

# Sustaining the Reading Current: Cognitive, Behavioral, and Emotional Engagement among Indonesian EFL University Students

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**Abstract:** Reading engagement remains a critical concern in Indonesian EFL higher education, where students are required to engage with dense academic texts despite limited sustained reading practices. Although previous studies have examined reading motivation and strategies, less attention has been given to how cognitive, behavioral, and emotional engagement interact to sustain academic reading. This study investigated multidimensional reading engagement among Indonesian EFL university students through the lens of Directed Motivational Currents. A convergent mixed-methods design was employed, involving 110 third-semester students from four universities in Bengkulu, Indonesia, of whom 20 participated in semi-structured interviews. Quantitative data were analyzed using descriptive and correlational statistics, while qualitative data were examined through thematic analysis and integrated through triangulation. The findings revealed a high level of overall reading engagement, with emotional engagement emerging slightly higher than cognitive and behavioral engagement. Perceived progress in comprehension, alignment with future academic and professional goals, emotional satisfaction, and structured reading practices were identified as key factors supporting sustained engagement. Interview data further showed that students maintained engagement by segmenting complex texts, setting reading routines, monitoring comprehension, and connecting reading tasks to future-oriented goals. These findings suggest that EFL academic reading engagement is not driven by obligation alone but by the dynamic interaction of emotional reinforcement, goal-directed motivation, and strategic regulation. Pedagogically, EFL instructors should design reading activities that include explicit strategy training, manageable text segmentation, progress-based feedback, and goal-oriented scaffolding to sustain students' engagement with academic texts.

**Keywords:** reading engagement, cognitive engagement, behavioral engagement, emotional engagement

## 1. Introduction

Academic reading is a central component of EFL learning in higher education because it enables students to access disciplinary knowledge, evaluate scholarly arguments, and participate meaningfully in academic discourse; however, for many EFL learners, sustained engagement with academic texts remains difficult because reading in a foreign language requires not only linguistic comprehension but also cognitive effort, strategic regulation, and emotional persistence. This challenge is particularly relevant in Indonesian EFL higher education, where students are increasingly expected to process dense English academic texts while

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still developing the habits, strategies, and motivation needed for sustained reading. Recent studies indicate that learners often struggle with academic reading because of unfamiliar vocabulary, abstract concepts, cognitive overload, fatigue, and declining interest when reading extended texts (Dardjito et al., 2023; Eriksson, 2023; Muslimin, 2025). Therefore, reading engagement is an important construct to examine because it captures students' cognitive, behavioral, and emotional involvement in reading activities, including how they process information, allocate effort, monitor comprehension, persist through difficulty, and experience interest, confidence, or satisfaction during reading. Recent scholarship further suggests that engaged readers are more likely to use effective strategies, sustain attention, regulate their learning, and achieve deeper comprehension (Bråten et al., 2021; Pekrun, 2021; Wei et al., 2024). Thus, understanding reading engagement is essential for developing EFL reading instruction that moves beyond text completion to support students' strategic, goal-oriented, and emotionally sustained participation in academic reading.

Recent research has increasingly conceptualized reading engagement as a multidimensional construct involving cognitive, behavioral, and emotional participation in reading activities. Cognitive engagement refers to learners' mental investment in understanding texts, including the use of strategies, comprehension monitoring, and effortful meaning-making; behavioral engagement reflects observable participation such as time spent reading, task completion, persistence, and regular reading routines; while emotional engagement captures learners' affective responses, including interest, enjoyment, confidence, satisfaction, or frustration during reading. Empirical studies have shown that these dimensions are closely related to students' reading comprehension, motivation, and academic persistence. Bråten et al. (2021), for example, emphasized that behavioral engagement contributes to text comprehension when students invest sufficient time and effort in reading, while Pekrun (2021) highlighted the role of emotions in shaping how learners process and persist with texts. In EFL contexts, recent studies have also reported that reading motivation, self-regulated strategy use, and perceived competence significantly influence students' willingness to engage with academic texts (Li et al., 2022; Wei et al., 2024; Luo et al., 2024). In addition, Directed Motivational Currents (DMCs) have been used to explain how learners sustain motivation through clear future goals, structured behavioral pathways, and positive emotional feedback (Jahedizadeh & Al-Hoorie, 2021; Yu & Liu, 2023). Although DMC research has traditionally focused more on general language learning motivation, its emphasis on goal-directed effort, emotional reinforcement, and sustained persistence offers a useful lens for understanding academic reading engagement. Together, these studies suggest that successful EFL academic reading depends not only on linguistic ability or isolated strategy use, but also on the interaction between students' cognitive investment, behavioral persistence, emotional experience, and future-oriented motivation.

Despite growing scholarly attention to reading motivation, strategy use, self-regulation, and learner engagement, the existing literature still leaves several important issues underexplored. Previous studies have shown that reading strategies, motivation, self-efficacy, and self-regulated learning are associated with EFL students' reading comprehension and engagement (Han, 2021; Li et al., 2022; Heydarnejad et al., 2022; Luo & Zhou, 2024). However, much of this research has examined these constructs separately, focusing on motivational factors, strategic behavior, emotional experience, or reading outcomes, rather than explaining how cognitive, behavioral, and emotional engagement interact in an integrated process during academic reading. In addition, although recent studies have highlighted the importance of self-regulation and sustained motivation in supporting reading engagement (Mežek et al., 2021; Wei et al., 2024; Heikkinen et al., 2025), less is known about how EFL students maintain engagement when they are required to read extended, dense, and conceptually demanding academic texts. Directed Motivational Currents have also been increasingly used to explain sustained motivation in language learning, particularly through goal-oriented vision, structured pathways, and emotional reinforcement (Jahedizadeh & Al-Hoorie, 2021; Yu & Liu, 2023; Pietluch & Sak, 2025). Nevertheless, empirical applications of this framework to EFL academic reading remain limited, especially in Indonesian higher education. As a result, there is still insufficient evidence on how Indonesian EFL university students sustain academic reading engagement through the combined operation of cognitive involvement, behavioral persistence, emotional reinforcement, and future-oriented motivation.

In response to these gaps, the present study offers a more integrated account of EFL academic reading engagement by examining cognitive, behavioral, and emotional engagement as interconnected dimensions rather than as separate constructs. Its novelty lies in combining a multidimensional engagement framework with Directed Motivational Currents to explain how Indonesian EFL university students sustain engagement with academic texts through the interaction of goal-oriented vision, structured reading behavior, emotional reinforcement, and strategic regulation. Unlike studies that focus primarily on reading comprehension outcomes, isolated strategy use, or general motivation, this study positions reading engagement as a dynamic process shaped by students' cognitive investment, behavioral persistence, and affective experiences during extended academic reading. The use of a convergent mixed-methods design further strengthens this contribution by integrating quantitative evidence on engagement patterns with qualitative insights into students' lived reading experiences. In doing so, the study provides both theoretical and pedagogical value: theoretically, it extends the application of Directed Motivational Currents to EFL academic reading; pedagogically, it identifies how structured routines, progress awareness, emotional satisfaction, and future-oriented goals can support sustained reading engagement in Indonesian higher education. This focus is consistent with the article's design, which investigates reading engagement among 110 Indonesian EFL university students and integrates survey and interview data to explain cognitive, behavioral, emotional, and DMC-related aspects of academic reading.

Given the need to understand academic reading engagement as a multidimensional, sustained process, this study aims to investigate the levels of cognitive, behavioral, and emotional engagement among Indonesian EFL university students and to examine the factors and strategies associated with their sustained engagement in academic reading. It also uses Directed Motivational Currents as an interpretive lens to understand how goal-oriented vision, structured reading behavior, and emotional reinforcement may support students' persistence during extended reading tasks. Accordingly, this study is guided by the following research questions: (1) What are the levels of cognitive, behavioral, and emotional engagement among Indonesian EFL university students in academic reading? (2) What factors and strategies are associated with students' sustained engagement in academic reading? and (3) How can Directed Motivational Currents be used to interpret the sustained nature of students' academic reading engagement? This formulation is more consistent with the mixed-methods and cross-sectional nature of the study because it focuses on observed engagement patterns, associated factors, reported strategies, and DMCs as an interpretive framework rather than as a causally tested mechanism.

## 2. Method

### 2.1 Research Design

This study employed a convergent mixed-methods design to obtain a comprehensive understanding of Indonesian EFL university students' engagement in academic reading. A convergent mixed-methods design is appropriate when quantitative and qualitative data are collected within the same phase of research, analyzed separately, and then integrated to provide a more comprehensive interpretation of a complex educational phenomenon (Creswell & Plano Clark, 2023). In this study, the quantitative strand was used to identify the levels of cognitive, behavioral, and emotional engagement, as well as factors and strategies associated with sustained reading engagement. Meanwhile, the qualitative strand was used to explore students' reading experiences in greater depth, particularly how goal-oriented vision, structured reading behavior, and emotional reinforcement contributed to their persistence during extended academic reading tasks. This integration of numerical trends and qualitative narratives is useful in educational motivation research because learner engagement involves both observable patterns and subjective experiences (Creswell & Creswell, 2018; Muir & Gümüş, 2020). The two strands were analyzed separately and then integrated through triangulation to strengthen the interpretation of the findings. Directed Motivational Currents were used as an interpretive lens rather than as a causal framework, allowing the study to explain

how the interaction of motivational direction, strategic routines, and positive emotional feedback may shape sustained reading engagement.

## *2.2 Participants and Research Context*

The participants were 110 Indonesian EFL university students enrolled in the third semester at four universities in Bengkulu, Indonesia, consisting of two public and two private institutions. These participants were selected because they had begun engaging with academic English texts as part of their university coursework and were therefore considered suitable for examining academic reading engagement. A purposive sampling technique was used because the study required participants with relevant experience in EFL academic reading who could provide information-rich data aligned with the research focus (Creswell & Creswell, 2018). For the qualitative phase, 20 students were selected from the larger sample to participate in semi-structured interviews. The interview participants represented different levels of reading engagement—high, moderate, and low—based on their questionnaire responses. This maximum-variation logic was used to capture a broader range of reading experiences, including both facilitating factors and challenges in sustaining engagement. Interview recruitment continued until the data showed sufficient thematic saturation, meaning that no substantially new themes emerged from subsequent interviews (Braun & Clarke, 2021). The use of 110 questionnaire participants and 20 interview participants follows the original study design reported in the manuscript.

## *2.3 Instruments*

Two instruments were used to collect the data: a reading engagement questionnaire and a semi-structured interview guide. The questionnaire was designed to measure students' cognitive, behavioral, and emotional engagement in academic reading, as well as DMC-related elements, including goal-directedness, self-regulation, structured persistence, and sustained effort. The items were adapted from established instruments and relevant literature on motivated learning strategies, academic emotions, reading engagement, and Directed Motivational Currents, including the Motivated Strategies for Learning Questionnaire and research on academic emotions and motivational currents (Pekrun et al., 2002; Dörnyei et al., 2016; Muir & Gümüş, 2020). All items were adjusted to fit the context of EFL academic reading in Indonesian higher education. Responses were recorded on a four-point Likert scale, ranging from 1 (strongly disagree) to 4 (strongly agree). Before the main data collection, the questionnaire was pilot-tested with 30 EFL students from a similar academic background. Pilot testing was conducted to examine item clarity, contextual relevance, and internal consistency before full-scale administration. The reliability results showed acceptable internal consistency, with Cronbach's alpha values of 0.78 for behavioral engagement, 0.81 for cognitive engagement, 0.83 for emotional engagement, and 0.79 for DMC-related elements. These values indicate acceptable reliability for educational research instruments, as coefficients above 0.70 are generally considered adequate for internal consistency. Content validity was reviewed by three experts in EFL education and applied linguistics, who evaluated the clarity, construct alignment, and contextual appropriateness of the items. Expert review is commonly used in instrument development to ensure that items adequately represent the intended constructs and are suitable for the target context. Minor revisions were made based on the experts' feedback.

The semi-structured interview guide was developed to explore students' academic reading experiences in greater depth. Semi-structured interviews are appropriate when researchers aim to obtain focused yet flexible accounts of participants' experiences, allowing predetermined topics to be explored while still giving participants space to elaborate on relevant issues (Creswell & Creswell, 2018). The interview questions focused on students' reading goals, emotional responses, reading routines, strategy use, perceived progress, and challenges in maintaining engagement with extended academic texts. The guide was informed by the Directed Motivational Currents framework, particularly the concepts of future-oriented goals, structured pathways, and emotional reinforcement (Dörnyei et al., 2016; Jahedizadeh & Al-Hoorie, 2021). The interview

protocol was piloted with two students to ensure that the questions were clear, relevant, and capable of eliciting meaningful responses.

#### *2.4 Data Collection Procedures*

Data collection was conducted within one academic semester to maintain consistency between the quantitative and qualitative strands. The questionnaire was distributed online via Google Forms during scheduled class sessions or at times convenient for participants. Online questionnaire administration was considered practical for reaching participants across several institutions while maintaining standardized item delivery. Before completing the questionnaire, students received information about the purpose of the study, the voluntary nature of their participation, and the confidentiality of their responses. They were given approximately 15–20 minutes to complete the questionnaire.

After the questionnaire data had been collected, students were grouped according to their overall engagement scores. From these groups, 20 students were selected for individual semi-structured interviews. Each interview lasted approximately 15–20 minutes and was conducted in English or in a mixed English-Indonesian format, depending on the participants' preference. Allowing flexible language use was intended to help participants express their reading experiences more accurately and comfortably, particularly when discussing emotional and strategic aspects of academic reading. With participants' consent, the interviews were audio-recorded and later transcribed for analysis. All participants were assigned pseudonyms to protect their identities.

#### *2.5 Data Analysis*

The quantitative data were analyzed using SPSS. Descriptive statistics, including mean scores, standard deviations, and frequency distributions, were used to describe students' levels of cognitive, behavioral, emotional, and overall reading engagement. These analyses were also used to identify the factors and strategies associated with sustained reading engagement. Where relevant, effect-size calculations were used to interpret the magnitude of differences among engagement dimensions, influencing factors, persistence indicators, and reading strategies. The use of effect sizes was important because mean differences alone may exaggerate the practical importance of small numerical differences. In contrast, effect-size interpretation provides a clearer indication of the magnitude of observed differences.

The qualitative data were analyzed using thematic analysis, following the principles of [Braun and Clarke \(2021\)](#). The analysis combined deductive and inductive procedures. The Directed Motivational Currents framework, including categories such as goal-oriented vision, structured persistence, and emotional reinforcement guided deductive coding. Inductive coding was used to identify additional themes that emerged directly from students' interview responses, such as fatigue management, text segmentation, perceived progress, and confidence gained from comprehension success. The codes were reviewed, refined, and grouped into broader themes through an iterative process. To enhance credibility, peer debriefing was conducted during the coding process, and interpretations were compared across participants to ensure consistency. The quantitative and qualitative findings were then integrated through triangulation. Triangulation was used to compare, complement, and validate patterns across numerical data and interview narratives, thereby producing a richer explanation of how students' academic reading engagement was sustained across cognitive, behavioral, and emotional dimensions ([Creswell & Plano Clark, 2023](#); [Richards & Hemphill, 2018](#)).

### **3. Findings**

#### *3.1 Levels of Cognitive, Behavioral, and Emotional Engagement in Academic Reading*

The first research question examined the levels of cognitive, behavioral, and emotional engagement among Indonesian EFL university students in academic reading. The descriptive statistics showed that students demonstrated a generally high level of reading engagement across all three dimensions. As shown in Table

1, overall reading engagement was high ( $M = 3.08$ ,  $SD = 0.41$ ). Among the three dimensions, emotional engagement recorded the highest mean score ( $M = 3.13$ ,  $SD = 0.49$ ), followed by cognitive engagement ( $M = 3.09$ ,  $SD = 0.46$ ) and behavioral engagement ( $M = 3.03$ ,  $SD = 0.42$ ). These results indicate that students were not only cognitively involved in understanding academic texts but also behaviorally engaged in reading activities and emotionally connected to their reading experiences.

**Table 1. Levels of Reading Engagement in Academic Reading**

Dimension	Mean	SD	Category
Emotional engagement	3.13	0.49	High
Cognitive engagement	3.09	0.46	High
Behavioral engagement	3.03	0.42	High
Overall engagement	3.08	0.41	High

Although emotional engagement obtained the highest mean score, the differences across the three dimensions were relatively small. The effect-size analysis showed negligible-to-small differences between emotional and cognitive engagement ( $d \approx 0.08$ ), emotional and behavioral engagement ( $d \approx 0.22$ ), and cognitive and behavioral engagement ( $d \approx 0.14$ ). This suggests that no single dimension overwhelmingly dominated students' reading engagement. Instead, the findings indicate that students' academic reading engagement was shaped by a relatively balanced combination of emotional, cognitive, and behavioral involvement.

The qualitative findings supported this quantitative pattern. Several students reported that they remained engaged in reading because academic texts were connected to their future goals and professional identity. One student explained, "Even if the text is difficult, I keep reading because I know it is important for my future as an English teacher." Another participant stated, "Reading journals helps me feel more like a real university student, so I try not to give up." These responses indicate that students' cognitive engagement was closely associated with their future-oriented academic and professional goals. In addition, students described positive emotional responses when they could understand difficult texts. One participant noted, "When I finally understand an English article, I feel happy and more confident, so I want to read more." This finding shows that emotional satisfaction and perceived comprehension success played an important role in maintaining students' willingness to continue reading. The findings for the first research question show that Indonesian EFL university students demonstrated high cognitive, behavioral, and emotional engagement in academic reading. However, the small differences across dimensions suggest that engagement should be understood as an integrated, multidimensional process rather than as the dominance of a single dimension.

### *3.2 Factors and Strategies Associated with Sustained Academic Reading Engagement*

The second research question investigated the factors and strategies associated with students' sustained engagement in academic reading. The quantitative results showed that several factors were rated highly, indicating that a combination of perceived progress, alignment with future goals, emotional satisfaction, and interest in the topic supported students' engagement. As shown in Table 2, the highest mean score was found in perceived progress in comprehension ( $M = 3.15$ ,  $SD = 0.50$ ), followed by reading linked to future goals ( $M = 3.12$ ,  $SD = 0.54$ ), emotional satisfaction while reading ( $M = 3.10$ ,  $SD = 0.55$ ), and interest in the topic ( $M = 3.09$ ,  $SD = 0.67$ ).

**Table 2. Factors Associated with Students' Reading Engagement**

Factor	Mean	SD	Category
Feeling progress in comprehension	3.15	0.50	High
Reading linked to future goals	3.12	0.54	High
Emotional satisfaction while reading	3.10	0.55	High

Factor	Mean	SD	Category
Interest in the topic	3.09	0.67	High

The effect-size calculations indicated that the differences among these factors were small. The comparison between perceived progress in comprehension and future goal alignment showed a negligible difference ( $d \approx 0.06$ ), while the difference between perceived progress and emotional satisfaction was also small ( $d \approx 0.09$ ). Similarly, the difference between perceived progress and topic interest remained small ( $d \approx 0.11$ ). These results suggest that sustained reading engagement was not attributable to a single dominant factor. Rather, students' engagement appeared to be supported by the combined role of comprehension progress, goal relevance, emotional satisfaction, and interest in reading topics.

Interview data further clarified how these factors operated in students' reading experiences. Some students reported that recognizing improvement in comprehension motivated them to continue reading. One participant stated, "When I can understand more than before, I feel motivated to keep reading." Another student connected reading engagement to academic achievement, explaining, "Reading is tiring, but when I know it helps my grades, I don't want to stop." These responses suggest that students' engagement was strengthened when they perceived reading as meaningful, useful, and connected to their academic success. In addition to these supporting factors, students also reported several strategies for maintaining engagement during extended academic reading tasks. As presented in Table 3, the most frequently reported strategy was dividing long texts into smaller sections ( $M = 3.18$ ,  $SD = 0.52$ ), followed by scheduling reading time ( $M = 3.09$ ,  $SD = 0.51$ ), setting reading targets ( $M = 3.07$ ,  $SD = 0.47$ ), and taking notes while reading ( $M = 3.03$ ,  $SD = 0.52$ ). All strategies were categorized as high, indicating that students employed multiple regulatory practices to sustain engagement.

**Table 3. Strategies for Maintaining Academic Reading Engagement**

Strategy	Mean	SD	Category
Dividing long texts into manageable sections	3.18	0.52	High
Scheduling reading time	3.09	0.51	High
Setting reading targets	3.07	0.47	High
Taking notes while reading	3.03	0.52	High

Although dividing long Texts had the highest mean score, the effect-size analysis showed only small differences among strategies. The difference between dividing texts and scheduling reading time was small ( $d \approx 0.18$ ), as was the difference between dividing texts and setting reading targets ( $d \approx 0.21$ ). The largest difference appeared between dividing texts and taking notes, but it was still small ( $d \approx 0.30$ ). These findings indicate that students did not rely on a single reading strategy. Instead, they used a combination of text segmentation, time management, target setting, and note-taking to sustain their engagement.

The interview findings supported this pattern. Students explained that dividing long texts helped them reduce fatigue and maintain focus. One participant said, "If the article is very long, I don't read it all at once. I read it part by part every day, so I don't get tired." Another student added, "Breaking the article into parts makes it easier to read and not feel stressed." Note-taking was also used to maintain continuity in reading. As one participant explained, "I always make notes so I don't forget what I have read. It helps me continue the next day." These responses show that students used reading strategies not only to understand texts but also to manage effort, reduce stress, and maintain continuity across extended reading tasks.

Together, the findings for the second research question indicate that students' sustained academic reading engagement was associated with both motivational and strategic factors. Perceived progress, goal relevance, emotional satisfaction, and topic interest supported students' willingness to engage, while text segmentation, scheduling, target setting, and note-taking helped students regulate their reading behavior.

### 3.3 Directed Motivational Currents as an Interpretive Lens for Sustained Reading Engagement

The third research question examined how Directed Motivational Currents could be used to interpret the sustained nature of students' academic reading engagement. The findings showed that students' persistence in reading was reflected in several indicators of sustained behavior. As shown in Table 4, students reported high levels of finishing assigned texts ( $M = 3.10$ ,  $SD = 0.55$ ), reading without teacher supervision ( $M = 3.07$ ,  $SD = 0.59$ ), maintaining a regular reading routine ( $M = 3.04$ ,  $SD = 0.56$ ), and continuing despite difficulty ( $M = 3.03$ ,  $SD = 0.49$ ).

**Table 4. Indicators of Persistence in Academic Reading**

Indicator	Mean	SD	Category
Finishing assigned texts	3.10	0.55	High
Reading without teacher supervision	3.07	0.59	High
Maintaining a regular reading routine	3.04	0.56	High
Continuing despite difficulty	3.03	0.49	High

The effect-size analysis showed negligible-to-small differences across these indicators. For example, the difference between finishing assigned texts and reading without teacher supervision was negligible ( $d \approx 0.06$ ). At the same time, the difference between finishing assigned texts and continuing despite difficulty was also small ( $d \approx 0.14$ ). These results indicate that students' persistence was relatively stable across different reading behaviors. However, the slightly lower score for continuing despite difficulty suggests that maintaining engagement with challenging texts required greater effort than completing assigned reading tasks or reading independently.

The qualitative data provided further insight into how students sustained their engagement. Students described their persistence as being supported by future-oriented goals, structured routines, and emotional reinforcement. One participant stated, "*I keep reading because if I stop for too long, I feel like I lose my motivation.*" This statement suggests that maintaining reading continuity was important for sustaining motivation. Other students explained that they divided reading tasks across several days, monitored their understanding, and used small signs of progress as motivation to continue. These findings indicate that students' sustained engagement was not simply a matter of obligation or teacher-imposed requirement, but involved the active regulation of effort, time, and emotional responses.

Viewed through the lens of Directed Motivational Currents, the findings suggest that students' sustained academic reading engagement was supported by three interrelated elements: goal-oriented vision, structured reading behavior, and emotional reinforcement. A goal-oriented vision was evident in students' connections between reading and their future academic or professional goals. Structured reading behavior appeared in their use of routines, segmentation, scheduling, and target setting. Emotional reinforcement was reflected in students' feelings of satisfaction, confidence, and motivation when they recognized progress in comprehension. These elements worked together to help students maintain engagement with academic texts.

However, because this study used a cross-sectional mixed-methods design, the findings should not be interpreted as evidence that Directed Motivational Currents developed over time or caused students' engagement. Instead, DMCs functioned as an interpretive framework for understanding how students' reported goals, routines, and emotional experiences were associated with sustained engagement in academic reading. Thus, the findings for the third research question indicate that DMCs provide a useful lens for interpreting students' persistence. Still, longitudinal evidence would be needed to examine the development of motivational currents more directly.

#### 4. Discussion

The findings of this study indicate that Indonesian EFL university students demonstrated high levels of cognitive, behavioral, and emotional engagement in academic reading. Although emotional engagement had the highest mean score, the differences among the three dimensions were relatively small, suggesting that no single dimension dominated students' reading engagement. Rather, engagement appeared to emerge from the coordinated interaction of how students think through academic texts, how they sustain reading behavior, and how they emotionally respond to reading experiences. This finding is important because it challenges the view of academic reading as a purely cognitive activity concerned only with comprehension, vocabulary knowledge, or textual interpretation. In EFL higher education, reading academic texts requires students not only to decode meaning but also to regulate attention, manage fatigue, persist through difficulty, and maintain a sense of purpose. This interpretation is consistent with [Bråten et al. \(2021\)](#), who argue that behavioral engagement contributes to text comprehension when learners invest sufficient time and effort, and with [Pekrun \(2021\)](#), who emphasizes that emotions shape learners' attention, persistence, and achievement-related behavior. Thus, the present findings support a multidimensional understanding of academic reading engagement in which cognitive, behavioral, and emotional processes mutually reinforce one another.

The slightly higher level of emotional engagement is particularly meaningful in the context of EFL academic reading. Students' interview responses showed that feelings of satisfaction, confidence, and achievement after understanding difficult texts encouraged them to continue reading. This suggests that emotional engagement functions not merely as a reaction to reading but as a motivational resource that sustains further involvement. When students experience progress in comprehension, they are more likely to feel capable and motivated to persist. This finding aligns with [Pekrun's \(2021\)](#) argument that positive academic emotions can support deeper processing and sustained learning. It also resonates with [Yu and Liu \(2023\)](#), who highlight the role of emotional reinforcement in sustaining motivational momentum. In the present study, emotional reinforcement was closely connected to cognitive progress: students felt more confident when they understood more, and this confidence motivated them to continue engaging with academic texts. Therefore, emotional engagement should not be treated as a peripheral aspect of reading instruction. Instead, it should be recognized as a central condition for sustaining academic reading, especially when students face linguistically and conceptually demanding materials.

At the same time, emotional engagement alone cannot fully explain students' sustained reading involvement. The findings also showed high levels of cognitive and behavioral engagement, indicating that strategic and observable reading practices supported students' persistence. Students reported completing assigned texts, reading without teacher supervision, maintaining reading routines, and continuing despite difficulty. These patterns suggest that engagement depends not only on students' interest or enjoyment but also on their ability to organize and regulate their reading behavior. This supports previous research showing that self-regulated learning plays a crucial role in academic reading, as it enables learners to set goals, monitor comprehension, manage effort, and adjust strategies when encountering difficulties ([Mežek et al., 2021](#); [Li et al., 2022](#); [Luo & Zhou, 2024](#)). In this study, students' use of strategies such as dividing long texts, scheduling reading time, setting reading targets, and taking notes demonstrates that sustained engagement is partly constructed through deliberate regulatory practices. Students did not simply remain engaged because they were motivated; rather, they maintained engagement by making reading more manageable.

Perceived progress in comprehension emerged as one of the strongest factors associated with students' sustained engagement. Although the differences among influencing factors were small, the prominence of perceived progress suggests that students are more likely to persist when they can recognize improvement in their understanding. This finding is pedagogically significant because progress functions as a bridge between cognition and emotion. When students notice that they understand more than before, they experience satisfaction and confidence, which then reinforces their willingness to continue reading. This pattern supports the Directed Motivational Currents theory, which emphasizes the role of visible progress,

structured pathways, and positive emotional feedback in maintaining long-term motivation (Dörnyei et al., 2016; Jahedizadeh & Al-Hoorie, 2021; Yu & Liu, 2023). In the context of academic reading, however, motivational currents may not always appear as intense or dramatic motivational surges. Instead, they may operate more gradually through small gains in comprehension, repeated routines, and continuous emotional reinforcement. This suggests that DMCs in EFL academic reading may be experienced as a steady form of persistence rather than as a highly intensified motivational episode.

The role of goal relevance also deserves attention. Students reported stronger engagement when reading was connected to future academic success, grades, or professional identity. This indicates that students are more likely to sustain engagement when they perceive academic reading as meaningful for their future. In this sense, reading engagement is not only task-based but also identity-related. Students who see reading as part of becoming competent university learners or future English teachers are more likely to persist even when texts are difficult. This finding is consistent with DMC theory, which highlights the importance of a clear future vision in sustaining motivated behavior (Dörnyei et al., 2016; Muir & Gümüş, 2020). It also supports studies on reading motivation showing that learners' perceived value of reading tasks can influence their persistence and strategy use (Han, 2021; Wei et al., 2024). In Indonesian EFL higher education, this implies that students may not engage deeply with academic texts when reading is presented merely as an obligation. They need to understand how reading contributes to their academic growth, professional preparation, and long-term language development.

The findings further show that students used a balanced combination of strategies rather than relying on one dominant approach. Dividing long texts into manageable sections obtained the highest mean score, but the effect-size differences among strategies were small. This indicates that text segmentation, scheduling, target setting, and note-taking worked together as complementary strategies. This finding is important because extended academic reading often imposes heavy cognitive demands on EFL learners. Dense arguments, unfamiliar vocabulary, abstract concepts, and long reading assignments can easily produce fatigue and disengagement. By dividing texts into smaller parts, students reduce cognitive load and create a sense of achievable progress. By scheduling reading time and setting targets, they establish structure and continuity. By taking notes, they maintain comprehension and support recall. These strategies reflect adaptive self-regulation, which is essential for sustained engagement in complex learning tasks (Li et al., 2022; Habók et al., 2024; Luo & Zhou, 2024). Therefore, reading strategies should not be viewed only as comprehension tools; they also function as engagement-sustaining mechanisms.

Viewed through the lens of Directed Motivational Currents, the findings suggest that the interaction of goal-oriented vision, structured reading behavior, and emotional reinforcement supported students' sustained academic reading engagement. A goal-oriented vision was reflected in students' connections between reading and their future academic or professional goals. Structured behavior was evident in students' use of routines, segmentation, scheduling, and reading targets. Emotional reinforcement appeared in students' satisfaction, confidence, and motivation when they recognized progress in comprehension. Together, these elements explain why students were able to maintain engagement with academic texts despite difficulty. However, the use of DMCs in this study should be interpreted carefully. Because the study employed a cross-sectional mixed-methods design, it cannot demonstrate the longitudinal development of motivational currents or prove that DMCs caused students' engagement. Rather, DMCs function as an interpretive lens for understanding how students' reported goals, routines, and emotional experiences were associated with sustained reading engagement. This cautious interpretation strengthens the study's theoretical contribution by extending DMC theory to academic reading while acknowledging the data's temporal limitations.

The findings have several pedagogical implications. First, EFL instructors should design reading instruction that simultaneously supports cognitive, behavioral, and emotional engagement. Cognitive engagement can be strengthened through explicit instruction in reading strategies, comprehension monitoring, guided questioning, and scaffolded analysis of academic texts. Behavioral engagement can be supported through structured reading routines, segmented reading assignments, reading schedules, target setting, and reading

logs. Emotional engagement can be enhanced through progress-based feedback, recognition of small gains in comprehension, supportive classroom discussions, and opportunities for students to connect reading tasks to their academic and professional goals. Second, reading instruction should move beyond a completion-oriented model, in which students are merely assigned texts and expected to finish them independently. Instead, instructors should adopt an engagement-oriented model that helps students experience progress during the reading process. For example, teachers can divide long articles into sections, provide guiding questions for each section, ask students to identify what they understand better after reading, and give feedback that emphasizes improvement rather than only correctness. Such practices can create a self-reinforcing cycle: students notice progress, feel more confident, persist longer, and gradually develop stronger academic reading habits.

Despite these contributions, several limitations should be acknowledged. First, the study relied on self-report questionnaires and interviews, which may be influenced by social desirability bias, selective memory, or students' subjective perceptions of their engagement. Although the mixed-methods design allowed for triangulation of findings, future studies should include additional data sources, such as classroom observations, reading logs, learning analytics, or digital trace data, to capture students' actual reading behavior more directly. Second, the cross-sectional design limits the study's ability to examine how reading engagement and motivational currents develop, fluctuate, or decline over time. Since DMCs are inherently dynamic and temporal, longitudinal research is needed to investigate how goal-oriented vision, structured routines, and emotional reinforcement evolve across semesters or reading tasks. Third, the study was conducted with students from four universities in Bengkulu, Indonesia, which may limit the transferability of the findings to other EFL contexts. Future research should involve more diverse institutional, regional, and cultural settings to examine whether similar patterns of multidimensional engagement emerge among different groups of EFL learners. Finally, while this study identified factors and strategies associated with sustained engagement, it did not test the effectiveness of instructional interventions. Future intervention-based studies are therefore needed to examine whether structured text segmentation, progress-based feedback, goal-oriented scaffolding, and explicit strategy instruction can significantly improve students' sustained engagement and academic reading performance.

## 5. Conclusion

This study examined cognitive, behavioral, and emotional dimensions of academic reading engagement among Indonesian EFL university students and interpreted the sustained nature of this engagement through the lens of Directed Motivational Currents. The findings show that students demonstrated high levels of engagement across all three dimensions, with emotional engagement slightly higher than cognitive and behavioral engagement. However, the differences among dimensions were relatively small. This indicates that a single dominant factor does not drive sustained academic reading engagement; rather, it emerges from the interaction of cognitive investment, behavioral persistence, emotional reinforcement, and strategic regulation. Perceived progress in comprehension, alignment with future academic and professional goals, emotional satisfaction, and interest in reading topics were found to support students' engagement. At the same time, strategies such as segmenting long texts, scheduling reading time, setting reading targets, and taking notes helped students manage extended and demanding reading tasks. Viewed through the lens of Directed Motivational Currents, students' sustained engagement can be understood as the result of a goal-oriented vision, structured reading behavior, and positive emotional feedback working together to maintain persistence. However, because this study employed a cross-sectional mixed-methods design, the findings should be interpreted as evidence of associations and interpretive patterns rather than as causal or longitudinal evidence of the development of motivational currents. Pedagogically, the study suggests that EFL reading instruction should move beyond assigning texts for completion and instead provide structured, goal-oriented, and emotionally supportive reading environments. Instructors should scaffold academic texts into manageable sections, provide progress-based feedback, help students set realistic reading goals, and connect reading tasks to students' academic and professional futures. Such practices may strengthen

students' confidence, sustain their motivation, and foster more meaningful engagement with academic reading in EFL higher education.

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## 7. Declaration of AI Use

The authors acknowledge the use of Grammarly and DeepSeek during the preparation of this manuscript. Grammarly was used to support grammar checking, language refinement, and clarity, while DeepSeek was used to assist with academic phrasing, coherence, and readability. These tools were used solely for language editing and manuscript refinement, not for generating research data, conducting data analysis, interpreting findings, or making scholarly conclusions. All intellectual content, research design, data collection, analysis, interpretation, and final decisions remain the sole responsibility of the authors. The authors carefully reviewed, verified, and approved the final version of the manuscript to ensure accuracy, originality, and compliance with academic integrity standards.

## 8. References

- Bråten, I., Latini, N., & Haverkamp, Y. (2021). Predictors and outcomes of behavioral engagement in the context of text comprehension: when quantity means quality. *Reading and Writing*, 35, 687–711. <https://doi.org/10.1007/s11145-021-10205-x>
- Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis?. *Qualitative research in psychology*, 18(3), 328-352. <https://doi.org/10.1080/14780887.2020.1769238>
- Creswell, J.W. and Plano Clark, V. L. (2023). Revisiting mixed methods research designs twenty years later. In E. Poth, C.N. (Ed.), *The Sage Handbook of Mixed Methods Research Design* (pp. 21–36). Sage Publications Ltd. <https://doi.org/10.4135/9781529682663.n6>
- Dardjito, H., Rolls, N., Setiawan, A., & Sumekto, D. (2023). Challenges in reading English academic texts for non-English-major students at an Indonesian university. *Studies in English Language and Education*, 10(3), 1290–1308. <https://doi.org/10.24815/siele.v10i3.29067>
- Dörnyei, Z. and Ushioda, E. (2011). *Teaching and Researching Motivation* (2nd Edition). Pearson, Harlow.
- Dörnyei, Z., & Henry, A. (2015). *Motivational dynamics in language learning*. *Studies in Second Language Learning and Teaching* 5(4):707-713. <https://doi.org/10.14746/ssllt.2015.5.4.10>
- Dörnyei, Z., Henry, A., & Muir, C. (2016). Motivational Currents in Language Learning. In *Motivational Currents in Language Learning*. Zoltán Dörnyei, Alastair Henry, and Christine Muir. <https://doi.org/10.4324/9781315772714>
- Eriksson, L. (2023). “Gruelling to read”: Swedish university students’ perceptions of and attitudes towards academic reading in English. *Journal of English for Academic Purposes*, 64(1), 1–11. <https://doi.org/10.1016/j.jeap.2023.101265>
- Habók, A., Oo, T., & Magyar, A. (2024). The effect of reading strategy use on online reading comprehension. *Heliyon*, 10(2), 1–17. <https://doi.org/10.1016/j.heliyon.2024.e24281>
- Han, F. (2021). The relations between motivation, strategy use, frequency, and proficiency in foreign language reading: An investigation with university English language learners in China. *SAGE Open*, 11(2), 2–12. <https://doi.org/10.1177/21582440211008423>
- Heikkinen, S., Saqr, M., Malmberg, J., & Tedre, M. (2025). A longitudinal study of the interplay between student

- engagement and self-regulation. *International Journal of Educational Technology in Higher Education*, 22(21), 1–28. <https://doi.org/10.1186/s41239-025-00523-3>
- Heydarnejad, T., Tagavipour, F., Patra, I., & Khafaga, A. (2022). The impacts of performance-based assessment on reading comprehension achievement, academic motivation, foreign language anxiety, and students' self-efficacy. *Language Testing in Asia*, 12(1), 1–22. <https://doi.org/10.1186/s40468-022-00202-4>
- Huo, C., Zhang, L., & Stephens, J. (2025). Examining the structure of Directed Motivational Currents (DMCs) among secondary and tertiary English as a Second Language learners. *Behavioral Sciences*, 15(8), 1–19. <https://doi.org/10.3390/bs15081066>
- Ibrahim, K., Carbajal, N., Zuta, M., & Bayat, S. (2023). Collaborative learning, scaffolding-based instruction, and self-assessment: impacts on intermediate EFL learners' reading comprehension, motivation, and anxiety. *Language Testing in Asia*, 13(1), 1–33. <https://doi.org/10.1186/s40468-023-00229-1>
- Jahedizadeh, S., & Al-Hoorie, A. H. (2021). Directed motivational currents: A systematic review. *Studies in Second Language Learning and Teaching*, 11(4), 517–541. <https://doi.org/10.14746/ssllt.2021.11.4.3>
- Jang, E., Seo, Y., & Brutt-Griffler, J. (2022). Building academic resilience in literacy: Digital reading practices and motivational and cognitive engagement. *Reading Research Quarterly*, 58(1), 160–176. <https://doi.org/https://doi.org/10.1002/rrq.486>
- Li, H., Gan, Z., Leung, S., & An, Z. (2022). The impact of reading strategy instruction on reading comprehension, strategy use, motivation, and self-efficacy in Chinese university EFL students. *SAGE Open*, 12(1), 1–14. <https://doi.org/10.1177/21582440221086659>
- Lin, C., Lin, T., & Tang, C. (2025). Enhancing English reading comprehension, learning motivation, and attitude through AI-supported pre-reading scaffolding. *Journal of Computer Assisted Learning*, 41(6), 1–15. <https://doi.org/10.1111/jcal.70150>
- Luo, R., & Zhou, Y. (2024). The effectiveness of self-regulated learning strategies in higher education blended learning: A five-year systematic review. *J. Comput. Assist. Learn*, 40, 3005–3029. <https://doi.org/10.1111/jcal.13052>
- Ma, L., & Zhao, Z. (2025). Reading motivation and reading comprehension achievement among English majors in China: A descriptive correlational study. *Heliyon*, 11(3), 1–10. <https://doi.org/10.1016/j.heliyon.2025.e42427>
- Mahdahera, D. D. U., & Ridwan, I. (2023). EFL students' engagement in reading comprehension using cooperative integrated reading and composition. *Bahtera: Jurnal Pendidikan Bahasa Dan Sastra*, 22(1). <https://doi.org/10.21009/bahtera.221.01>
- Mežek, Š., McGrath, L., Negretti, R., & Berggren, J. (2021). Scaffolding L2 academic reading and self-regulation through task and feedback. *TESOL Quarterly*, 1(1), 1–26. <https://doi.org/10.1002/tesq.3018>
- Muir, C., & Gümüş, Ö. (2020). Directed motivational currents: An agenda for future research. *Eurasian Journal of Applied Linguistics*, 6(3), 501–519. <https://doi.org/10.32601/ejal.834661>
- Muslimin, A. I. (2025). English as a foreign language (EFL) students' engagement, reading habits, and learning outcomes: A comparative study of extensive and intensive reading. *Asia Pacific Journal of Educators and Education*, 40(2), 337–355. <https://doi.org/10.21315/apjee2025.40.2.16>
- Nahak, Y., & Mbato, C. L. (2022). Undergraduate Students' Perceived Self-Efficacy in Academic Reading. *Language Circle: Journal of Language and Literature*, 16(2). <https://doi.org/10.15294/lc.v16i2.34190>
- Pekrun, R. (2021). Emotions in reading and learning from texts: progress and open problems. *Discourse Processes*, 59, 116–125. <https://doi.org/10.1080/0163853x.2021.1938878>
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational psychologist*, 37(2), 91–105. [https://doi.org/10.1207/S15326985EP3702\\_4](https://doi.org/10.1207/S15326985EP3702_4)
- Pietluch, A., & Sak, M. (2025). Navigating the Flow: The Dynamic Nature of Language Learners' Well-Being in Directed Motivational Currents. *International Journal of Applied Linguistics*, 35(3), 1427–1439. <https://doi.org/10.1111/ijal.12716>
- Pinzón Santos, E. Y., Suárez Rojas, M. S., & Carrasco, F. C. (2021). Impact of Self-Regulated Learning on Reading Skills. *Cuadernos de Lingüística Hispánica*, 2021(37).

<https://doi.org/10.19053/0121053X.n37.2021.12152>

- Rad, H. (2025). Reinforcing L2 reading comprehension through artificial intelligence intervention: refining engagement to foster self-regulated learning. *Smart Learn. Environ*, 12(23), 1–28. <https://doi.org/10.1186/s40561-025-00377-2>.
- Richards, K. A. R., & Hemphill, M. A. (2018). A practical guide to collaborative qualitative data analysis. *Journal of Teaching in Physical Education*, 37(2), 225–231. <https://doi.org/10.1123/jtpe.2017-0084>
- Sak, M., & Pietluch, A. (2024). Sources and outcomes of distressing emotions in directed motivational currents. *System*, 123(1), 1–10. <https://doi.org/10.1016/j.system.2024.103317>.
- Sasabone, L., Jihad, N., & Saleh, N. (2025). Exploring the correlation between higher-order thinking skills, reading strategies, and reading literacy among EFL students in the digital 4.0 era. *Communications on Applied Nonlinear Analysis*, 32(9), 3007–3019. <https://doi.org/10.52783/cana.v32.4616>
- Schunk, D. H., & DiBenedetto, M. K. (2020). Motivation and Social Cognitive Theory. *Contemporary Educational Psychology*, 60(1). <https://doi.org/10.1016/j.cedpsych.2019.101832>
- Urhahne, D., & Wijnia, L. (2023). Theories of motivation in education: An integrative framework. *Educational Psychology Review*, 35(3), 1–35. <https://doi.org/10.1007/s10648-023-09767-9>
- Van Der Sande, L., Van Steensel, R., Fikrat-Wevers, S., & Arends, L. (2023). Effectiveness of Interventions that Foster Reading Motivation: a Meta-analysis. *Educational Psychology Review*, 35, 1–38. <https://doi.org/10.1007/s10648-023-09719-3>
- Wei, D., Xu, C., & Zheng, X. (2024). Motivation and metacognitive strategy use in reading English as a foreign language among adolescent learners. *The Asia-Pacific Education Researcher*, 34, 1091–1099. <https://doi.org/10.1007/s40299-024-00923-5>
- Wong, J., Baars, M., He, M., Koning, B., & Paas, F. (2021). Facilitating goal setting and planning to enhance online self-regulation of learning. *Comput. Hum. Behav*, 124(3), 1–14. <https://doi.org/10.1016/j.chb.2021.106913>
- Xodabande, I., & Babaii, E. (2021). Directed Motivational Currents (DMCs) in self-directed language learning: An interpretative phenomenological analysis. *Journal of Language and Education*, 7(3), 117–128. <https://doi.org/10.17323/jle.2021.12856>
- Yapp, D., De Graaff, R., & Van Den Bergh, H. (2021). Effects of reading strategy instruction in English as a second language on students' academic reading comprehension. *Language Teaching Research*, 27, 1456–1479. <https://doi.org/10.1177/1362168820985236>.
- Yu, S., & Liu, H. (2023). Longitudinal detection of directed motivational currents in L2 learning: motivated behaviours and emotional responses. *Current Psychology*, 43, 7497–7510. <https://doi.org/10.1007/s12144-023-04945-y>.
- Zaha, A. (2022). Analysis of the interrelatedness of Self -Regulation, Learners' Engagement, and Self-Perceived development in a synchronous online EFL reading course. *World Journal of English Language*, 12(8). <https://doi.org/10.5430/wjel.v12n8p39>
- Zarrinabadi, N., & Khodarahmi, E. (2021). Some antecedents of directed motivational currents in a foreign language. *Journal of Multilingual and Multicultural Development*, 45, 973–986. <https://doi.org/10.1080/01434632.2021.1931250>.
- Zarrinabadi, N., & Khodarahmi, E. (2023). Investigating the consequences of experiencing directed motivational currents for learners' beliefs and self-perceptions. *Journal of Multilingual and Multicultural Development*, 46, 698–712. <https://doi.org/10.1080/01434632.2023.2197422>
- Zhou, J. (2025). Enjoyment and challenges of advanced EFL learners in online extensive reading. *Reading in a Foreign Language*, 37(2), 85–108. <https://doi.org/10.64152/10125/67499>