

CHAPTER II

LITERATURE REVIEW

This chapter reviews the existing literature and theoretical underpinnings regarding the relationship between reading fluency and comprehension among EFL Students. The chapter concludes by presenting the study's hypotheses.

2.1 Reading Fluency in EFL Context

2.1.1 Definitions and Components of Reading Fluency

A wide range of definitions has emerged in relation to reading fluency. In the early definitions of fluency, the construct was described as ease in word recognition, being considered the result of proficient decoding, that is, accuracy (Meggiato et al., 2025). Pikulski & Chard (2005) expanded this understanding, defining reading fluency as the ability to recognize words efficiently and effectively, permitting readers to construct the meaning of text. Later, Rasinski (2012) notes fluency as reading with and for meaning. Fluency, therefore, is made up of two distinct components at two ends of the reading spectrum: automaticity in word recognition and prosody or expression in oral reading that reflects the meaning of the text (Rasinski, 2014, p. 4). The components which are described below.

1) Automaticity

Automaticity in word recognition refers to the ability to recognize or decode words not just accurately, but also automatically or effortlessly. For a process to be automatic, it must be fast, effortless, autonomous, and able to be completed without conscious control or attention (Laberge & Samuels, 1974; Logan, 1988). When applied to reading, these elements are noticeable. Speed can be seen in the instantaneous reading of sight words, which are read as a whole from memory and are far faster than any analytic process such as using analogy or phonemic decoding (Ehri, 1998). Speed is thought to develop concurrently with accuracy as students engage in reading practice (Logan, 1988). As automaticity grows, readers' performance improves in both speed and accuracy (Kuhn et al., 2010). Effortlessness is obvious when observing a fluent reader read for hours without a break. This is also linked to lack of demand on attentional resources, meaning that

when word recognition is automatic, attention can be devoted to understanding what is read (Laufer & Hulstijn, 1994). Automaticity is most easily seen by the lack of control a reader has over word recognition. The process is encapsulated and occurs whether a reader wishes to read the words or not, as evidenced by the Stroop effect (Ehri, 1987). Finally, automatic processes happen so quickly that they are beyond conscious control or analysis by the reader. This lack of conscious control in word recognition differentiates fluent from disfluent readers (Kuhn et al., 2010). Disfluent readers tend to be keenly aware of the steps they need to undertake to determine the words in a text and find the process to be slow and deliberate. However, because word recognition has become automatic for fluent readers, they are able to identify nearly every word they encounter without conscious attention.

When these processes are sufficiently automatized, this frees up working memory space for additional, or more complex comprehension processes. Conversely, when word recognition processes are not efficient, they cause a bottleneck that constrains the operation of comprehension processes in working memory (Laufer & Hulstijn, 1994; Perfetti, 1985).

2) Prosody

Prosody refers to reading with expression. It is sometimes described as the melodic element in reading (Rasinski et al., 2009). It relates to the ability to read with punctuation and with appropriate expression and intonation, which ensures the meaning is maintained (Kuhn et al., 2010). Prosody is fluency's connection to meaning or comprehension. Schreiber (1991) notes that fluent reading is usually characterized by readers who read at an appropriate rate, but who also convey meaning through their voices such as pitch, stress, and appropriate phrasing. Rasinski (2004, p. 4) notes that "when readers embed appropriate volume, tone, emphasis, phrasing, and other elements in oral expression, they are giving evidence of actively interpreting or constructing meaning from the passage." Furthermore, Rasinski (2012) highlights that prosody is not solely relevant to oral reading. He found that readers who practice reading aloud tend to hear their own voices even when reading silently, which in turn enhances their comprehension during silent reading. Although prosody is one of the essential components of fluency, it is often

overlooked in assessment. In a systematic review conducted by Meggiato et al. (2025), it was found that among studies investigating the relationship between reading fluency and reading comprehension, the evaluation of prosody as part of reading fluency was frequently neglected. EFL students must understand that achieving fluency in reading requires a huge exposure to printed texts and regular practice in reading aloud. Grabe & Stoller (2020) explain that practice reading aloud helps build the connection between sounds and meanings and provides additional exposure to vocabulary and grammatical patterns. Furthermore, they state that this strengthens the foundation for EFL students' silent reading skills as they internalize the rhythm and structure of the target language while reading aloud.

2.1.2 Measuring Reading Fluency

Reading fluency is an important component of reading competence that requires reliable and valid assessment methods to reflect its multidimensional nature. In the context of learning English as a foreign language (EFL), several commonly used instruments for measuring reading fluency include the Reading Curriculum-Based Measurement (R-CBM), Words Correct Per Minute (WCPM), Multidimensional Fluency Scale, and NAEP Oral Reading Fluency Scale.

2.1.2.1 Reading Curriculum-Based Measurement

Curriculum-Based Measurement (CBM) is a general framework for assessing students' academic progress using curriculum-aligned tasks (Deno, 1985). Its reading component, known as Reading Curriculum-Based Measurement (R-CBM), specifically evaluates oral reading fluency (ORF) through indicators such as words correct per minute (WCPM). It serves as an indicator of a reader's automaticity in word recognition, reflecting both speed (rate) and accuracy during oral reading (Fuchs et al., 2001).

R-CBM has been widely used in both research and instructional contexts to monitor students' reading progress and to identify those who may need fluency intervention (Hasbrouck & Tindal, 2006; Hosp et al., 2016). The following are the procedures in R-CBM.

1) Selection of Reading Passage

To begin with, a reading passage is selected that corresponds to the students'

instructional level.

2) Reading Administration

During the administration phase, the student reads the passage aloud while the teacher follows along silently using a copy of the text. Errors such as mispronunciations, omissions, substitutions, or hesitations longer than three seconds are marked with a slash (/), whereas self-corrections made promptly are not penalized (Fuchs et al., 2001). At the end of one minute, the last word read is marked with a bracket (]). If a student skips an entire line of a reading passage, then a straight line is drawn through the skipped line (see Figure 1).

It was Saturday morning and Ellie wanted to go see a movie.	12
She asked her father if he would take her downtown. "Sure," said Dad.	25
"I have to go in to work anyway. It will be right on my way."	40
Ellie called her friends Beth, Katie, and Laura to see whether	51
they could go. They said yes. They went to Ellie's house. There they	64
all got into Dad's car. Then Dad drove to the movies.	75
There were two movies playing. One movie was about a boy	86
and a dog. The ticket lady said it was funny. The other movie was	100
about a mummy . It looked scary. The name of it was "The Mummy	113
Walks Again!" There was a picture of the mummy on the wall. He	126
looked creepy. The girls asked the ticket lady about the movie. She	138
said she had heard people scream when they saw the mummy.	149

Figure 1 Teacher Record Sheet for R-CBM Administration

3) Scoring

After the reading, the teacher calculates the Words Correct Per Minute (WCPM) score by subtracting the total number of errors from the total words attempted and dividing by the total time and multiplying by 60. This score reflects the students' rate and accuracy simultaneously, which together serve as indicators of automaticity in word recognition, an essential component of fluent reading (Hasbrouck & Tindal, 2006).

R-CBM is viable option for most teacher to measure students' automaticity in word recognition, as it provides a valid snapshot of students' reading performance and can be administered quickly (Rasinski, 2004). It serves as an efficient tool for monitoring students' reading progress over time (Hasbrouck & Tindal, 2006).

2.1.2.2 Words Correct Per Minute

Words Correct Per Minute (WCPM) is one of the most widely used to assess reading fluency. This concept is rooted in the Curriculum-Based Measurement (CBM) approach developed by Deno (1985) as a tool for direct and continuous academic progress monitoring. It measures the number of words a reader can accurately read aloud within one minute, combining both speed (rate) and accuracy as key indicators of automaticity in word recognition (Fuchs et al., 2001).

The term WCPM itself was later popularized and standardized by Fuchs & Fuchs (2007) through various publications and technical guides, including using CBM for Progress Monitoring in Reading, which explains the administration procedures and interpretation of results systematically. Procedure for WCPM involves asking the students to read a passage aloud for one minute and the teacher records errors such as mispronunciations, omissions, substitutions, or skipped words while counting the total number of words attempted. The number of correctly read words is then calculated using the formula:

$$WCPM = \frac{C - E}{S} \times 60$$

Where:

WCPM = Word Correct Per Minute (Fluency)

C = Total Words the Students Read

E = Errors

S = Total Seconds

The score reflects a reader's efficiency in decoding and recognizing words automatically, which enables the allocation of more cognitive resources toward comprehension (Laberge & Samuels, 1974). As readers gain fluency, their WCPM typically increases, indicating that decoding has become more effortless and that mental attention can shift to meaning construction. Below the average reading fluency rates by grade level and age (see Table 1).

Table 1

Average Reading Fluency Rates by Grade Level and Age

Grade Level and Age	Words-Per-Minute (wpm)
1 st Grade (Spring) 6 – 7 years old	53 – 111 wpm
2 nd Grade (Spring) 7 – 8 years old	89 – 149 wpm
3 rd Grade (Spring) 8 – 9 years old	107 – 162 wpm
4 th Grade (Spring) 9 – 10 years old	123 – 180 wpm
5 th Grade (Spring) 10 – 11 years old	139 – 194 wpm
6 th – 8 th Grade (Spring) 11, 12, 13, 14 years old	150 – 204 wpm
Highschool 14, 15, 16, 17, 18 years old	200 – 300 wpm
College 18-23 years old	300 – 350 wpm
Adults	220 – 350 wpm

Note. Brysbaert (2019). How many words do we read per minute? A review and meta-analysis of reading rate. *Journal of Memory and Language*, 109, Article 104047. <https://doi.org/10.1016/j.jml.2019.104047>; Hasbrouck & Tindal (2017). An Update to Compiled ORF Norms (Technical Report No. 1702). Behavioral Research and Teaching, University of Oregon.

WCPM is highly practical for classroom use. It provides teachers with an immediate, objective measure of reading growth and helps identify students who may require fluency intervention.

2.1.2.3 Multidimensional Fluency Scale

The Multidimensional Fluency Scale (MFS), developed by Zutell and Rasinski (1991) and later refined by Rasinski (2004) in *Assessing Reading Fluency*, offers a more comprehensive assessment of reading fluency that goes beyond traditional measures of rate and accuracy. He emphasized that true fluency reflects not only automaticity in word recognition but also prosody or the expressive, meaningful, and rhythmical aspects of oral reading that indicate comprehension.

The MFS serves a tool for evaluating prosody in reading fluency through both quantitative and qualitative dimensions (see Enclosure 3). The scale assesses

four interrelated components of fluent reading performance: expression and volume, phrasing, smoothness, and pace. Each component is rated on a four-point scale, where higher scores reflect more natural, expressive, and meaning-driven reading. Expression and volume measure how well the reader conveys tone and emotion appropriate to the text. Phrasing evaluates the reader's ability to group words into syntactically and semantically meaningful units. Smoothness reflects the flow of reading, considering hesitations, repetitions, or self-corrections, while pace indicates whether the reading rate supports comprehension rather than hindering it. Students can have a total of 16 points, which is the maximum score that the MFS provides. It gives each student a different total point and an accurate assessment of their prosody based on their reading performance (Jihye, 2021).

2.1.2.4 NAEP Oral Reading Fluency Scale

The NAEP Oral Reading Fluency Scale was developed by the National Assessment of Educational Progress (NAEP) and first introduced by Pinnell et al. (1995) as a national framework for describing students' oral reading performance. The scale was later adopted in the NAEP 2002 Reading Study to assess how fluency reflects comprehension through phrasing, expression, and accuracy in reading connected text. The scale consists of four performance levels, which describe the degree of fluency and prosodic control demonstrated by a reader (see Table 2).

This scale helps teachers and researchers evaluate fluency as a reflection of comprehension by observing how readers use phrasing, pacing, and intonation when reading aloud. The NAEP Oral Reading Fluency Scale is widely used for national reporting and large-scale assessments because of its clear descriptors and simple structure.

However, the four-point scoring system provides only a general picture of a reader's fluency. The range between levels can represent large variations in performance, so it may not capture smaller progress or differences among learners with similar abilities. In classroom contexts, this makes the scale less precise for giving detailed feedback (Jihye, 2021).

Table 2

NAEP's Oral Reading Fluency Scale

Level	Description
4	Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some of most of the story is read with expressive interpretation.
3	Reads primarily in three or four-word phrase groups. Some smaller groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.
2	Reads primarily in two-word phrases with some three or four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to larger context of sentence or passage.
1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur – but these are infrequent and/or they do not preserve meaningful syntax.

Note. National Center for Education Statistics. (1995, August). *Listening to children read aloud: Oral fluency* (NCES 95-762). U.S. Department of Education, Institute of Education Sciences. <https://nces.ed.gov/pubs95/web/95762.asp>

2.2 Reading Comprehension in EFL Context

2.2.1 Definition and Nature of Reading Comprehension

According to Dennis (2008), reading comprehension is a complex interaction between recognizing printed symbols and interpreting the meanings they represent. Kirby (2007) defines reading comprehension as the process of understanding written text, which is the primary goal of reading and serves as a prerequisite for meaningful learning. Reading comprehension is not a skill that develops naturally like listening comprehension; rather, it is the result of deliberate and complex cognitive practice. The human brain did not naturally evolve to read. Therefore, this activity requires instructional support and systematic practice.

In order to understand effectively, readers use various strategies for comprehension. There are three main types of strategies: bottom-up strategies, top-

down strategies, and interactive strategies. The strategies which are described below.

1) Bottom-up Strategies

The bottom-up reading strategy is characterized as a reading by constructing meaning from the smallest to the largest components, while adjusting prior knowledge and making predictions (Gough, 1972). Words are combined into phrases, and phrases are formed into more abstract units called propositions or ideas (see Figure 2).

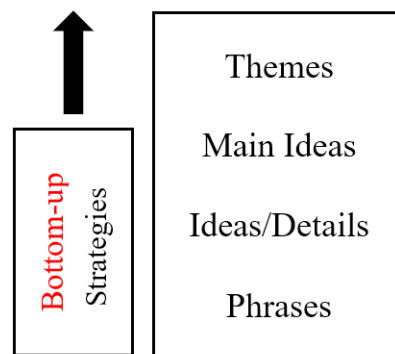


Figure 2 Bottom-up Strategies

This process requires knowledge of grammar and syntax. Just as some words can be processed into a single phrase, some phrases can be processed into a single idea. Comprehension at the phrase or idea level results in a relatively shallow understanding of what is explicitly stated by the text, often referred to as literal comprehension. According to Brunfaut & Mccray (2015), bottom-up reading alone does not encompass the entire reading process required for full comprehension. However, it is often used in low-level reading processes, which may explain why many students develop the ability to read aloud and silently (Bintang Nadea et al., 2021).

2) Top-down Strategies

The top-down reading strategy is characterized as a reading procedure or a psychological language guessing game (Bintang Nadea et al., 2021). In the top-down reading strategy, the reader must have knowledge, understanding, and language skills that play a major role in interpreting the meaning of the text (Vivy

& Ardhani, 2011). In the top-down strategy, reading can be learned by processing larger language units that focus on the reader's knowledge (Goodman, 1967). Thus, a reader integrates their knowledge into the reading process (see Figure 3).

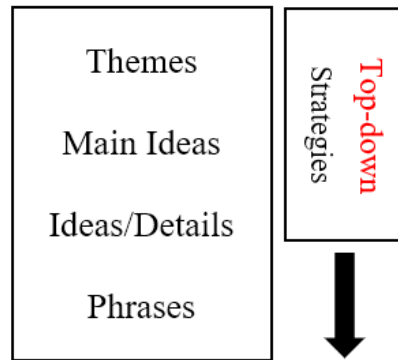


Figure 3 Top-down Strategies

The knowledge is the most important part in predicting, guessing, and understand the entire contents of the text at a time using a top-down strategy in reading comprehension. This strategy uses high-level cognitive processing.

3) Interactive Strategies

Stanovich (1980) introduced the Interactive-Compensatory Reading Model, which emerged in response to Gough's (1972) bottom-up approach and Goodman's (1967) top-down approach as both strategies were dichotomous and suggested that the reading process is interactive and compensatory, meaning all levels of processing operate simultaneously and influence each other to construct the meaning of the text. This strategy encompasses the entire reading processing system, in other words, the cognitive processes involved can be at a lower level (e.g., word recognition, phonological processing, orthographic processing) and a higher level (e.g., making inference, attention-allocation abilities) (see Figure 4).

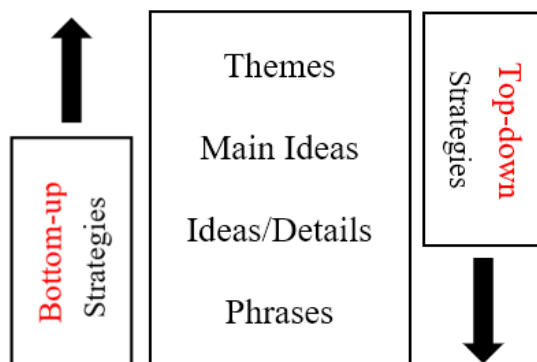


Figure 4 Interactive Strategies

This strategy results in the most effective text processing for L2 learners (Gilakjani & Sabouri, 2016).

2.2.2 Measuring Reading Comprehension

Reading comprehension is a core component of reading competence that requires comprehensive and valid assessment tools to capture its cognitive and linguistic complexity. According to Nuttall (1982), there are several indicators to measure students' reading comprehension, including determining the main idea, finding specific information in the text, finding reference, finding inference, and identifying vocabulary. Determining the main idea is the ability to grasp and identify the central point of a passage by summarizing its content and recognizing the repetition of key ideas or words. Finding specific information means locating details that are relevant to a particular purpose while ignoring irrelevant ones. Reference refers to the use of one linguistic expression to indicate another, so finding reference involves interpreting and identifying how one expression relates to another. Finding inference requires the reader to interpret and conclude meaning based on context. Identifying vocabulary means recognizing and understanding the meanings of words. In the context of English as a Foreign Language (EFL) learning, several commonly used instruments for measuring reading comprehension include the Curriculum-Based Measurement Maze (CBM-Maze), multiple-choice tests, cloze tests, open-ended questions, retelling protocols, and think-aloud protocols.

2.2.2.1 Curriculum-based Measurement Maze

Curriculum-Based Measurement Maze (CBM-Maze) is a standardized,

timed testing tool designed to measure reading comprehension through contextual word selection. According to Tzivinikou et al. (2020), CBM-Maze appears to meet the criteria as a General Outcome Measurement (GOM) for reading and can be used by educators as a universal screening and progress monitoring tool. It was developed in the early 1970s to improve reading assessment conducted through cloze procedures, and it was designed to assess students from low socioeconomic backgrounds, English Language Learners (ELLs), and students facing reading difficulties.

In its implementation, students have 2.5 minutes to read the passage to themselves and circle the word correct for each blank (Fuchs & Fuchs, 2007). The first sentences remain intact, and then every seventh word is deleted and replaced by one of three possible options referred to as distractors. Distractors should have the same number of letters or differ by one. In score determination, there are various procedures that can be used: discontinue rule and adjustment rule. When comparing those scoring procedures, the results indicate that the discontinue rule scoring procedure is recommended, as it is more efficient without reducing the accuracy of the results (Wayman et al., 2004).

1) Discontinue rule

If a student makes two or three mistakes consecutively, the scoring process will be stopped.

2) Adjustment rule

a) Correct score (the number of correct answers)

Each correct response receives 1 point, with no penalty for incorrect responses. The final score represents the total number of correct responses completed within the time limit.

b) Correct minus wrong (the number of correct answers minus the number of wrong answers)

Each correct response receives +1 point, and each incorrect response receives -1 point. The final score is calculated by subtracting the number of incorrect responses from the number of correct ones.

c) Correct minus half wrong (the number of correct answers minus half the

number of wrong answers)

Each correct response is awarded +1 point, while each incorrect response is penalized -0.5 point. The final score is derived by subtracting half of the incorrect responses from the number of correct responses.

2.2.2.2 Multiple-choice Tests

Multiple-choice tests remain one of the most widely recognized and frequently used methods for assessing reading comprehension (Brown & Abdulnabi, 2017). Johnston (1983) described multiple-choice items as the most researched, most maligned, most difficult to construct, most abused, yet most functional of all items (when properly harnessed). Typically, a multiple-choice reading test presents a short passage, usually a few paragraphs, followed by a number of fixed questions or statements related to the text (Butler, 2018). Test takers are required to select the alternative they believe best answers each question, there is no ambiguity in the scoring of the right/wrong answers (Brantmeier, 2006). This format is objective and easy to grade, making it convenient for large-scale use (Alderson, 2000). L. R. Jr. Aiken (1987) outlined several strengths of the multiple-choice format. It is considered more reliable than many other formats because of its objectivity and relative resistance to random guessing, particularly when compared to true-false tests. Moreover, it is versatile for measuring both simple and complex objectives across various proficiency levels, can sample a wide range of language domains, and allows for quick, accurate, and objective scoring. Furthermore, multiple-choice items facilitate diagnostic analysis by examining test-takers' response patterns.

2.2.2.3 Cloze Tests

The Cloze Test is a reading comprehension assessment in which words are systematically deleted from a passage and replaced with blanks for test-takers to fill in. Oller (1973) argues that cloze procedures tap into a student's underlying language competence rather than mere performance. When taking a cloze test, test takers must have the skills to comprehend the text and its vocabulary, as well as the ability to identify the correct words or the appropriate style and form of words to be inserted into the blank spaces in the text (Zulianti et al., 2022). By requiring

students to supply missing words based on context, cloze tasks activate lexical access, syntactic parsing, and semantic integration simultaneously. This integrative nature makes cloze tests especially valuable in EFL contexts, where students must develop automaticity in decoding while also navigating unfamiliar grammatical structures and vocabulary. The challenge of predicting appropriate words based on surrounding context mirrors real-world reading demands, encouraging deeper engagement with the text. However, the Cloze Test may provide inaccurate, and invalid, results for reading comprehension because learners may in fact understand the text, but still leave blanks empty because they do not know the appropriate word to place in the blank space (Mermelstein, 2023). Moreover, Zulianti et al. (2022) contend that cloze tests can only assess the simplest of L1 and L2 reading understanding.

2.2.2.4 Open-ended Questions

Open-ended questions are comprehension assessment items that require students to construct their own responses rather than select from predetermined options. It cannot be answered with a “yes” or “no” response (Subiyati, 1994). In a typical procedure, students read a passage and respond to several open-ended questions designed to assess various levels of comprehension (Khalifa & Weir, 2009). The procedure may include two raters to ensure inter-rater reliability (Bachman & Palmer, 2010). Grabe & Stoller (2020) recommends combining open-ended and objective formats for a more balanced comprehension measure. However, it may disadvantage EFL students with limited productive language ability.

2.2.2.5 Retelling Protocols

In retelling protocols, students are asked to recall and reconstruct what they have read, either orally or in writing. Retelling is a generative task that requires the reader to construct a personal rendition of the text by making inferences based on the original text and prior knowledge (Morrow, Gambrell, Kapinus, Koskinen, Marshall, & Mitchell, 1986 in Gambrell et al., 1991). Vu et al. (2021) found that retelling protocols improves comprehension among EFL students.

2.2.2.6 Think Aloud Protocol

Think aloud protocol or TAP is a tool to assess students' reading comprehension through observation of them speaking about their understanding of the text, their feelings about it, and the problem-solving strategies they use (Trapsilo, 2017). Teachers directly observe students as they read and talk about how they understand the content of the text, what they feel, and what strategies they use when facing difficulties (e.g., guessing the meaning of words, connecting ideas, and so on). From there, teachers can provide more appropriate interventions or support according to each student's needs.

According to Tang et al. (2025), lower-proficiency students bear higher cognitive pressure during the use of think-aloud protocols because they need to conduct text meaning processing, express their ideas, and supervise understanding at the same time. Due to the psychological effort required, students with poor knowledge in grammar and vocabulary tend to pause frequently or abandon verbalization (McNeil, 2011). Güvendir (2014) found that EFL students at the beginner level often feel frustrated and less engaged when performing think-aloud protocols.

2.3 The Relationship between Reading Fluency and Reading Comprehension

Reading involves at least two activities: decoding or word recognition and comprehension or the construction of the meaning of text. For reading to proceed effectively, the reader cannot focus on both processes at the same time. Laberge & Samuels (1974) argued that individuals are capable of focusing on only a single task at any given moment. It is possible to engage in multiple activities simultaneously by shifting attention between them or when one of them has become so well learned that it can be performed automatically. This implies readers cannot fully focus on both decoding and comprehension at the same time unless they have practiced reading English a lot, because human cognitive energy is limited. If attention is drained by decoding words, little or no capacity is available for the attention-demanding process of comprehending or constructing meaning. Constructing meaning involves making inferences, responding critically, and so on, and it always

requires attention. Readers who can manage the limited cognitive energy that can do both processes can be said to have fluency in reading. They are so automatic or effortless at the bottom-up word processing requirement for reading and can use their finite cognitive energy for the more important top-down requirement for reading comprehension (Stanovich, 1980). The fluent reader can focus on a single word and recognize it accurately in less than one percent of a second (Grabe & Stoller, 2020). In other words, fluent readers can recognize four to five words per second, allowing them to hold groups of words in mind simultaneously to extract the basic grammatical information necessary for comprehension. In contrast, disfluent readers devote attention to how decode words. They must use their cognitive energy for the more basic bottom-up task of word recognition, thereby depleting what they will have available for the more important top-down task, which is making meaning (Stanovich, 1980). When they must repeatedly alternate attention between decoding and comprehending, reading becomes slow, effortful, and often exhausting (Laberge & Samuels, 1974).

Fluency is therefore a critical component of reading comprehension. Keresteš et al. (2024) emphasize that reading fluency is extremely important for reading comprehension due to working memory limitations, including the quick decay of information that has already been encoded. It is a factor that can either limit or support comprehension in both oral and silent reading (Meggiato et al., 2021). Reading fluency is both a contributor to and a result of comprehension, indicating a reciprocal relationship between fluency and written text understanding (Kim et al., 2021; Stanovich, 1996). Its development is an essential component of effective and successful reading instruction (Rupley et al., 2020).

2.4 Study of Relevant Research

Due to the limited research on reading fluency and its relationship with comprehension, particularly within the local context, only four relevant studies have been identified over the past five years (Lorenza et al., 2022; Prameswari & Akhiriyah, 2023; Reflinda, 2022; Saputra et al., 2023). However, reading fluency and reading comprehension do not always have a significant relationship.

The first study that came before this current study was by Lorenza et al. (2022) entitled “The Correlation Between Students’ Reading Fluency and Their Reading Comprehension”. The study was conducted in Empat Lawang, South Sumatra, with 268 eleventh-grade students from UPT SMA Negeri 3 Empat Lawang as population. The instruments used to measure reading fluency were the WCPM and the scoring rubric created by Jerry Zutell (1991). Conversely, to measure reading comprehension, this study used multiple-choice questions. This study found a significant correlation between reading fluency and reading comprehension, with a Pearson correlation coefficient of 0.829.

Then, the second study was by Reflinda (2022) within the title “A Correlation Between Oral Reading Fluency And Reading Comprehension At Tenth Grade Students MAS TI Canduang”. The study was undertaken in Agam, West Sumatra, with the tenth grade of MAS TI Canduang as the populations. The study measurement of fluency was WCPM, while comprehension was a written test. The findings of this study showed a correlation of oral reading fluency and reading comprehension at the tenth-grade level of MAS TI Canduang academic years 2019/2020, with a correlation coefficient of 0.470.

Thereafter, the third study was conducted by Prameswari & Akhriyah (2023), entitled “The Correlation Between Reading Fluency and Students’ Reading Comprehension in Junior High School” using a convenience sampling method. She selected 64 seventh-grade students who had previously been taught descriptive text. Reading fluency was measured using the WCPM, while comprehension was measured through multiple-choice questions. The results indicated that no significant relationship existed between reading fluency and reading comprehension at the junior high school level ($p\text{-value} = 0.102$).

Lastly, the study by Saputra et al. (2023) entitled, “The Correlation Between Oral Reading Fluency and Reading Comprehension of Junior High School”. In contrast to the third study which found no significant relationship between reading fluency and reading comprehension at the junior high school level, this study found a strong correlation between reading fluency and reading comprehension of the junior high school students, with the Pearson correlation coefficient of 0.779.

Conducted in Bandar Lampung, Lampung, the study involved 23 students from SMPN 8 Bandar Lampung. The measurement used in this study was the same as the third previous study, but it selected narrative text specifically for the reading fluency content measurement.

This research shares certain similarities and differences with the four previous studies mentioned above. The similarity lies in the shared objective of investigating the relationship between reading fluency and reading comprehension. However, the findings among these previous studies are notably inconsistent. While most established a positive correlation, one study found no correlation at all. Furthermore, the present study differs in its research context and the instrument used. This study takes place in a higher-education setting, specifically a university. Logically, if a positive correlation exists at the junior and senior high school levels, it should also manifest at the university level. The contradiction in previous findings, alongside this shift in educational context, strongly justifies the need for further investigation.

Essentially, the inconsistency in the previous literature may stem from two primary methodological gaps that this study aims to address. First, the majority of the aforementioned local studies solely focused on the automaticity aspect of reading fluency, which can yield questionable results and potentially explain the lack of correlation found in some research. Interestingly, this methodological limitation is not confined to the local context, rather it reflects a broader global issue. As highlighted in a systematic review by conducted by Meggiato et al. (2021), whose dataset is publicly available on OSF (DOI: 10.17605/OSF.IO/B6JXF), shows that most of the studies they analyzed assessed only accuracy and speed (58%), indicating that prosody, despite being recognized as a core component of fluency, remains largely neglected in reading fluency assessment. Therefore, it is crucial to conduct this study using an instrument that comprehensively assesses the prosodic aspect.

Second, while the first previous local study mentioned above did include prosody, it utilized the first edition of the Multidimensional Fluency Scale, which excluded the volume and expression dimensions. Using that earlier version,

students could achieve a perfect score simply by reading rapidly, smoothly, and pausing correctly at punctuation marks. However, they could still deliver the text with a flat, robotic tone. Such fast but monotonous reading is often a strong indication of mere word-calling rather than true reading comprehension. This illusion of fluency could very well be the reason behind the inaccurate or zero correlation found in certain studies. By employing a revised instrument that fully captures the expressive dimensions of prosody, the present study aims to uncover the true relationship between reading fluency and comprehension.

2.5 Theoretical Framework

Drawing on the theoretical and empirical literature reviewed above, this study's conceptual framework proposes that reading fluency, understood as a construct composed of automaticity and prosody, is likely to be positively correlated with reading comprehension.

The study is principally grounded in Rasinski's (2004) work which presents fluency as the bridge between word recognition and text comprehension. He identifies three core elements of fluency, namely accuracy, rate, and prosody, which together influence a reader's capacity to build meaning from a text. When decoding becomes automatic, readers can read quickly, accurately, and expressively, which allows them to reallocate cognitive energy toward comprehension. Furthermore, he discusses practical tools for assessing fluency and highlights two essential criteria for effective measures: adequate reliability and validity and efficiency in administration, scoring, interpretation. He recommends R-CBM for measuring accuracy and automaticity, and adapts the Multidimensional Fluency Scale for assessing prosody, noting that these instruments are useful for initial screening.

Rasinski's subsequent works (2009, 2012, 2014) consistently focus on the importance of reading fluency. Rasinski et al. (2009) reports the notable finding that fluency remains important beyond the early grades: it continues to show a strong relationship with silent reading comprehension in grades 5 and 7, indicating its relevance as readers progress. Rasinski (2012) reiterates fluency's instructional significance and emphasizes its two essential components: automaticity and

prosody, where automaticity denotes effortless word recognition and prosody helps link decoding to meaning. Rasinski (2014) reaffirmed the classroom relevance of fluency and suggested using texts and genres amenable to oral performance. In his view, fluent reading can be considered a hallmark of overall reading proficiency. Two classic cognitive theories Laberge & Samuels's Automaticity Theory (1974) and Stanovich's Interactive-Compensatory Model (1980) underpin this framework from a cognitive-mechanism perspective. LaBerge & Samuels (1974) argue that automatized decoding frees working memory capacity for comprehension, while Stanovich (1980) suggests that readers with differing skill profiles can use compensatory strategies to make sense of text. In addition to the theories mentioned, the theoretical framework for this study can be illustrated as follows (Figure 6).

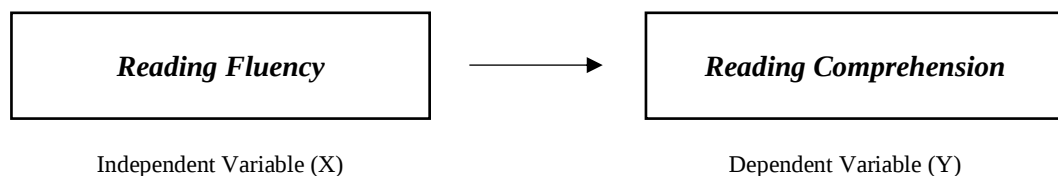


Figure 5 Theoretical Framework

This framework posits that readers with greater fluency are more capable of comprehending texts effectively. Previous studies show variability in the strength of this relationship depending on readers' proficiency, instructional context, and the measures used. Therefore, this study focuses on EFL students at tertiary level and employs instruments that assess both fluency components as well as reading comprehension.

2.6 Research Hypothesis

The hypotheses of this study are proposed in the forms of null and alternative hypotheses below.

- 1) H_0 ($r = 0$): there is no correlation between EFL students' reading fluency and reading comprehension.
- 2) H_a ($r \neq 0$): there is a significant correlation between EFL students' reading fluency and reading comprehension.