



Self-Regulated Learning Strategies of Academic-Digital Reading Comprehension: A Narrative Inquiry

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Abstract. Numerous studies have investigated self-regulated learning (SRL) strategies and reading comprehension in L2/ foreign language contexts. Nevertheless, limited attention of research has been concentrated on an online reading test. Reading strategies on the computer screen is different from printed paper, especially for test purposes. Students need to regulate their learning process in digital mode and manage their time to read the text. This study aims to find out how EFL students use their SRL strategies to achieve higher scores in reading comprehension on online tests. This present study uses a narrative inquiry of qualitative research approaches. The participants who passed the examination were selected based on the highest test scores of TEP (Test of English Proficiency) which was held by the doctoral program at a state university in Indonesia. The test materials of TEP are similar to TOEFL. The findings provide cognitive, metacognitive, and motivational strategies that may help EFL students achieve higher scores in online reading tests.

Keywords: Digital reading, Online reading, Reading strategies, Reading Comprehension, Self-regulated Learning; Self-regulated learning Strategies

1. Introduction

Empirical evidence proved that SRL strategies relate to better academic performance [1–5]. Self-regulated learning (SRL) is a crucial aspect of education and has become increasingly important [6] nowadays due to the younger generation's engagement with digital texts [7]. SRL involves the ability to regulate one's learning, including setting goals, planning, monitoring progress, and adjusting strategies as necessary [6]. Skilled self-regulated learners tend to perform better than their peers in academic tests and have a more successful academic life [8].

According to the social cognitive perspective, self-regulation is a process that involves planning and adaptation of one's behaviors, emotions, and thoughts to achieve their goals [6]. Self-regulation includes controlling various resources such as time and study habits, regulating motivation and emotions, and adapting cognitive skills [21]. Zimmerman [6] suggested that self-regulated learning (SRL) consists of three primary

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elements: cognition, metacognition, and motivation. Cognition encompasses the abilities required for encoding, retaining, and retrieving information. Metacognition involves the skills that enable learners to monitor and comprehend their cognitive processes. [13] added that in metacognition, students who practice self-regulated learning possess the capacity to engage in planning, self-monitoring, and self-evaluation of their learning process. Lastly, motivation comprises the attitudes and beliefs that impact the cultivation and utilization of cognitive and metacognitive skills. Self-regulated students demonstrate self-efficacy, a sense of competence, and a drive for autonomy, which empower them to engage in the learning process [13].

In this digital age, the growth of technology has a significant influence on education. Technology support has been used in various aspects of education, including teaching, learning, and assessment. In the aspect of assessment, the test can be taken online and accessed from various locations around the world. It gives flexibility for the test takers to choose a time and place that suits them. Nevertheless, an online test is different from a paper-based test because the test takers need to ensure that they have a computer or laptop that meets the technical requirements to run the online test. They should also be familiar with the test interface and understand how to use the test tools, such as navigation buttons, audio players, and other features. If the test takers are not familiar with technology, this may affect their ability to answer questions and follow instructions appropriately.

TEP is a type of English test that is like TOEFL and is held by a state university in Indonesia. TEP materials consist of listening, structure, and reading. Since the test is conducted online, the test takers have difficulties in doing the test because they are not accustomed to online tests. Only five out of nineteen students passed this test. The most difficult part is in the reading section. Those who are not familiar with online reading texts have difficulties. Reading digital and printed text is different. Print reading involves accessing texts created by authors and following a linear progression through static, physical pages, while digital reading exhibits unique characteristics which have dynamic windows, more crowded screens, and pages interconnected through hyperlinks [9]. Therefore, it needs new reading strategies.

1.1 Self-Regulated Learning and Reading Comprehension

[22] reported that self-regulated reading strategies lead to enhanced reading outcomes among learners. Proficiency in L2/EFL reading may be attributed to the presence of self-regulation skills [2]. Additionally, [22] found that students who demonstrated significant improvements in reading were notably more proficient at self-regulating their reading compared to those with minimal improvements. These successful students utilized effective strategies, organized their reading process by setting goals, allocating time, and exerting effort, and consistently monitored their comprehension. On the other hand, [22] reported that students who exhibited low improvements were observed to have inadequately employed self-regulation techniques. Furthermore, when faced with challenges, these students were more prone to experiencing difficulties and encountering failures.

Reading comprehension relies heavily on SRL because self-regulated learning is a crucial key in reading comprehension as a goal-oriented behavior that needs learners

to develop a specific goal, use prior information as to their background knowledge, and draw conclusions from the text [23]. In addition, one's linguistic and creative thinking skills can be improved as a result of reading habits [24] therefore, the use of the SRL strategy is required. Furthermore, [8] noted that motivation, cognitive, and metacognitive strategies as the key components of SRL that impact reading comprehension. Thus, SRL strategies involving cognitive strategies, metacognitive strategies, and motivational strategies should be taught either directly or indirectly to increase EFL students' strategy and effective use of these strategies in reading comprehension [13]. The component of SRL that plays an important factor in reading is the use of activation of background knowledge, strategy, self-efficacy, motivation, and goal orientation [23].

1.2 Reading Printed vs. Digital Texts

Reading digital texts is distinct from reading printed texts because it demands more sophisticated reading strategies [25] and navigation skills [26]. The nonlinear structure and hyperlinking nature of digital texts require readers to establish clear reading objectives and employ advanced cognitive strategies such as analysis, synthesis, integration, and evaluation of information [9]. Some empirical evidence showed that reading in digital texts is more difficult than printed text. A study conducted by [27] who investigated the effects of screen-based versus paper-based reading on English reading comprehension of Turkish university students, revealed a significant advantage for students who read texts in print, as they achieved notably higher scores on reading comprehension tests compared to students who read the texts digitally. [28] conducted a study comparing the impact of reading modality (PDF vs. paper-based) on reading comprehension, the results indicated that students using the paper-based format demonstrated higher reading comprehension. Similarly, [19] reported that students demonstrated higher reading proficiency in the print setting. However, it is important to note that these findings only pertained to limited electronic reading conditions, such as PDF or e-book formats. Reading texts in electronic form in the online setting may be more complex and necessitate advanced reading strategies. Additionally, online readers face the challenging task of evaluating the credibility and appropriateness of content because the tangible indicators of authority found in printed books, such as renowned authors or publishers, are often absent or implicit in the online environment [29].

Online reading is a process in which readers construct meaning by actively applying their prior knowledge and utilizing inferential strategies to navigate through information space [10]. Compared to less self-regulated students, highly self-regulated online readers are comparably more flexible and competent when handling nonlinear electronic texts and better understand digital materials [11]. Furthermore, EFL students do not have enough knowledge of reading strategies effectively [12]. Among various language learning aspects, reading comprehension particularly requires self-regulation since learners often encounter challenges when selecting and applying appropriate reading strategies. Consequently, it is essential to explicitly teach these strategies to students [13].

1.3 The Present Study

To understand how students use their SRL strategies in reading, many previous studies investigated a similar topic regarding the relationship between SRL and reading [3], [13–18]. However, few researchers investigated reading strategies of online reading habits [19], while [20] investigated the relationship of social media use, SRL, and digital reading. It is hard to find relevant previous studies investigating SRL strategies in an online academic reading test. Therefore, this present study investigates SRL strategies used by good students regarding improving digital reading achievement in an online test.

To gain an in-depth knowledge of how adult students use their SRL strategies in academic digital reading comprehension. This study aims to investigate students' SRL strategies used in an online reading test. It gives understanding and knowledge to other students to increase their scores and pass the online test. This study is guided by a research question; How do good students use their SRL strategies (cognitive, metacognitive, and motivational strategies) in online reading tests?

2. METHOD

The participants were purposively selected from doctoral students of the English department at a state university in East Java, Indonesia. The participants were chosen because the researchers had easy access to contact them. They are five students who passed the TEP standard score of more than 570, but we only chose the three highest scores among them. One participant rejected to be a participant. Only two students who are volunteered as participants. Student A got 587 and student B got 577 in a test.

The data was collected through semi-structured interviews, and recorded by using the Zoom app. The participants were interviewed one by one at different times in their first language (Bahasa Indonesia) to have a smooth conversation. The interview protocol consisted of cognitive strategies (10 questions) adapted from [8], while metacognitive (11 questions) and motivational (8 questions) strategies adapted from Lau [30]. Two interviews were conducted between 45 and 60 minutes each. Participants were instructed to reflect on their experiences and how they achieved higher scores on the Test of English Proficiency (TEP). This approach allowed participants to concentrate on the cognitive, metacognitive, and motivational strategies they employed while reading during the test. To gain a deeper understanding and gather additional information, follow-up interviews, and WhatsApp conversations were conducted with the participants to address any uncertainties and obtain further insights.

This study used a narrative inquiry as a part of qualitative research. Narrative analysis was selected because scholars argue that human experience is primarily a narrative phenomenon that can be best understood through storytelling, especially in educational contexts [31]. During the process of identifying themes in the interviews, narrative threads are interwoven throughout the transcripts, and translated into English.

3. Findings and discussions

3.1 Findings

Finding the main idea. Finding the main idea in TEP is a question that always exists on the test. Some people cannot find the main idea of the text. Finding the main idea involves cognitive strategies that need some techniques. Skilled students have some techniques to find the main idea in a paragraph. Student A read the first and second sentences to find the main idea in a paragraph. While student B tries to find the main idea in the first and at the end of a paragraph.

Remembering. A good student is good at memorization. They replace difficult vocabulary with simpler words to be easily understood. Furthermore, reading habits are very helpful in doing tests because there is already background knowledge. When studying before a test, good students do not take a note for reading. They rely on their memory. Student B said that he often practices saying important vocabulary or ideas over and over to himself when he studies for a test to help him remember easily and he will remember the vocabulary automatically.

Studying before the test. Good students always prepare before the test. They study and use what have they learned to do a test. Student A said:

“I practiced reading in the online test & used it in tests. I practice using screen mode in the Dunia TOEFL website. It trains me to read faster dan clicks the mouse faster. So, I technically trained”.

While student B said:

“What I have learned in reading, gives me knowledge and facts about anything. So, I can do the test. I often read in pdf files, WhatsApp, and read digital novels on mobile phones as my habits. It helps me to read on-screen mode. I never read on the printed book”.

Highlighting important ideas or words. Good students have different strategies to understand the meaning of a text. Student A usually took notes or highlighted important ideas or vocabulary in a printed TOEFL preparation exercise when she was studying. While student B never takes notes, he always relies on memory.

Connects the text with what already know. Good readers can connect and relate to what they already know when reading. Both students said that they always relate their knowledge when reading a text to find meaning. As student A said:

“Yes. I always connect to what I already know before. It makes me faster in doing tests. For example, about algae, I got new knowledge that I did not know before. It increases my information. The text that I already know can be skipped immediately. I already understand it so I do not need to re-read it. I can answer right away and it is easier”.

Reading Strategy. Good readers use some strategies to have good performance in reading. Both participants almost have the same strategies when doing the test in

reading comprehension. The first thing to do before they read is look at the time, read the questions, then scan the text to find the answer. It can be seen as follows;

“The first thing to do is look at the time, title, and questions of a text, then read the text. During reading the text I have to remember the questions and try to find the answer. I have to finish reading within 10 minutes of each text. There are no differences between the ways I read different topics of each text”. (SA)

“I start to look at the time before reading. After I finish reading the text, I look at the time again. If there is still time left, I will read it again. There is no specific time for each text. Then, I read the questions first for locating information/ scanning, remember it then find answers. If I doubt my answer I will read again if the time is still available. There are no differences between the ways I read different topics of each text. I just have different effort when reading different topics such as scientific topics. I need hard work to finish these kinds of text.” (SB)

During the reading process, good readers also have the same strategies to comprehend the meaning of the text. They find the main idea of a paragraph in the first and second sentences or at the end of a paragraph to comprehend the meaning of a text. It can be seen as follows;

“Read the first and second sentences of each paragraph to find the main idea. If you have any other questions, read them thoroughly”. (SA)

“Finding the main idea. You don't have to understand correctly. Meaning 90%, the rest is guessing, and comprehension is 75%. Find the main idea at the beginning and end of each paragraph. Besides, I am very confident to answer synonym/ antonym questions because my habits are reading, watching movies, and multimodal so I have a lot of background knowledge”. (SB)

When there is limited time to finish the test. They will choose some part of the text that allows them to answer the questions correctly. The question is: “If you do not have enough time to finish reading a text, “which part of the text will you choose to read? Why?”. Their answers are as follows;

“The first and second sentence then look for the questions. Usually the answer is there”. (SA)

“I will choose a text that has a lot of questions because it gives me the opportunity to achieve a higher score. And I will choose synonym and antonym questions. I am very confident and can do my best to answer this kind of question.” (SB)

During reading process, good readers always check their understanding of the text. They use similar strategies for checking. For example, relate and guess the meaning of the words based on the context. While student B always reviews the text from the beginning.

“Yes. I relate with the context of the paragraph and guessing the meaning of the words”. (SA)

“Yes. I review again from the beginning if I still have a lot of time. I always have a lot of time left.” (SB)

Good readers use the same pattern of reading strategies in doing reading tests when they encounter a difficult word during reading. For example, guessing meaning, relating text with background knowledge, and reading at the first and the end of para-

graphs. They also use these strategies when they do not understand the meaning of the text during reading.

"I fit the words with the contexts and guess with my feeling to find the correct one." (SA)

"I like reading the text so that I have a lot of background knowledge and relate the text in a test with it. I usually read at the first and the end of a paragraph." (SB)

At the end of a test, both participants always check their answers after reading the whole text. And they also read the text again if the time left is still enough. They think checking is required to make sure the answer is correct. They do not waste the time. They do their best performance for the test to achieve higher scores.

Self-efficacy. In terms of self-efficacy, both participants are not sure that they are good readers. There are two questions related to self-efficacy. The first question is; "Do you think you are a good reader? Why?". Their answers are;

"I am just a good reader for a test. I try hard to do the test. I am a good listener. I try to be a good reader". (SA)

"I am not good at reading. I cannot stand to read for a long time if the topic is difficult. I like reading for pleasure". (SB)

The second question is "Can English language lessons enhance your reading ability and confidence in reading? Why?" the answer is;

"Yes. I have been trained to read in English so that I am familiar with English text." (SA)

Intrinsic/extrinsic/social motivation. Strong motivation can enhance students to achieve their goals whether it is intrinsic, extrinsic, or social motivation. The questions about motivation consist of four items. The first question is "Usually what are the main reasons for you to read the TOEFL exercise book/ online TOEFL preparation test?". Their answer is:

"Doing exercise in the TOEFL book preparation. My strong intrinsic motivation is to achieve a higher score for the requirements of the examination." (SA)

"Prepare for the test by doing exercises from the TOEFL book but I never train myself to practice in online TOEFL exercise. Additionally, in the past, I taught TOEFL for one year." (SB)

The second question is "Do you like reading? Why? What kind of text?". Both participants like to read English text but for entertainment not for academic text. There is an example of one of the students' answers;

"Yes. But not reading academics. I like reading for pleasure. For example, English Novel."

The third question is "Do you think reading is important for you? Why?". Both participants agree that reading is important for them for some reasons. For example, for academic and social purposes. Their answers can be seen as follows,

"Yes. It is important to pass the test. I will be self-confidence if I go overseas." (SA)

"Yes, it is very important. It improves knowledge and it is valuable to do the test if you like to read." (SB)

The fourth question is “Can the topics in the test enhance your reading interest? Why?”. The participants’ answer is similar in that they agree that the topics in the test enhance reading interest. Their answers are;

“Yes, absolutely because the topic is interesting and I like it.” (SA)

“Correctly. I like biography because it is more interesting if the text has a name. I like history”. (SB)

Attributional belief. The questions about attributional belief aimed to explore how students explained their reading performance when they succeeded or failed in a reading task [30]. Internal attribution refers to the cause of behavior that lies in the internal factors of the individual, such as personality, disposition, or other personal characteristics. For example, if a person performs well on an exam, we may tend to attribute his success to the intelligence or effort that individual has. External attribution, on the other hand, refers to the causes of behavior that lie in external factors in the environment, such as situations, social pressures, or luck factors.

There are two questions related to attributional belief. The first question is “Usually what kinds of factors cause you to have good performance in a reading test?” Their answer is;

“Hard work, practice to achieve more than the standard passing score 570. Know vocabulary, have background knowledge.” (SA)

“I like reading and watching movies so I have a lot of vocabulary which can help me to do the test. I am very comfortable and enjoy reading in a screen mode even for a long time. I need a comfortable and cool environment to do the test although it is crowded. My motivation to pass is very high so I don't want to do the test again, it makes me tired.” (SB)

The second question is “Usually what kinds of factors cause you to have poor performance in a reading test?”. Their answer is;

“If I have low concentration. When the text has a lot of difficult vocabulary, unknown topics, and I do not have background knowledge.” (SA)

“If there are technical/network problems, less vocabulary, and comprehension which affects my performance. My mood is not affected even when I am angry. I can do the best in tests although I am feeling tired or unwell.” (SB)

4. Discussions

4.1 Cognitive strategies

Cognitive strategies play a significant role in affecting how learners engage with reading materials. Findings show that all participants rely on their memory, they never take a note during reading. [18] noted that memorization is a cognitive strategy. Memorization strategies, which involve rote learning or repetition to retain information in one's memory, are fundamental skills [9]. Additionally, participants use control strategies such as when reading in digital text, they try to focus and understand the unknown vocabulary and topics and remember the questions to find the main ideas in the text. Cognitive strategy involves control strategy, essential to affect reading performance [32]. The non-linear and limitless nature of digital reading can limit students’ decision-making and pose challenges in achieving their reading objec-

tives or comprehending the main points of the texts, that primarily attributed to the presence of multiple representations from various media sources and the interconnectedness between different texts, making the process more complex and difficult [20]. Thus, it needs a control strategy.

Cognitive strategies involve utilizing cognitive abilities to complete learning tasks [33, 34]. In this study, good readers also use elaboration, which refers to the process of enhancing the newly acquired knowledge's meaning and understanding by assimilating it into existing prior knowledge [35]. They use their background knowledge to comprehend the meaning of the text and to find the synonym and antonyms of the words. Furthermore, the findings of cognitive strategies in this current study have similar results to [36] that Indonesian high-proficiency students in university like reading novels, articles, news, watching movies, studying before a test, guessing, and using clues or context to understand the meaning of unfamiliar text.

4.2 Metacognitive strategies

Metacognition is significant in the digital reading setting [19]. High-order skills are required in metacognitive strategies to regulate, guide, and manage the whole learning process [21]. Findings show some metacognitive strategies used by students during the reading test. First, self-monitoring involves recording and tracking the activities of learning and results [37]. Both participants always study before a test, so that they are more ready to do the test. For example, Student A always practices doing the test in an online TOEFL preparation. This exercise trains her to navigate the text on the computer screen. Student B always uses the new vocabulary that he already knows to communicate and write. Their experiences are very helpful to do the test. Second is planning, both participants have set the time before reading the text. At first, they always look at the time so that they plan to finish reading tests before the time is over to review the text. The third is self-evaluation, which is related to the act of reflecting on the learning process, comparing the learner's performance with goals, and evaluating the quality of learning [37]. For instance, the participants always reflect on their scores from the previous test so that they will set goals and improve their learning to achieve more than the standard passing score. The last of metacognitive strategies is setting the goals of learning [6]. Both students have the same goals, they want to pass the TEP so that they learn so hard to lighten the burden in the future, and they can focus on other assignments.

4.3 Motivational strategies

Motivation is another crucial element of SRL to support self-regulation so students engage in metacognitive strategies [21]. Motivational strategies have a significant place in SRL because they influence students' goals to succeed [38] and the ability to manage their emotions in learning [33]. In motivational strategies, three parts of questions involve self-efficacy, reading goals, and attributional belief about reading performance. Based on the students' self-efficacy in reading, both participants did not show great self-confidence in their reading ability. Students A and B said that they like reading but did not have a good ability to be good readers.

The reading goals of both participants were mainly intrinsic, such as enjoying reading, being attracted by entertaining books, or reading for pleasure. This is in line with [30] that good readers are attracted by reading for leisure. In this current study, we uncover that students who demonstrated a fondness for reading exhibited higher levels of engagement with the task and a greater willingness to engage in in-depth processing of the texts.

In attributional belief, this study revealed that students' reading performance is affected by hard work, ability, and external factors (bad network/connection and environment). Student B can manage his emotions during the test because he wants to do his best to reach higher scores. His motivation is very strong to pass the test. It is relevant to the theory of SRL that motivational strategies are the ability to regulate emotional states during learning [33, 39].

5. Conclusions

Promoting SRL strategies can influence positively the student's academic performance. Educators and researchers must persist in exploring and creating effective SRL strategies to enhance students' abilities for lifelong learning. The importance of effective self-regulated learning strategies cannot be overstated, as they play a vital role in academic achievement. Educators have a crucial role in motivating students to cultivate and employ self-regulated learning strategies in digital reading texts to achieve higher scores. However, this present study has some limitations. The participants were only two and selected from doctoral students. It may lack data and cannot be generalized. Therefore, further study is suggested to explore SRL strategies in the academic reading of a test on-screen mode with more participants with various degrees. Secondly, further research is suggested using a quantitative or mixed-method approach to conduct a similar study.

References

- [1] A. Ejubović and A. Puška, "Impact of self-regulated learning on academic performance and satisfaction of students in the online environment," *Knowl. Manag. E-Learning*, vol. 11, no. 3, pp. 345–363, 2019, doi: 10.34105/j.kmel.2019.11.018.
- [2] M. Morshedian, F. Hemmati, and E. Sotoudehnama, "Training EFL Learners in Self-Regulation of Reading: Implementing an SRL Model," *Read. Writ. Q.*, vol. 33, no. 3, pp. 290–303, 2017, doi: 10.1080/10573569.2016.1213147.
- [3] S. K. Tse, L. Lin, and R. H. W. Ng, "Self-Regulated learning strategies and reading comprehension among bilingual primary school students in Hong Kong," *Int. J. Biling. Educ. Biling.*, vol. 25, no. 9, pp. 3258–3273, 2022, doi: 10.1080/13670050.2022.2049686.
- [4] J. A. Vaculíková, "Measuring self-regulated learning and online learning events to predict student academic performance," *Stud. Paedagog.*, vol. 23, no. 4, pp. 91–118, 2018, doi: 10.5817/SP2018-4-5.
- [5] J. Wang and B. Bai, "Whose goal emphasizes play a more important role in

- ESL/EFL learners' motivation, self-regulated learning and achievement?: Teachers' or parents'," *Res. Pap. Educ.*, vol. 00, no. 00, pp. 1–23, 2022, doi: 10.1080/02671522.2022.2030395.
- [6] B. J. Zimmerman, "Attaining Self-Regulation," in *Handbook of Self-Regulation*, M. Boekaerts, P. R. Pintrich, and M. Zeidner, Eds. Elsevier, 2000, pp. 13–39. doi: 10.1016/B978-012109890-2/50031-7.
- [7] W. T. Tseng, Z. Dörnyei, and N. Schmitt, "A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition," *Appl. Linguist.*, vol. 27, no. 1, pp. 78–102, 2006, doi: 10.1093/applin/ami046.
- [8] P. R. Pintrich and E. V. De Groot, "Motivational and self-regulated learning components of classroom academic performance.," *J. Educ. Psychol.*, vol. 82, no. 1, pp. 33–40, Mar. 1990, doi: 10.1037/0022-0663.82.1.33.
- [9] OECD, *PISA 2018 Assessment and Analytical Framework*. 2019.
- [10] J. Coiro and E. Dobler, "Exploring the online reading comprehension strategies used by sixth-grade skilled readers to search for and locate information on the Internet," *Read. Res. Q.*, vol. 42, no. 2, pp. 214–257, 2007, doi: 10.1598/rrq.42.2.2.
- [11] M. Minguela, I. Solé, and S. Pieschl, "Flexible self-regulated reading as a cue for deep comprehension: evidence from online and offline measures," *Read. Writ.*, vol. 28, no. 5, pp. 721–744, 2015, doi: 10.1007/s11145-015-9547-2.
- [12] C. Finkbeiner, M. Knierim, M. Smasal, and P. H. Ludwig, "Self-regulated cooperative EFL reading tasks: Students' strategy use and teachers' support," *Lang. Aware.*, vol. 21, no. 1–2, pp. 57–83, 2012, doi: 10.1080/09658416.2011.639892.
- [13] R. R. Mohammadi, M. Saeidi, and S. Ahangari, "Self-regulated learning instruction and the relationships among self-regulation, reading comprehension and reading problem solving: PLS-SEM approach," *Cogent Educ.*, vol. 7, no. 1, 2020, doi: 10.1080/2331186X.2020.1746105.
- [14] D. Amini, M. H. Anhari, and A. Ghasemzadeh, "Modeling the relationship between metacognitive strategy awareness, self-regulation and reading proficiency of Iranian EFL learners," *Cogent Educ.*, vol. 7, no. 1, 2020, doi: 10.1080/2331186X.2020.1787018.
- [15] L. Chu, P. H. Li, and M. N. Yu, "The longitudinal effect of children's self-regulated learning on reading habits and well-being," *Int. J. Educ. Res.*, vol. 104, no. April, p. 101673, 2020, doi: 10.1016/j.ijer.2020.101673.
- [16] R. L. Nurjanah and M. R. A. Pratama, "Self-Regulated Learning Strategy Instructions in Reading Comprehension Skill Learning During Outbreak Era," *J. English Lang. Teach. Linguist.*, vol. 5, no. 2, p. 191, 2020, doi: 10.21462/jeltl.v5i2.409.
- [17] H. D. Pradana and O. E. Tena, "A Qualitative Research on Self-Regulation Practices of ELT Students in Reading Class," *J. Foreign Lang. Teach. Learn.*, vol. 6, no. 2, p. PRESS, 2021, doi: 10.18196/ftl.v6i2.11625.
- [18] X. Qi, "Effects of Self-Regulated Learning on Student's Reading Literacy: Evidence From Shanghai," *Front. Psychol.*, vol. 11, no. January, 2021, doi: 10.3389/fpsyg.2020.555849.

- [19] J. Y. Wu and Y. C. Peng, "The modality effect on reading literacy: perspectives from students' online reading habits, cognitive and metacognitive strategies, and web navigation skills across regions," *Interact. Learn. Environ.*, vol. 25, no. 7, pp. 859–876, 2017, doi: 10.1080/10494820.2016.1224251.
- [20] J. Chen, C. H. Lin, and G. Chen, "A cross-cultural perspective on the relationships among social media use, self-regulated learning and adolescents' digital reading literacy," *Comput. Educ.*, vol. 175, no. August, 2021, doi: 10.1016/j.compedu.2021.104322.
- [21] P. R. Pintrich, "The Role of Goal Orientation in Self-Regulated Learning," in *Handbook of Self-Regulation*, M. Boekaerts, P. R. Pintrich, and M. Zeidner, Eds. Academic Press, 2000, pp. 451–502. doi: 10.1016/B978-012109890-2/50043-3.
- [22] J. Hu and X. Gao, "Using think-aloud protocol in self-regulated reading research," *Educ. Res. Rev.*, vol. 22, pp. 181–193, 2017, doi: 10.1016/j.edurev.2017.09.004.
- [23] P. T. Cirino *et al.*, "Executive Function, Self-Regulated Learning, and Reading Comprehension: A Training Study," *J. Learn. Disabil.*, vol. 50, no. 4, pp. 450–467, 2017, doi: 10.1177/0022219415618497.
- [24] R. I. Segundo Marcos, V. López Fernández, M. T. Daza González, and J. Phillips-Silver, "Promoting children's creative thinking through reading and writing in a cooperative learning classroom," *Think. Ski. Creat.*, vol. 36, no. May, p. 100663, 2020, doi: 10.1016/j.tsc.2020.100663.
- [25] D. Leu, L. Zawilinski, J. Castek, M. Banerjee, B. Housand, and Y. Liu, "Secondary Literacy," *Theor. Model. Process. Reading. (5th ed.)*, no. December 2015, pp. 1570–1611, 2007.
- [26] C. Hahnel, F. Goldhammer, J. Naumann, and U. Kröhne, "Effects of linear reading, basic computer skills, evaluating online information, and navigation on reading digital text," *Comput. Human Behav.*, vol. 55, no. February, pp. 486–500, 2016, doi: 10.1016/j.chb.2015.09.042.
- [27] S. Kazazoğlu, "Is printed-text the best choice? A mixed-method case study on reading comprehension," *J. Lang. Linguist. Stud.*, vol. 16, no. 1, pp. 458–473, 2020, doi: 10.17263/JLLS.712879.
- [28] A. Mangen, B. R. Walgermo, and K. Brønning, "Reading linear texts on paper versus computer screen: Effects on reading comprehension," *Int. J. Educ. Res.*, vol. 58, no. October 2017, pp. 61–68, 2013, doi: 10.1016/j.ijer.2012.12.002.
- [29] X. Liang *et al.*, "Building buzz: (Scientists) communicating science in new media environments," *Journal. Mass Commun. Q.*, vol. 91, no. 4, pp. 772–791, 2014, doi: 10.1177/1077699014550092.
- [30] K. L. Lau, "Reading strategy use between Chinese good and poor readers: A think-aloud study," *J. Res. Read.*, vol. 29, no. 4, pp. 383–399, 2006, doi: 10.1111/j.1467-9817.2006.00302.x.
- [31] A. Vance, D. Pendergast, and S. Garvis, "Teaching resilience: a narrative inquiry into the importance of teacher resilience," *Pastor. Care Educ.*, vol. 33, no. 4, pp. 195–204, 2015, doi: 10.1080/02643944.2015.1074265.

- [32] B. J. Zimmerman, "Self-Regulated Learning and Academic Achievement: An Overview," *Educ. Psychol.*, vol. 25, no. 1, pp. 3–17, Jan. 1990, doi: 10.1207/s15326985ep2501_2.
- [33] R. L. Oxford, *Teaching and Researching Language Learning*, Second. New York, NY: Taylor & Francis, 2017.
- [34] B. J. Zimmerman, "Becoming a Self-Regulated Learner: An Overview," *Theory Pract.*, vol. 41, no. 2, pp. 64–70, May 2002, doi: 10.1207/s15430421tip4102_2.
- [35] R. F. Kizilcec, M. Pérez-Sanagustín, and J. J. Maldonado, "Self-regulated learning strategies predict learner behavior and goal attainment in Massive Open Online Courses," *Comput. Educ.*, vol. 104, pp. 18–33, 2017, doi: 10.1016/j.compedu.2016.10.001.
- [36] M. S. Y. Samalaty and H. M. Tedjaatmadja, "Cognitive Strategies of S²R Model Used By High Proficiency Learners of the English Department, Petra Christian University," *K@ta Kita*, vol. 5, no. 1, pp. 107–115, 2017, doi: 10.9744/katakita.5.1.107-115.
- [37] B. J. Zimmerman and M. M. Pons, "Development of a Structured Interview for Assessing Student Use of Self-Regulated Learning Strategies," *Am. Educ. Res. J.*, vol. 23, no. 4, pp. 614–628, 1986, doi: 10.3102/00028312023004614.
- [38] R. Zhang and D. Zou, "Self-regulated second language learning: a review of types and benefits of strategies, modes of teacher support, and pedagogical implications," *Comput. Assist. Lang. Learn.*, 2022, doi: 10.1080/09588221.2022.2055081.
- [39] D. H. Schunk and B. J. Zimmerman, "Social origins of self-regulatory competence," *Educ. Psychol.*, vol. 32, no. 4, pp. 195–208, 1997, doi: 10.1207/s15326985ep3204.

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