

Exploring Cognitive, Emotional and Psychomotor Processes of Critical Reading Skills: A Comparative Analysis of Fluent and Novice Readers

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ABSTRACT

Critical reading is a vital academic skill that involves carefully engaging with texts to explore the assumptions, arguments, and implications presented by authors. To fully grasp its importance, it is necessary to understand how critical thinking interacts with different dimensions of learning. Using Bloom's Taxonomy as a framework, this approach evaluates students' engagement with texts, ranging from basic recall to advanced cognitive skills, while considering the interplay between cognitive abilities, emotional involvement, and physical actions. Many students struggle with reading comprehension, particularly when reading academic texts in a second language. Consequently, this preliminary study is conducted to investigate how students engage with critical reading by examining their cognitive processes, emotional engagement, and psychomotor skills. A qualitative approach was applied to analyse the reading processes and behaviours of one fluent and one novice reader by using two reading passages with varied levels of complexity. Post-interview semi-structured interviews and observational notes recorded during the sessions were analysed to gain deeper insights into the participants' experiences, strategies, and perceptions regarding the think-aloud process. The findings, analysed through the lens of Bloom's Taxonomy across cognitive, affective, and psychomotor domains, revealed that the fluent reader used more sophisticated strategies, such as analysing, synthesizing, and adapting complex information. In contrast, the novice relied on simpler methods, like repetition and contextual cues, to address comprehension difficulties. These results highlight the need for differentiated teaching strategies so that fluent readers benefit from tasks promoting higher-order thinking, while novice readers require structured support to enhance their analytical abilities.

Keywords: Critical reading, Bloom's taxonomy, cognitive process, emotional engagement, psychomotor skills

INTRODUCTION

Critical reading is a foundational skill in academic discourse that transcends mere comprehension and extends to the realm of analytical interpretation. It entails a meticulous engagement with texts that goes beyond passive reception, encouraging readers to delve into the underlying assumptions, arguments, and implications presented by authors [1]. According to [2], critical reading is the cultivation of an intellectual skepticism, wherein readers question, evaluate and synthesize information, honing their capacity to discern the subtleties and biases inherent in written material. As such, it involves not only deciphering the explicit meanings conveyed by the text but also the implicit intentions and potential gaps in reasoning. Through critical reading, readers develop the ability to deconstruct complex ideas, identify logical fallacies, and construct well-informed responses [3]. It is not merely an individual pursuit, but a communal endeavour that enriches academic discourse by fostering a diverse array of interpretations and insights [4]. In essence, it empowers individuals to navigate the intricate tapestry of information with a discerning eye, enabling them to contribute meaningfully to scholarly conversations and expand the boundaries of knowledge [5].

The role of critical reading is pivotal in shaping students' oral communication skills since it serves as the foundation upon which effective speech communication is built. By engaging in critical reading practices, students learn to analyse and dissect written material, allowing them to discern the main arguments, supporting evidence, and underlying assumptions present in texts [6]. Moreover, critical reading cultivates an awareness of rhetorical strategies that enhance students' sensitivity to the persuasive techniques often used in oral presentations [7]. The practice of critically evaluating sources helps students identify credible information, enabling them to substantiate their arguments with well-researched evidence during speeches [8]. Ultimately, the integration of critical reading into speech communication courses equips the students with the cognitive tools to synthesize, interpret, and effectively convey information, fostering their competence as confident and eloquent communicators in a diverse range of contexts [9].

Since the depth and impact of critical reading should be fully understood, it is essential to examine how it engages multiple dimensions of learning. Bloom's Taxonomy offers a comprehensive framework for understanding critical reading by categorizing it across cognitive, affective, and psychomotor domains [10]. Applying Bloom's Taxonomy model would help to assess students' engagement with texts, from basic recall to higher-order skills like evaluation and creation, while also highlighting the interconnected roles of cognitive skills, emotional engagement, and physical actions. This approach provides a nuanced analysis of how the students navigate academic reading, guiding strategies to enhance their critical reading abilities [11].

Most students face significant challenges in achieving adequate reading comprehension, particularly when dealing with academic texts in a second language. Factors such as the ability to draw logical inferences, content knowledge, sociocultural knowledge, and familiarity with discipline-specific terminology [12], as well as demonstrating rhetorical understanding [13], impact their ability to engage with complex material effectively. These students struggle to develop the skills necessary for critical reading, which results in an inadequate understanding of the text and cognitive overload [14]. While researchers such as [15] have explored how sources function in reading, there remains a need to examine how students engage with critical reading at various cognitive levels. Core speech communication courses require students to develop structured and coherent reading strategies to engage with academic content effectively, yet these strategies are often lacking. In addition, the specific challenges faced by students are shaped by factors like linguistic background and sociocultural influences, which remain underexplored. On top of that, affective and psychomotor aspects play a crucial role in critical reading too. Emotional engagement influences motivation and persistence, while physical interactions with the text contribute to the overall learning experience.

As such, the objective of this study is to investigate how students engage with critical reading by examining their cognitive processes, emotional engagement, and psychomotor skills. By analysing these dimensions, the study aims to uncover the strategies and challenges faced by students when navigating complex reading tasks. Following to that, the study hopes to answer the following research questions which include:

RQ1: How do the students engage with critical reading at different levels of cognitive ability?

RQ2: What role does emotional engagement play in the students' critical reading skills?

RQ3: How do students utilize psychomotor skills in critical reading tasks?

This study is significant as it addresses the critical reading challenges faced by the students who speak English as a second language. While prior research has explored critical reading using students' first or second languages, this study fills a gap by focusing specifically on ESL undergraduate students in Pakistan. The findings can inform stakeholders, including educators and policymakers, about the complexities of the reading-to-speaking process in academic settings, and may encourage curriculum designers to better support ESL students by addressing cognitive and linguistic challenges in critical reading tasks.

LITERATURE REVIEW

A. Critical Reading

Reading is a cognitive activity which involves the reader to an active conversation with the author through the

text. According to [16], the general reading ability of an individual revolves around the background of cultural knowledge when students link the text in their minds and begin to process the meaning of the target reading material. The reader's concept-driven engagement solely depends with the source as one intelligence and experiences to understand the text [17]. Moreover, the reader's prior knowledge helps in the general understanding of the topic, the author's purpose, and the central idea in each paragraph of the reading text [18]. Similarly, reading in academic writing is an active and complicated process of mental operations involved interactively to meaning-making from the text to make sense of it with the variety of purposes in the context [19]. Readers use schemata about the topic and the structure of the text through the use of vocabulary and grammatical knowledge in reading. Reference [16] asserted that the process to understand textual information involves cognitive strategies that retrieve the useful information from bottom-up to top-down activities. These strategies directly control the information in the text through direct reading skills at the word, sentence and the text level. Due to this, reading is an important critical skill acquired in language learners for lifelong learning.

Critical reading, also called as reading strategies, determines the purpose of reading by focusing on the student's attention on a particular cognitive skill. The cognitive approach to high-order strategies and skills include identifying assumptions, detecting bias, and comparing and contrasting texts which are also eminently testable and are closely related to paraphrasing and writing abilities [20]. Reference [21] stated that critical reading triggers the contextual information and background knowledge of the readers even if the text is ambiguous, which means the readers' concepts facilitate the reading process. The critical reading jigsaw first decodes text focusing on individual words such as vocabulary and grammar defining the syntactic features of a text [18], then putting the pieces together to elaborate the 'sensory signals and reflect operations giving rise to the retrieval of a word's mental representation' [22]. The choices readers make to select, analyse, and understand texts depends on the reading context which the authors decide to align with their text's goals, genre, style, and audience bringing their cultural values to view themselves within the given context [23].

Critical thinking skills in reading connect the reader to the text by questioning and restating the text, deriving the meaning, responding and self-reflecting on the experiences, assumptions, knowledge, and perspectives before paraphrasing important points, outlining, describing aspects of the text or argument, reflecting on reading and thinking, and raising objections to the ideas or evidence presented [24]. Meanwhile, [25] defined critical reading as an analytic activity that engages students to understand, conceptualize constructs, analyse texts structures, recognize inter-textual references, synthesize information from several texts, critique arguments within texts, and build arguments for claims based on the evidence provided in the texts.

B. Cognitive and Meta-Cognitive Learning Strategies

The learning strategy in second language acquisition is a result of recognizing the characteristics of an effective learner. According to [26] and [27], language learning strategies are behaviours or actions which learners use to make language learning more successful, self-directed, enjoyable and more self-directed, more effective, and more transferable to new situations. The kind of strategies that learners use would distinguish between expert and novice language learners. According to [28], there are direct and indirect factors that differentiate expert and novice language learners that may have an impact on the production of reading skills. The direct factors are external constraints linked with content familiarity, content density, complexity, level of abstraction and length, whereas the indirect factors are internal- content and formal schemata, cognitive and meta-cognitive that put learners' under constraints during reading. The learners employ cognitive strategies during the task which involve naturalistically, analysing contrastively and summarizing while meta-cognitive strategies help learners to pay attention, self, evaluate, and self-monitor. Other factors include affective, social, memory, and compensatory that learners utilize under a time constraint.

Reference [29] found that individuals who hone their critical reading skills are better equipped to identify central arguments and discern underlying nuances in written material. These findings underscore how the skill of critically evaluating texts directly translated to the ability to analyse and communicate complex ideas verbally, thus enhancing speech communication performance. Reference [30] explored the interconnectedness of critical reading and speaking through a sociocultural lens which found that learners are able to initiate critical insight and societal knowledge development from within the English language classroom. This means that individuals who engage in critical reading practices not only expand their knowledge base but also develop a heightened

sensitivity to diverse perspectives. It is then translated to more inclusive and well-rounded speech communication as speakers are better equipped to engage with a wide range of viewpoints and adapt their communication strategies accordingly. Another study of [31] underscored how critical reading enhances cognitive flexibility, enabling individuals to think critically on the spot and respond thoughtfully during interactive speaking scenarios, further underscoring the symbiotic relationship between critical reading and speaking competence.

C. Theoretical Framework

Bloom's Taxonomy is a hierarchical model designed to classify educational objectives into three domains: cognitive, affective, and psychomotor. The taxonomy aims to guide educators in structuring learning experiences and assessments to promote comprehensive development in these areas [11]. By organizing learning goals into sequential levels, Bloom's Taxonomy helps in creating a systematic approach to education, ensuring that foundational skills are mastered before progressing to more complex tasks.

The cognitive domain, which emphasizes intellectual outcomes, is categorized into six levels which are remembering, understanding, applying, analysing, evaluating, and creating. As asserted by [11], these levels represent a progression from basic knowledge recall to higher-order thinking skills that involve synthesizing information and generating new ideas. The first level of remembering involves recalling basic facts and concepts; for reading tasks, this level requires students to identify key details and definitions from the text. The level understanding focuses on comprehending the material, such as explaining ideas in one's own words or finding connections and it is crucial for activities like paraphrasing and summarizing. Applying level involves using the knowledge in new situations which include solving problems or giving examples based on information from the text. In analysing level, it entails breaking down information to understand relationships and components, such as identifying main ideas, supporting evidence, or argument structures in a text. Meanwhile, evaluating requires making judgments based on criteria like assessing the validity of arguments or effectiveness of writing style. Lastly, creating is the highest cognitive level that involves generating new ideas or solutions by encouraging synthesizing information in novel ways and forming alternative perspectives [11]. The hierarchy suggests that students should first achieve mastery at the lower levels before advancing to more sophisticated cognitive tasks, thereby supporting the development of critical thinking abilities in educational settings [11].

In addition to cognitive domain, Bloom's Taxonomy includes the affective domain which focuses on the emotional aspects of learning, such as attitudes and values. This domain consists of five levels of receiving, responding, valuing, organization, and characterization, which represent a progression from basic awareness to the integration of values into consistent behaviour [32], [11]. The affective domain plays a crucial role in fostering social awareness and ethical considerations in education, as it emphasizes the development of learners' emotional and attitudinal engagement with content [33]. The psychomotor domain involves the development of physical skills and motor functions. Although Bloom's original taxonomy did not provide a detailed classification for this domain, subsequent frameworks have identified levels such as imitation, manipulation, precision, articulation, and naturalization [32], [11]. The psychomotor domain is particularly significant for fields that require hands-on skills where mastery of physical tasks is essential. In educational contexts, activities that engage the psychomotor domain can include actions like annotating texts, using gestures, or manipulating materials to aid comprehension. Each of these domains influences the others, with the cognitive aspect often impacting both the affective and psychomotor domains. The three aspects are interrelated and collectively contribute to the holistic development of an individual's learning experience [11].

Bloom's Taxonomy is widely used in educational planning because of its structured approach to categorizing learning outcomes, making it particularly useful in enhancing cognitive skills through guided questioning and critical analysis. It has been shown to effectively support various educational activities, including summary writing and language learning [34]. However, gaps remain in its application, particularly in integrating the affective and psychomotor domains into learning assessments and planning [35]. Additionally, the taxonomy has limitations in ensuring that all three domains are equally developed in practical educational contexts [32]. As such, the present study applies Bloom's Taxonomy as a framework for assessing students' critical reading skills during reading tasks. This holistic approach facilitates a comprehensive understanding of how students engage with academic texts and helps identify areas for instructional improvement.

METHODOLOGY

This study aims to explore the engagement of student's critical reading skill by examining their proficiency levels across three domains of cognitive, affective, and psychomotor. This study applies a qualitative approach to analyse Think-Aloud Protocol (TAP) interviews with two participants - one fluent and one novice reader - which are selected based on their International English Language Testing System (IELTS) band scores of 8 and 5, respectively. The participants involved were undergraduate students of Pakistan university. This research has obtained approval from Research Ethic Committee of Universiti Teknologi MARA in order to conduct the data collection. For ethical considerations too, informed consent was obtained from both participants, ensuring voluntary participation. Confidentiality was maintained by anonymizing the data, and the participants were briefed on the study's purpose and their right to withdraw at any time.

Drawing on the researcher's expertise as an IELTS speaking examiner and trainer, proficiency levels are accurately assessed to provide a reliable foundation for comparing critical reading skills. Moreover, post-interview semi-structured interviews and observational notes recorded during the TAP sessions were analysed to provide further insights into the participants' reading processes and behaviours. The TAP sessions were employed to capture the participants' verbalization of their reading process. Before the sessions, the participants watched a brief instructional video on TAP procedures ("Think Aloud Protocol" on YouTube) to familiarize them with the process. Two reading passages, "Advice to Little Girls" by Mark Twain and "Letter to Her Son" by Abigail Adams, were used for the tasks, chosen for their varied levels of complexity and relevance to critical reading skills. During each session, the participants were asked to read aloud and verbalize their thoughts, pausing to explain their understanding and reading strategies. They were encouraged to make annotations and underline any unfamiliar words to aid comprehension. Participants were also allowed to use their preferred language for clarification if necessary. Each TAP session lasted approximately 45 minutes and was audio-recorded, with the researcher maintaining a neutral stance to minimize interference.

Following the TAP sessions, semi-structured interviews with open-ended questions were conducted to gain deeper insights into the participants' experiences, strategies, and perceptions regarding the think-aloud process. These interviews aimed to understand the participants' reflections on how verbalizing their thoughts influenced their reading and comprehension. The interviews were transcribed and analysed to supplement the data obtained from the TAP sessions. Observational field notes were also taken throughout the TAP sessions and interviews to capture non-verbal behaviours, physical interactions with the text, and changes in the participants' demeanor. These notes included observations of posture, gestures, and prosodic features (e.g., tone and pitch), providing additional context to the participants' psychomotor engagement. The observational data were cross-referenced with the TAP transcripts to identify patterns in reading strategies and emotional responses.

The data were analysed using Bloom's Taxonomy across three domains of cognitive, affective, and psychomotor. The cognitive analysis focuses on six levels of remembering, understanding, applying, analysing, evaluating, and creating. The affective analysis examines emotional engagement and attitudes during reading, while the psychomotor analysis assesses physical interactions, such as gestures and posture changes. Manual coding was employed to identify themes and sub-themes within each domain (cognitive, affective, and psychomotor). The process began with a detailed review of the interview transcripts, during which relevant segments were highlighted and categorized based on recurring patterns, concepts, and expressions. These segments were then compiled into themes and sub-themes to capture the underlying aspects of each domain. The identified themes and sub-themes were listed, and all relevant contents related to each theme were documented in corresponding columns. This structured approach facilitates a comprehensive analysis of each participant's engagement with the tasks. Subsequently, a comparative analysis was conducted to highlight the differences and similarities between the fluent and novice readers, focusing on how each participant's behaviours, strategies, and responses aligned with the identified themes across the three domains.

FINDINGS

A. Cross Analysis of Fluent vs. Novice Participant

The backgrounds of the fluent and novice participants present a contrast that highlights differences in their

exposure to English and academic experiences, which influence their reading and comprehension skills. The fluent reader, educated entirely in English-medium institutions in Karachi, has a strong academic record with multiple distinctions in O and A levels, as well as a demonstrated familiarity with intensive academic reading. Her exposure to advanced content, including difficult theoretical texts, has equipped her with strategies for navigating complex language, such as recognizing when to use contextual clues or making connections to other fields of knowledge. She describes herself as an advanced English user and has received formal training in critical reading and paraphrasing techniques. Her approach to reading and comprehension reflects confidence and familiarity with academic content, often considering tasks like paraphrasing easy, as evidenced by her rating both passages as "A" (easy). Her reading is marked by a strategic and efficient engagement with texts, supported by a history of being guided by teachers who have emphasized critical thinking skills.

In contrast, the novice reader comes from Quetta, where her exposure to English has been more limited, and English is not the primary medium of instruction. She completed her education at an Urdu-medium college and has actively worked to improve her English skills through self-study, classes, and the use of online tools like paraphrasing websites. Although she has made significant progress in learning English, she continues to struggle with vocabulary and complex texts, often relying on strategies like translation into her native language or the use of contextual clues to understand difficult words. She rated the passages as "C" (challenging) and "B" (intermediate), indicating a perception of difficulty that contrasts with the fluent reader's assessment. Her reading experiences are less structured and involve a greater degree of trial and error, often reflecting her awareness of needing to improve and her efforts to do so. The novice reader's background suggests a self-motivated approach to learning English, though with less formal training in academic reading and writing.

These contrasting backgrounds provide a foundation for understanding the differences in their engagement with the reading tasks, which manifest across cognitive, affective, and psychomotor domains. The fluent reader's extensive exposure to English and academic training contribute to a more confident and strategic reading style, while the novice's more recent and less comprehensive experience with English leads to a cautious and adaptive approach. The disparities in their backgrounds not only shape their perceptions of difficulty but also influence the strategies they employ to tackle reading challenges, setting the stage for a deeper cross-analysis of their performance in each cognitive, affective, and psychomotor domain.

B. Cognitive Level

The cognitive engagement of the fluent and novice readers demonstrates distinct differences in their approaches to the texts "Advice to Little Girls" and "Letter to Her Son," revealing significant variations in their ability to navigate Bloom's taxonomy levels. These differences reflect their respective experiences, linguistic backgrounds, and proficiency in English, manifesting in the strategies they use to understand, interpret, and paraphrase the material.

The fluent reader consistently engages across multiple levels of Bloom's taxonomy, including understanding, applying, analysing, and evaluating. Her approach reflects a strategic adaptation of content, aiming to preserve essential meaning while making the text more accessible. For example, she simplifies "not making mouths at the teacher" to "not being rude to teachers," demonstrating a capacity to distill complex information into concise and relatable terms. She also reinterprets concepts by integrating broader knowledge, such as recasting advice on sibling exchanges into a transactional framework that draws from economic principles. This ability to apply external knowledge while rephrasing the content reflects higher-level cognitive processing that extends beyond basic comprehension. Additionally, her ability to analyse tone and intent, such as shifting "taxing" to "annoying" while still capturing the original's underlying frustration, showcases sophisticated cognitive processing that extends beyond surface-level interpretation. Moreover, in "Letter to Her Son," she replaces the specific "30 servants" with the metaphorical "a small army of servants," emphasizing the magnitude of the household's upkeep through figurative language. This choice reflects her skill in reframing content to evoke vivid imagery, thereby enhancing the material's interpretive depth. Her adaptations are typically intentional, reflecting a calculated effort to maintain clarity while still conveying the essence of the text.

On the other hand, the novice reader's cognitive engagement primarily remains at the lower levels of Bloom's taxonomy, focusing on remembering and understanding basic meanings. Her strategies frequently involve

repetition, literal translation, and simplification of language. For instance, she paraphrases "trifling offence" as "small favours" and "rag doll stuffed with sawdust" as "a doll which is very bad in condition." These efforts illustrate a reliance on recognizing surface-level content rather than engaging with deeper meanings or abstract ideas. Her tendency to interpret abstract phrases into concrete terms, such as equating "impurities" with "bad habits," reveals a struggle to move beyond literal comprehension. This fundamental approach often limits her ability to engage with more sophisticated cognitive processes, such as analysis or evaluation. Her frequent need to reread and repeat phrases suggests that her cognitive processing often stalls at the remembering and understanding stage, reflecting efforts to grasp the material through repetition but also indicating cognitive fatigue when faced with challenging vocabulary or complex sentences. Unlike the fluent reader who employs flexible strategies to adapt to the content, the novice often resorts to skipping or simplifying challenging passages. For example, she omits or simplifies phrases like "eminently plausible fiction," indicating a reliance on basic comprehension strategies, such as context clues, to navigate the text.

The differences between the fluent and novice readers become evident when they encounter challenging sections. The fluent reader exhibits cognitive flexibility by employing various strategies, such as using figurative language or drawing connections to external contexts. For instance, when interpreting advice about scolding a sibling, the fluent reader incorporates a reference to coercive techniques, reflecting an evaluative process that considers ethical dimensions and broader cultural implications. In contrast, the novice reader frequently avoids or simplifies challenging sections, opting to replace difficult phrases with basic alternatives. Her approach to abstract language is similarly literal, often missing the subtle nuances or deeper implications present in the text. This reliance on simplification highlights a tendency to resort to straightforward comprehension strategies.

The fluent reader's cognitive processing also involves a degree of intentionality when she simplifies or reframes content. For example, she addresses the irony of being surrounded by forests but lacking wood by generalizing it to a logistical issue of labor scarcity. While this adaptation may omit some of the original tone, it shows a calculated effort to convey the core message in a more direct manner. By contrast, the novice reader's simplifications tend to miss underlying themes, as illustrated by her interpretation of "the house is habitable but not finished" as "the house is not that much good." Such paraphrasing reflects a gap in understanding the broader context or critical messages, with a focus on literal descriptions rather than exploring abstract concepts. Another notable contrast lies in how each reader applies the text's ideas to broader contexts. The fluent reader frequently draws connections between the content and external knowledge, such as relating Abigail Adams' descriptions of infrastructural development to contemporary issues in Pakistan. Although her analogies may sometimes lack precision, they demonstrate an evaluative effort to contextualize historical themes within modern socio-political frameworks. In contrast, the novice reader's attempts to relate the content to real-life experiences are often basic, as seen in her descriptions of hostel life or simple explanations of sibling exchanges. Her application level remains concrete, indicating a limited capacity to transfer ideas beyond familiar scenarios.

Overall, the cognitive approaches of the fluent and novice readers reflect divergent levels of engagement with the material. The fluent reader exhibits a sophisticated understanding, characterized by strategic adaptations, integration of external knowledge, and a willingness to analyse and evaluate the content. Her cognitive processing spans multiple levels of Bloom's taxonomy, allowing her to engage with the texts in a nuanced and multi-dimensional manner. On the other hand, the novice reader's engagement is constrained, focusing on recalling information and understanding basic meanings. Her strategies involve simplification and literal interpretation, reflecting challenges in advancing beyond surface-level comprehension. The cognitive disparities between the two readers highlight how their backgrounds, experiences, and language proficiencies shape their approaches to critical reading, underscoring the need for targeted support to help students develop higher-order cognitive skills.

C. Affective Level

The affective engagement of the fluent and novice readers shows clear differences in their attitudes, emotional responses, and strategies for managing reading tasks, reflecting their varied levels of experience and proficiency. While both exhibit a willingness to engage with the texts, their emotional approaches diverge significantly based on confidence, anxiety levels, and the strategies they employ to navigate challenges.

The fluent reader's affective approach is characterized by a deliberate balance between emotional detachment and selective engagement. Her strategy of maintaining a "detached manner before actually looking at what it says" allows her to process the material analytically, focusing on extracting meaning without being swayed by immediate emotional responses. This approach supports her ability to condense the text and prioritize clarity, often omitting details she considers less relevant. However, her detachment is not absolute; she shows moments of affective engagement when the content resonates with her interests or values. For example, in "Advice to Little Girls," she connects with the satirical humor, describing it as an "ethical guideline in my favor." This reaction indicates a shift from detachment to a more personal connection, allowing her interpretation to be shaped by her enjoyment and the underlying message. Her familiarity with the historical context of "Letter to Her Son," where she associates the letter with the wife of a U.S. President, adds an element of personal interest that enhances her willingness to engage more deeply. These moments of connection reflect her flexibility in shifting between emotional involvement and detachment, enabling a dynamic engagement with the text based on its relevance.

In contrast, the novice reader's affective engagement is marked by anxiety, self-doubt, and determination. She frequently expresses difficulty with vocabulary and complex passages, indicating a heightened awareness of her limitations. Her anxiety is evident through statements like "this passage is quite tough," reflecting apprehensiveness about her comprehension abilities. This stress is compounded by time pressure, as she emphasizes the importance of "time management," suggesting that she feels overwhelmed by the demands of the tasks. Nevertheless, the novice reader exhibits a persistent effort to overcome these challenges, employing strategies such as rereading, using contextual clues, and thinking aloud to reinforce her understanding. Her approach demonstrates a proactive willingness to engage with the text, as she is willing to try multiple techniques to aid comprehension, such as reading aloud to stay focused or switching to her native language for clarification. This flexibility shows that despite her struggles, she does not give up easily, displaying a level of persistence that reflects a genuine commitment to tackling the tasks.

Both readers show variability in their engagement, yet the nature of their connections to the text differs. The fluent reader is more adept at integrating her personal experiences and external knowledge to enrich her interpretation. For instance, she draws parallels between the infrastructural descriptions in "Letter to Her Son" and urban planning issues in Pakistan, situating the text within a broader socio-cultural context. Her ability to find relevance in the material allows her to connect affectively without letting emotional responses dominate her analytical process. On the other hand, the novice reader's connections are more concrete and situational, often tied to immediate experiences such as life in a hostel or personal challenges. For example, she relates the passage about unacknowledged problems to her own situation of being unable to express dissatisfaction with the food. While these connections reflect a level of emotional involvement, they tend to remain at a literal level, focusing on familiar and specific experiences rather than abstract insights.

The strategies used to manage affective responses also differ significantly. The fluent reader's nuanced approach allows her to navigate between detachment and engagement fluidly. Her initial detachment helps her maintain an objective perspective, while selective engagement enriches her reading when the content aligns with her values or interests. For instance, her appreciation of the humor in Twain's writing or the historical significance in Adams' letter adds layers to her understanding. In contrast, the novice reader frequently resorts to simplifying complex content or avoiding abstract language, reflecting a reluctance to engage deeply. This pattern is particularly evident when she encounters phrases like "humour their little foibles until they get to crowding you too much," where she acknowledges the difficulty and remains open to "exploring" the meaning but defaults to more straightforward interpretations. This cautiousness indicates a struggle to balance affective involvement with cognitive demands.

Both participants exhibit moments of resilience in their affective responses. The fluent reader's confidence allows her to shift flexibly between emotional detachment and engagement, adapting her reading style to the text's demands. Her strategy of omitting or generalizing details, such as simplifying "30 servants" to "a small army of servants," illustrates a practical approach to managing affective responses without sacrificing the text's essential meaning. Meanwhile, the novice reader's willingness to adapt her strategies, such as using familiar methods like contextual clues or thinking aloud, shows determination despite her anxiety. Her emotional engagement is often shaped by a need for familiarity, which prompts her to retreat to safer interpretive strategies

when faced with challenging content.

Overall, the cross-analysis reveals that the fluent reader's affective engagement is characterized by adaptability, confidence, and the capacity to connect with the text meaningfully. This flexible approach allows her to engage with the material at multiple levels, enriching her understanding through personal connections while maintaining analytical focus. In contrast, the novice reader's affective responses are shaped by anxiety, cautiousness, and a reliance on practical strategies to manage comprehension. Her engagement reflects a mix of resilience and self-doubt, demonstrating an ongoing effort to balance emotional involvement with the cognitive demands of reading. The differences in their affective approaches underscore how confidence, familiarity with academic content, and emotional responses influence their ability to navigate reading tasks effectively.

D. Psychomotor Level

The psychomotor engagement of the fluent and novice readers presents a compelling contrast in how physical behaviours, gestures, and interactions with the text reflect their cognitive and emotional processing during reading and paraphrasing tasks. While both participants demonstrated a dynamic relationship between physical actions and cognitive effort, the nature and consistency of these behaviours revealed significant differences in their approaches, levels of comfort, and strategies for managing the tasks.

Both readers exhibited initial signs of anxiety, but their responses to this anxiety and how they managed it diverged. The fluent reader showed minor anxiety-related behaviours, such as fidgeting with a pen and tucking her hair behind her ear, yet she quickly settled into the tasks, using strategies like tracing words with her pen and leaning forward to maintain focus. This early shift to an active engagement style, characterized by sitting cross-legged and leaning into the task, suggests a readiness to immerse herself in the material and manage her anxiety through controlled and deliberate physical actions. Her initial detachment in these physical actions allowed her to maintain analytical focus, with her gestures and movements reflecting a measured and controlled approach to the task. In contrast, the novice reader's psychomotor responses indicated a more prolonged and fluctuating state of anxiety. She started with an upright posture and an enthusiastic demeanor, signaling her willingness to engage. However, as the tasks progressed and became more challenging, subtle signs of discomfort appeared, such as darting eye movements between the papers, licking her lips, and gradually bending over the table. These behaviours suggested that her initial confidence waned with increased task difficulty, leading to more pronounced physical manifestations of cognitive effort and anxiety as she tried to adapt. The physical stance shift from sitting upright to leaning forward, resting both elbows on the table, signaled a deepening cognitive effort and possibly cognitive fatigue as she struggled to keep up.

The evolution of posture during the sessions highlighted key differences between the two participants. For the fluent reader, the transition from a more closed posture to an open and upright stance paralleled her increasing comfort and immersion in the tasks. Her physical demeanor became more relaxed as the session progressed, with her posture changes mirroring a shift towards reading larger sections and employing more complex paraphrasing strategies. This indicates a positive feedback loop, where physical comfort supports deeper cognitive involvement, allowing for a more fluid adaptation to the task's demands. In contrast, the novice reader's posture evolved in the opposite direction. As the tasks continued, she became more bent over the paper, reflecting on a need to "close in" on the text to extract meaning. This stance suggested a struggle to maintain engagement and manage the task demands, highlighting the cumulative stress of the tasks. The novice's physical responses, such as frequent posture adjustments and fixing her hijab, signaled a battle to sustain focus and energy, especially during more challenging sections. Her more pronounced signs of fatigue compared to the fluent reader underscored the physical toll taken by the tasks.

The use of tools like a pen also differed between the two participants, providing insights into their respective strategies for managing cognitive load. The fluent reader employed the pen consistently to guide her reading and segment larger text portions, demonstrating a proactive approach to integrating psychomotor actions with cognitive strategies. Her use of the pen facilitated concentration and helped break down the material into manageable parts, showing a deliberate effort to utilize physical tools as part of her comprehension strategy. For the novice reader, the use of the pen was more reactive. Initially, she did not use the pen as a guide but began incorporating it after being instructed to underline difficult words. Her subsequent behaviours, such as

underlining and scratching out sections, indicated that her psychomotor strategies emerged as responses to the text's challenges rather than as established techniques to aid comprehension. This behaviour reflected a developing strategy for managing cognitive load, contrasting with the fluent reader's preemptive and integrated use of physical tools.

The relationship between language use and psychomotor behaviour also revealed differences in how these elements interact for each reader. For the fluent reader, her physical actions, such as hand gestures, were closely aligned with her cognitive processing, serving not just as reflexive movements but as essential components of articulating complex ideas. Certain behaviours also revealed emotional responses to the content, which were reflected in her psychomotor actions. For instance, when encountering terms like "crime" or "torture," she would smile or show a knowing expression, indicating a recognition of the concepts and possibly an association with prior knowledge, such as her reference to CIA interrogation techniques. These moments of recognition were often accompanied by shifts in tone, with her reading becoming more lilting or musical, suggesting a sense of familiarity or comfort with the material. The integration of gestures with verbal expression showed a seamless coordination between her psychomotor behaviours and cognitive engagement. In contrast, the novice reader's connection between language use and psychomotor behaviours was more prominent when she switched to her native language. When using Urdu, she appeared more relaxed and animated, using her hands more freely and adopting a playful tone. This shift indicated that familiar linguistic resources reduced cognitive demand, enhancing her comfort and fluidity in engaging with the material. Her physical behaviours, such as sitting more comfortably and speaking faster, reflected a reduction in anxiety and supported her cognitive processing. While both readers exhibited shifts in tone, such as the fluent reader's more musical voice during familiar content and the novice's expressive manner in her native language, the underlying factors differed, with the fluent reader's shifts linked to conceptual familiarity and the novice's tied to linguistic ease.

Task transitions and fatigue management further underscored the differences in psychomotor adaptation between the two readers. The fluent reader's physical responses evolved steadily, with signs of fatigue appearing subtly, such as lowering her voice and stretching towards the session's end. Her adaptive strategies, including adjusting her reading pace and breaking down text segments, allowed her to manage cognitive load without significant disruptions in engagement. She, like the novice, audibly sighed at the session's end, suggesting a shared sense of relief and fatigue. For the novice reader, her interactions with the text illustrated her struggle to maintain engagement when encountering difficult content. For instance, when her voice dipped to inaudibly low levels while reading hard sections, it indicated an internal struggle and possible cognitive overload. However, when she returned to simpler sections or used her native language, her posture became more upright, and her voice regained volume, demonstrating a fluctuating level of engagement influenced by the perceived difficulty of the task. This shift between confidence and apprehension was further reflected in her eye contact with the researcher; she tended to avoid eye contact when feeling unsure but looked up and engaged more readily when discussing familiar or personally relevant examples. These behaviours signaled an ongoing effort to regain focus and manage energy levels.

Overall, the psychomotor engagement of the fluent and novice readers highlighted significant differences in managing task demands. The fluent reader exhibited a more integrated and stable approach, where physical actions facilitated cognitive processes and adapted seamlessly to evolving challenges. In contrast, the novice reader's psychomotor responses were more reactive and inconsistent, with fluctuations influenced by task difficulty and language use. These differences reveal varying degrees of coordination in utilizing psychomotor strategies to support cognitive and emotional engagement, offering a nuanced understanding of how physical behaviours intersect with reading and comprehension efforts.

DISCUSSION AND CONCLUSION

The discussion of this study aims to integrate the findings from the cognitive, affective, and psychomotor analyses of the fluent and novice readers, drawing connections between the primary data and existing literature. By examining the participants' engagement with critical reading tasks through the lens of Bloom's Taxonomy, the discussion explores the implications of their distinct backgrounds, skills, and strategies in navigating academic texts. The findings also provide insights into the broader challenges and instructional needs of Pakistani undergraduates learning English as a second language, aligning with the study's research questions.

The cognitive engagement of the fluent and novice readers highlights the differences on how each participant approached the reading tasks. The fluent reader's background, characterized by English-medium education and formal training in critical reading, facilitated her ability to navigate higher levels of Bloom's Taxonomy. She demonstrated proficiency in understanding, applying, analysing, and evaluating the texts. Her strategies, such as paraphrasing complex phrases into simpler terms and integrating external knowledge, align with [36] assertion that fluent readers utilize schema and mental models to enhance comprehension. This is consistent with [37] observation that fluent readers engage in higher-order thinking skills like evaluating and decision-making, allowing them to process text more efficiently and draw connections across contexts [38]. Her ability to navigate complex ideas and integrate external knowledge, such as interpreting advice in economic terms like "capitalist transaction," aligns with findings by [38], who observed that critical readers can navigate complex texts and draw connections across various contexts. Additionally, her familiarity with rhetorical techniques enabled her to engage with metaphorical language and underlying messages, reflecting the cultivation of critical reading skills that enhance sensitivity to persuasive strategies, as noted by [7].

Conversely, the novice reader primarily operated at the lower levels of Bloom's Taxonomy, focusing on remembering and understanding. Her reading process often involved labor-intensive decoding and frequent repetitions to grasp basic meanings, reflecting [39] findings that novice readers have higher cognitive loads, which can impede deeper engagement with texts. The novice's frequent reliance on surface-level strategies, such as translating difficult sections into her native language and using contextual clues to deduce word meanings, indicates a struggle to engage with abstract concepts and higher-order cognitive tasks. This aligns with [40] findings that novice readers tend to focus on surface-level understanding, often requiring explicit instruction in critical reading strategies [41].

Both readers demonstrated evidence of leveraging prior knowledge during the tasks, although the extent and depth of this engagement differed. The fluent reader's use of background knowledge was more advanced, such as when she connected historical content to socio-political contexts in Pakistan, whereas the novice's connections were more basic, often reflecting concrete or familiar examples. This difference supports the idea that readers' concept-driven engagement is influenced by their intelligence and experiences, which help in understanding the topic, author's purpose, and central ideas within the text [18]. The nature of the tasks also played a significant role in shaping the cognitive responses of both readers. Although the fluent reader effectively navigated multiple levels of cognitive processing, she did not reach the "creating" level of Bloom's Taxonomy. This limitation likely stemmed from the nature of the reading tasks, which did not explicitly require generating new ideas or solutions. As a result, while the fluent reader demonstrated a sophisticated engagement with the texts, the highest cognitive level remained unexplored. This observation suggests that the design of academic tasks can influence the extent to which higher-order cognitive skills are activated, as indicated by the absence of a task that required synthesis or original creation.

The affective engagement of the two readers further underscores the impact of their backgrounds on their reading experiences. The fluent reader's approach was characterized by a balance between emotional detachment and selective engagement, which allowed her to maintain an objective stance while reading. She often adopted a "detached manner", particularly during complex passages, enabling her to focus on content without being overwhelmed by emotional responses. However, her affective responses became more pronounced when she encountered material that resonated with her interests or prior knowledge, such as the historical context in "Letter to Her Son." This adaptive affective engagement reflects the ability of fluent readers to modulate their emotional involvement based on the content, supporting a more flexible reading strategy.

In contrast, the novice reader's affective responses were marked by anxiety, self-doubt, and a persistent effort to overcome challenges. Her recognition of vocabulary difficulties, such as when she noted that "understanding complex vocabulary is quite tough," indicated a high level of self-awareness about her limitations. Despite these obstacles, her willingness to employ various strategies, such as rereading, thinking aloud, and using her native language, demonstrates a proactive approach to managing comprehension challenges. These behaviours align with the findings of [41] that novice readers can still benefit from targeted instruction to develop deeper reading strategies. Nevertheless, the novice's persistent engagement, even when faced with anxiety, highlights a determination to improve, showing that emotional engagement can play a crucial role in maintaining motivation for reading tasks.

The psychomotor domain also revealed notable differences in how the fluent and novice readers utilized physical actions to support their cognitive processes. The fluent reader's use of gestures, such as tracing words with a pen and employing "bunny hands" for emphasis, suggests a kinesthetic approach to managing cognitive tasks. Her ability to integrate gestures into her reading strategy reflects a well-developed coordination between psychomotor actions and cognitive engagement, as noted by [42] who observed that fluent readers benefit from advanced comprehension strategies during reading. Additionally, the fluent reader's physical behaviours, such as adjusting her posture to a more open stance as the session progressed, indicated growing comfort and cognitive immersion in the tasks. The novice reader's psychomotor responses, however, showed a more reactive pattern, characterized by fluctuations in posture and physical behaviours depending on the difficulty of the task. When encountering complex content, she often bent over the paper and adjusted her posture to "close in" on the text, indicating cognitive fatigue. Her use of tools, like the pen, emerged as a coping mechanism rather than a proactive strategy, suggesting that her psychomotor behaviours were more directly influenced by the immediate demands of the task. This aligns with [43] findings that novice readers often focus on decoding and may struggle with maintaining consistent engagement across varying task difficulties. Notably, the use of her native language seemed to alleviate some cognitive load, as seen in her more animated gestures and expressive tone, demonstrating the supportive role of familiar linguistic resources in enhancing psychomotor engagement.

The backgrounds of the participants played a significant role in shaping their engagement across cognitive, affective, and psychomotor domains. The fluent reader's extensive exposure to English-medium education, formal training in academic reading, and familiarity with critical reading strategies provided her with the tools to engage with texts at multiple levels of Bloom's Taxonomy. In contrast, the novice reader's background in an Urdu-medium educational setting and more recent self-motivated efforts to improve her English created a context where reading tasks were approached with caution and adaptive strategies. The disparities in their educational experiences, exposure to English, and perceived difficulty of the texts shaped not only their perceptions of the tasks but also their methods of navigating academic content.

Overall, the discussion reveals that the distinct cognitive, affective, and psychomotor strategies employed by the fluent and novice readers are shaped by their educational backgrounds, language proficiency, and exposure to English. The fluent reader's advanced training and extensive experience facilitated a more confident and flexible engagement across all three domains, while the novice's limited exposure necessitated more reactive and adaptive strategies. These differences highlight the importance of considering factors such as content familiarity, cognitive strategies, and emotional responses in educational planning [44], [45], [46], suggesting that personalized instructional approaches can better address the varied needs of Pakistani undergraduates learning English. While fluent readers may benefit from tasks that encourage them to reach higher levels of cognitive engagement, such as "creating" solutions or generating new perspectives, novice readers may require explicit instruction in strategies for deeper analysis, inference, and synthesis to bridge the gap between surface-level understanding and critical reading. Training in cognitive strategies has been shown to improve critical reading skills among novice readers [40], suggesting that targeted support can enhance their abilities to engage with complex texts.

Ultimately, this study highlights that critical reading is not a one-size-fits-all skill but a multifaceted process shaped by cognitive, affective, and psychomotor dimensions. For Pakistani undergraduates learning English as a second language, addressing the interplay of these domains through personalized teaching strategies and varied task designs can foster a more comprehensive development of critical reading skills, thus better preparing students for academic success.

This study explored the critical reading skills of Pakistani undergraduates, revealing distinct differences between fluent and novice readers across cognitive, affective, and psychomotor dimensions. The fluent reader demonstrated a more integrated approach, using advanced strategies to analyse, synthesize, and adapt complex content, while the novice relied on basic techniques like repetition and contextual clues to navigate comprehension challenges. These findings emphasize the need for tailored instructional strategies, where fluent readers can benefit from tasks that push them toward higher cognitive levels, and novice readers require structured support to develop deeper analysis skills. The interconnected nature of cognitive, emotional, and physical behaviours in reading highlights the importance of recognizing diverse learner profiles, with holistic educational practices that cater to individual strengths and challenges, ultimately equipping students to engage

meaningfully with complex academic content.

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CONFLICT OF INTEREST

It is confirmed that there are no conflicting interests and that the research was conducted impartially and ethically. The conclusions presented in the manuscript are solely based on the analysis of the data collected during the study.

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