing number of the participants at each level for the measured variables as shown in Tables 4, 5, respectively.

Almost 90% of the EG used a wide variety of vocabulary while answering the questions and exhibited a thorough knowledge of the words, whereas the Table 4 indicates that 46% of the respondents from CG used basic vocabulary and demonstrated limited understanding of the words.

Furthermore, the post-study Likert-scale revealed the students' perceptions regarding the activation of schema. Figure 1 shows a unanimous consensus; all participants agreed with the statement that "academic content related to local culture improves the retention of vocabulary."

Likewise, almost all the students agreed that the usage of familiar cultural cues makes it easier to comprehend the text as shown in Figure 2.

Figure 3 shows that over 90% of respondents agreed that presenting academic content in a familiar context improves their ability to analyze the text and infer its themes.

Lastly, the data from Figure 4 suggests that a majority of the sample is of the view that basing academic content on local culture makes it easier and interesting to read.

Discussion

The findings of this study concur with the previous studies by showing that contextualizing academic texts with familiar cultural cues can significantly improve L2 learners' reading comprehension by activating their existing schemata. The data reveals that cultural familiarity improves students' performance by increasing their engagement, interest, and comprehension of the text. L2 students need strong reading comprehension skills for academic success and English Language Proficiency Tests (EPTs), yet many struggle with reading tasks. For instance, Yuyun et al. (2018) has identified that most of the first-year students lack reading skills and perform poorly in the EPTs, these problems can be tackled by utilizing strategies involving anticipating the purpose of the text, using one's previous knowledge, etc.

Several factors affect the reading process, such as text difficulty, sentence structures, clues, motivation of readers etc. This research paper is concerned with readers' schema's role in comprehension of

TABLE 4 Overview of control group.

Control group		
Criteria	Advanced	Basic
Vocabulary	16	14
Main idea	20	10
Inferencing	17	13

TABLE 5 Overview of experimental group.

Experimental group		
Criteria	Advanced	Basic
Vocabulary	27	3
Main idea	25	5
Inferencing	24	6

ELT academic content. The survey has been based on Bartlett's schema theory and evaluates the participants' answers to reading comprehension questions. The answers have been evaluated according to the rubric criteria.

Tables 4, 5 indicate that for EG, the majority of the sample has been evaluated to achieve an advanced level of performance. The excerpt was linked to Pakistani context, and culturally familiar cues were provided, such as the sense of community and respecting elders, the reinvigorating aspect of nature, etc.; although it is set in a fictional place, the instruction provided culturally relevant cues by talking about lands, fields, and familial bonds, etc. Such contextualized text helps the students to recall their own experiences by using their previous knowledge, for instance, students belonging to villages or having been to villages can relate to the text. Even if the students have not been familiarized with such contexts, as in someone who has never been to a village or does not have a firsthand experience of the village life, can still relate to the text because of these cues because it is deeply rooted in their cultures, and they often hear stories about such experiences; concurring with Piaget's notion that "to think is to recall" (Piaget, 1929).

Using a contextualized text can help the students to predict the meanings of unfamiliar words by using their previous knowledge and making inferences from the text. The relation of schema and vocabulary has been explored by Moody et al. (2018), readers are not totally dependent on the text to comprehend or learn vocabulary, rather their prior knowledge and contextual cues are utilized to construct and determine meanings. Another such study also suggests that by activating the schema, learners can benefit from the provided clues as they can predict the meaning of the unknown word through the context (Fahriany, 2014).

Familiarity with language structures and text genres further enhanced comprehension. Barnett (1986) observed that well-developed syntactic skills and appropriate schemata significantly aid in-depth text analysis. Students who regularly read a particular genre develop a formal schema for its structure; thus, they can more easily understand and analyze new texts of that genre. Building on students' prior knowledge not only expands their vocabulary but also makes new words more meaningful (Wessels, 2012). For instance, in Pakistan the narration of folk tales, set in natural settings, is deeply rooted in the culture, most children grow up either listening to these stories or reading them in school. Thus, when foreign literature is presented with similar culturally familiar contexts or cues, students find it easier to interpret and engage with the material, often exhibiting excellent performance. Concurring with Vygotsky (1978), familiar cultural cues and contextualized story within the Pakistani context likely activated relevant schemas as the learners grew up in Pakistani culture and experiences.

Comparing the groups' analytical responses further highlights the impact of schema activation. Students who can recall personal experiences and link their background knowledge to a text tend to analyze content more effectively. Since for EG the provided context and story of Mary was made relatable for Pakistani students by sharing cues based on the importance of friends and family in one's life and the role of trust and support, they performed efficiently as compared to CG. The students who can recall their previous experience and can establish links between their background knowledge and the presented text can analyze the content in a better way, as signified by the data 80% of the sample in EG demonstrated proficient inferring skills.

These students were able to read between the lines by connecting the text with their prior knowledge and constructing meaning beyond what was explicitly written. According to the assessment rubric, readers with proficient inferencing skills exhibit excellent critical thinking by connecting the text's content to multiple references and uncovering implicit relationships (An, 2013; Samiei and Ebadi, 2021). Consistent with other findings, providing background knowledge enabled the EG to make richer interpretations and correct inferences (Nurandini and Mulyadi, 2017). In contrast, answers of the CG were relatively simpler, indicating lack of information to expand on their answers. Around 43% of the sample provided no relevant examples from the real world or personal experiences, demonstrating their limited experience with the presented content. The reason behind these results and performances is the activation of schema and background knowledge when students relate to a text, it grabs their attention and interest, and they are more likely to engage with it. The post-study Likert-scale survey further supported these outcomes by reinforcing the ideas that words associated with strong, familiar cues are more reading recalled (Li, 1988) as revealed in Figure 1.

The purpose of academic reading is often to interpret and comprehend the text; the language of the given text significantly impacts on its comprehension. The English language students of beginner level cannot be expected to decode a text designed for advanced levels, as a number of things play a role in the comprehension of an academic text. Usually reading skills are taught via bottom-up or top-down processing, both approaches focus on understanding the text based on the reader's knowledge. Figure 2 indicates that the vast majority of students found it easier to comprehend the text when it contained familiar cultural cues. This underscores that understanding a text depends not only on language decoding skills but also on content familiarity. This alignment reflects the view of reading as an active process in which readers bring their own knowledge to construct meaning from the text (Silberstein and Clarke, 1977).

The students are able to culturally relate to the content, and can make predictions and inferences about it; this perception is a result of a number of cross-cultural studies, according to a research study by Steffensen et al. (1979) Indian and American students were presented with letters about weddings in their own cultures, students read the text based on their native cultures faster and presented a detailed analysis whereas for the unfamiliar context they added information
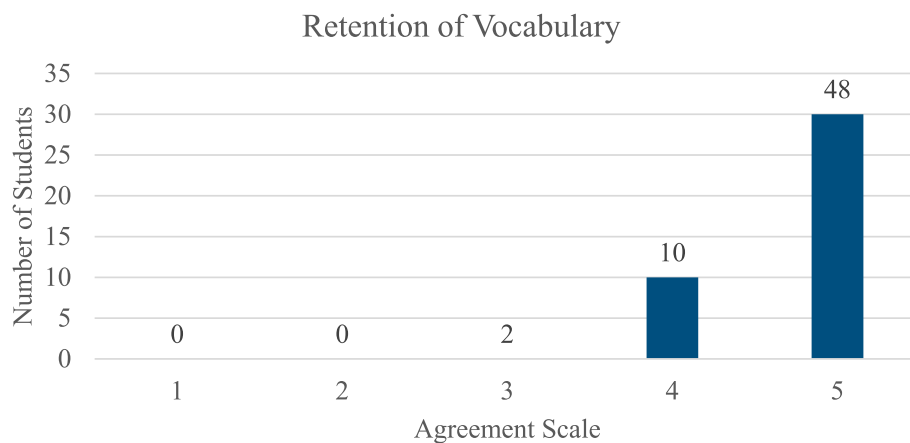
Retention of Vocabulary

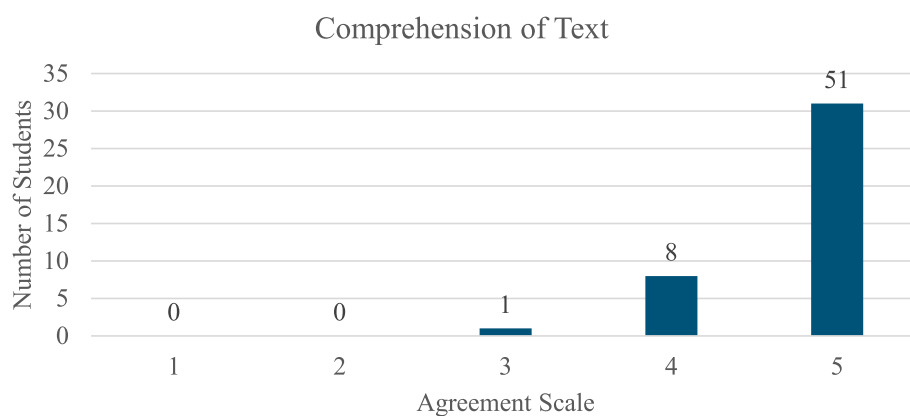**FIGURE 1**
Retention of vocabulary.

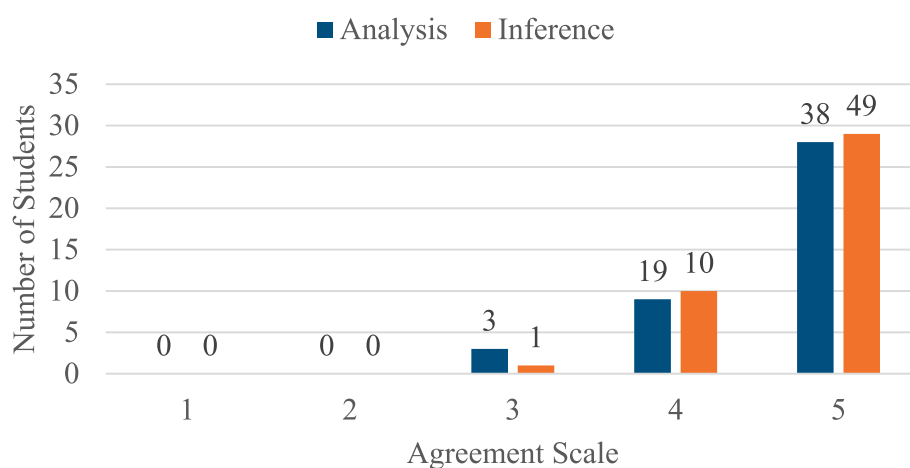## Comprehension of Text

FIGURE 2
Comprehension of text.

FIGURE 3
Analysis and inference.

from their native cultures and distorted the given information. Similarly, another study by Johnson (1981) revealed that the syntactic or semantic complexity does not play a greater role in the comprehension as compared to the cultural cues and origin of the text.

FIGURE 4
Interesting text.
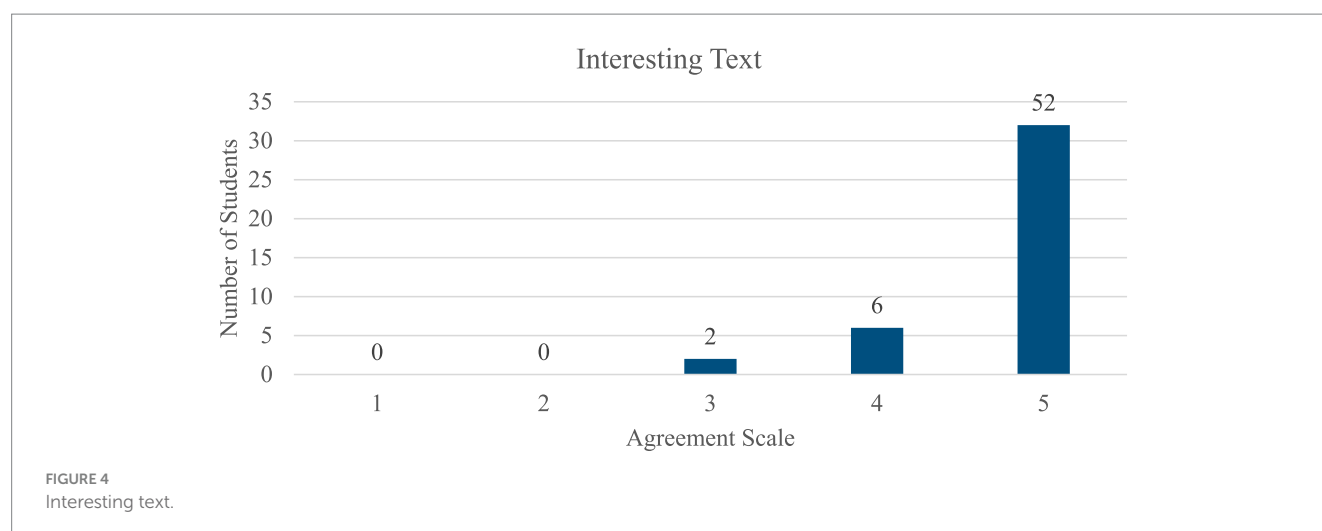
The findings are consistent with these observations; the EG provided more nuanced interpretations and critical insights in their answers, whereas the CG's responses were often brief and surface-level. Thus, students are better able to apply reading and analysis strategies when the text is familiar (Habók et al., 2024).

The last question examined if presenting a text in a familiar context, using content and cultural cues helps to make it interesting, and the majority of the sample agreed with the given statement. Previously conducted research study has implied that no matter how well a reader may know a language, he or she cannot read in that language with good comprehension if the subject matter or the content of the text is one, he or she knows absolutely nothing about (Al-Issa, 2006, p. 45).

Students usually feel distracted while reading text which has foreign themes and unknown settings, they can read lengthy text if it is engaging and they are provided with culturally relatable material, whereas reading an unfamiliar text, even a shorter one can be boring for them if it fails to activate their schema. Interest is one of the most important factors for effective learning and performance, as it helps the students to be motivated and an interesting topic or text engages the students; some students might be interested in sports and would love to read about such activities, whereas other students might get distracted and bored when presented with such material. Therefore, it is particularly important for the students to be engaged in the reading process to comprehend and critically examine or analyze the text. Usually, cultural elements or local contexts harmonize the students, using such cues can help the students to relate to the content, thus encouraging active participation.

According to schema theory, individuals leverage their relevant schemas to make sense of new information, and providing culturally familiar context facilitates this process. This aligns with research suggesting that learners are more likely to engage with and comprehend text when they can relate it to their own experiences and cultural background. Furthermore, the study illuminates the challenges encountered by L2 learners in comprehending unfamiliar foreign texts. It has been highlighted that students with lack of or low reading motivation often fall back as compared to their peers (Vaknin-Nusbaum and Tuckwiller, 2023), thus one of the key factors in making the students engage with the text is to provide them with interesting and intriguing content. When text content lacks relevance to learners' culture or beliefs,

it can impede comprehension and language acquisition. The data indicate a significant improvement in comprehension scores when participants engaged with texts incorporating culturally relevant content. Specifically, participants demonstrated a 20% increase in comprehension scores when exposed to culturally familiar schema, highlighting the pivotal role of cultural context in facilitating understanding. Qualitative data further illuminates the impact of culturally relevant content on comprehension. Participant interviews revealed a strong preference for texts that resonated with their cultural experiences, with 85% of participants expressing greater ease in understanding and connecting with such materials. This qualitative feedback corroborates the quantitative findings, emphasizing the importance of incorporating cultural relevance into language instruction.

Implications and recommendations

The study is particularly important for English language teaching and curriculum development in non-Western EFL contexts. The results reveal that employing familiar cues and activating the learners' previous knowledge can improve their reading comprehension skills. This suggests that language learning is maximized when instructional strategies are responsive to the learners' sociocultural background.

Firstly, teachers should integrate familiar cultural examples, relatable themes, and localized examples and analogies when introducing foreign and new text. When learners can draw parallels between their lived experiences and academic content, they process the new information and content more efficiently. Professional development and teacher training courses should, therefore, include training on culturally responsive pedagogy and schema-activation strategies.

Secondly, curriculum designers and textbook writers should incorporate culturally relevant cues in the foreign reading materials. Textbooks in Pakistan, and the other non-western countries still heavily rely on western narratives without enough scaffolding, which hinders L2 reading comprehension. Future materials should blend global content with local relevance, offer pre-reading schema-building tasks, and include glossaries with contextually meaningful examples.

Finally, this study provides a novel contribution to EFL research by examining how locally relevant cultural cues integrated into instruction improve comprehension of a foreign literary text among Pakistani

learners. While Schema Theory has been widely discussed, very few empirical studies have explored its application in South Asian primary and secondary classrooms, especially with a direct comparison between culturally contextualized and traditional reading instruction. Furthermore, future research may replicate this study across different grades and contexts with various genres. It would also be beneficial to examine long-term vocabulary retention and the role of digital storytelling, visual aids, and multimedia in activating learners' cultural schema.

Conclusion

The data analysis has highlighted the relation between academic content and L2 learners' performance, the research has helped to illuminate the dire need to reexamine the teaching strategies to deliver instructions on foreign academic content. It has supported the claims that contextualized content significantly improves the ESL or EFL learning process for the students. As the pedagogical practices across the world are moving away from the traditional teaching approaches, and the instructors are constantly experimenting with new methods and practices, Pakistan also needs to reevaluate its educational sector and teaching approaches. Instead of focusing on textbook exercises, and making students cram the answers, the English language teachers need to direct their attention to the learners' language skills. The purpose of English language teaching should be to make the students a competent language speaker/user. Almost all of the Pakistani English language textbooks comprise chapters written by either foreign writers or are based in unfamiliar contexts, and the teachers fail to design their lectures in a way that the content can be made relatable for the students. The education sector should pay attention to the factors hindering the effective learning of the English language, and thoroughly examine the teaching and learning strategies by assessing the L2 language learners' performances with the help of experts from the field of ELT.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Postgraduate College for Women. The studies were conducted in accordance with the local legislation and institutional requirements. Written informed consent for participation in this study was provided by the participants' legal guardians/next of kin. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

SA: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

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The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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