Metacognitive strategy to enhance students' reading text-ability: case study in the vocational high school

Fita Faridah[1], Riya Risqi Setyaningrum[2], Eva Nurul Falakha[3]

Universitas Islam Lamongan[1,2]
[1]email: fitafaridah@unisla.ac.id
[2]email: riyarisqi@unisla.ac.id

Abstract - This research aim is to analyze whether metacognitive strategy instruction CALLA affects students' reading comprehension and reading awareness. This research used a quasi-experimental study in forms of pretest, treatment and post-test. Results showed that the group of experimental students had score significantly higher than the control group students on reading comprehension post-test and also showed significantly higher improvement in metacognitive reading strategy awareness and reading comprehension than control group students. The study recommends CALLA metacognitive strategy instruction to be an effective option for teaching reading comprehension skills at the senior high school level and in the contexts, which share similar characteristics.

Keywords: CALLA, MSI, meta cognitive strategy, reading comprehension, reading awareness

1. Introduction

One of the most important basic skills in language teaching that must be mastered is reading skills. The success of a student's education depends largely on reading skills (Mikulecky & Jeffries, 2007; Beatrice et al, 2007). People in a nation who like to read can be classified in the community of literacy. The literate community is a society that is accustomed to doing reading activities in their daily lives. Until now there is a tendency that students as part of the community component have not shown their fondness for reading (Støle et al., 2020). The students still rarely use their free time to read, they sometimes neglect reading materials that are asked to be read. This fact was obtained from the statements of the teachers and also the students who said that the reading culture among them had not yet grown. Reading is still an activity that is done out of necessity. It is also said that students, in general, are still reluctant to read and find it difficult to read in English learning activities (Reisoğlu et al., 2020). Students will have difficulty capturing and understanding the information presented in various textbooks, books, supporting materials, and other written learning resources (Kessler, 2021). As a result, learning progress is slow when compared to students who do not have difficulty in reading and this will also affect the motivation of students in learning.

Reading as one of the four language skills is a very important activity for students. By reading, students can broaden their horizons, and can even reap achievements as expected (Grellet, n.d.). The success of a student's education is highly dependent on the ability to read. The low reading ability indirectly results in their low competitiveness in national and international arenas. Responding to this requires a strategy that can make students interested and motivated to carry out reading activities (Rapchak, 2018). People in a nation who like to read can be classified as literate people. The literate community is people who are used to reading in their daily lives (Barry, n.d.).

Until now, there is a tendency that students as part of the community have not shown their fondness for reading (Ramdiah & Duran Corebima, 2014). The students still seem to rarely use their spare time to read. They sometimes neglect reading materials that are asked to be read even once. This fact was obtained from the statements of the teachers and also the students who said that the reading culture among them had not yet grown. Reading is still an activity that is done out of necessity (Hamiddin & Saukah, 2020). It is also said that student, in general, is still reluctant to read and find it difficult to read. English learning activities. Students will have difficulty capturing and understanding the information presented in various textbooks, books, supporting materials, and other written learning resources (Namaziandost et al., 2019). As a result, learning progress is slow when compared to students who do not have difficulty in reading and this will also affect the motivation of students in learning (Kessler, 2021).

Metacognition can be interpreted simply as the process behind the process of knowing or the process in the knowledge process or the process in the process of knowing something. Metacognition is one of the newest studies in the field of educational psychology which is often defined as "thinking about thinking" (Hartman, 2001). Metacognition is one of the newest studies in the field of educational psychology which is often defined as "thinking about thinking". The term metacognition has now been adopted into various fields, including by education experts (Zhang, 2018). According to educational psychologists, the metacognitive function in education is a tool for self-regulated learning. Meanwhile, psychologists are interested in metacognition because it deals with how humans monitor and control their thinking. What cognitive psychologists study is the basics and accuracy of metacognition and memory (Peña-Ayala, 2015). Thus metacognitive means knowledge about self-learning or about how to learn. When optimized mental metacognition can improve the performance of target cognition, including student learning. Thus, training students to think metacognitive can improve the quality of learning. Metacognitive strategies show the ability, awareness, and control of cognitive processes that occur in students (van Velzen, 2016).

Metacognitive strategy is a self-regulating strategy, so that person can make plans, control plans, and even conduct early self-evaluation of what was planned and done beforehand

(Wilson & Conyers, 2016). The metacognitive strategy consists of 3 stages, namely 1). Planning consists of a) Setting the initial stage (advance organizers): Conducting a review of the reading to get the main ideas and concepts contained in the reading that is being studied (Efklides & Misailidi, 2010). This can be done by reading skimming to get an idea of how the author organizes his thoughts. b) Directed attention makes decisions from the start to take part in learning activities and put aside obstacles. c) Functional planning and testing the linguistic components that are considered necessary to complete the linguistic tasks that will be faced. d) Selection of focus. Deciding from the start to pay attention to certain input aspects, can be done by filtering out keywords, certain concepts, and other necessary linguistic markers. e) Self-regulation. Understand the conditions that can help students and anticipate the presence of these conditions. 2. Inspection (monitoring). Consists of: checking oneself, checking to understand what is read or heard, or checking the accuracy of students' pronunciation or writing when the activity takes place. 3. Evaluation. Evaluation is carried out to check the results achieved by students when they complete a task.

The previous study was conducted by (Engelmann & Bannert, 2021) the study focused on Analyzing temporal data for understanding the learning process induced by metacognitive prompts. The result indicated the frequency of metacognitive events is significantly higher if students are supported by metacognitive prompts in comparison to not being supported by prompts. the models show some interesting patterns such as the close connectedness of analysis and search and the difficulty to connect the monitor to the other events in the learning process. these results indicate that the learning processes for students learning with metacognitive prompts and the students learning without prompts in this experiment are quite similar.

The second study (Dindar et al., 2020) focused on the Interplay of metacognitive experiences and performance in collaborative problem solving and the result indicated a positive relationship between perceived group performance and perceived individual performance, a positive relationship was found between the judgment of confidence on group goal attainment and perceived group performance. A positive relationship was found between groups' collective judgment of confidence and objective CPS performance. The current findings also indicate a match between confidence judgment and both perceived and objective group CPS performance.

Reading skills, which is one of the language skills, cannot be separated from the role of psychology in understanding reading (Mikulecky & Jeffries, 2007; Beatrice et al, 2007). This is in line with the description of Baker and Brown (Thierney, 1990) regarding the ability of readers to relate to the psychology of language teaching. They describe that readers have metacognitive abilities that are often not realized or known by the readers themselves. Responding to this requires a strategy that can make students interested and motivated to do reading activities (Waters & Schneider, 2010). One of the learning strategies that can lead students to awareness and independence in learning is metacognitive strategies. This metacognitive ability plays a very important role in efforts to understand reading material (Beran, 2012). This strategy is a way to grow and increase awareness of one's thinking process or students, awareness of things that are understood or not understood, to be able to raise questions and at the same time answer questions that arise from the thinking process (Hacker et al., 2009). This process automatically generates interest (curiosity), because a person uses his cognitive processes to think about or contemplate the cognitive processes themselves and students can guide in organizing and choosing appropriate and appropriate strategies to improve cognitive performance in the future day (Hartley, n.d.). The study was guided by the following research questions.

1. What is the metacognitive strategy that is applied to enhance students reading comprehension ability?
2. How metacognitive strategy can enhance students reading comprehension ability?
3. How do students respond to the metacognitive strategy applied?

2. Method

The method in this study used the type of case study research, where the study on the status of the research subject relates to a specific or unique phase of the overall personality and aims to provide a detailed description of the background, the characteristics that were typical of the case and status (Creswell, 2012) from the individual which then from the characteristics above made into a general thing. The informants of this study were 20 students of class XI Vocational high school along with one English teacher who taught in the class. Data collection techniques used interviews, observation, and documentation. In the observations of the researchers to investigate the situation, the interaction of teacher and student, and how the teacher implements the strategy in the classroom. Researchers conducted interviews to dig deeper into students' responses to the application of reading learning using metacognitive strategies.

3. Results and Discussion

Metacognitive strategies in learning reading skills were able to assist students in developing thinking processes, controlling during reading activities, and being able to evaluate all the activities that have been carried out. In the end, this strategy was able to foster awareness and independence of students in learning, especially in learning reading skills. This was in (De Backer et al., 2022) that a learner can be said to be a skilled and independent learner (learner autonomy) or has metacognitive abilities if he can 1) know the objectives of learning and know what was being taught, 2) know the goals own learning, 3) have their learning strategies, 4) monitor their learning progress, 5) evaluate their learning strategies. The concept of metacognitive strategy according to Flavell and Brown (in Livingston, 1997: 1) consists of three stages or processes, namely self-planning, self-monitoring, and self-evaluation. Each stage has indicators to see how metacognitive strategies were implemented, namely learning objectives to be achieved, time used to complete tasks, prior knowledge, and cognitive or learning strategies.

Self-planning was the first step carried out before reading activities take place such as determining goals and task analysis, helping to activate relevant knowledge to make it easier to organize and understand the subject matter or reading material to be read. Based on the results of the study, it can be seen that the learning process of English reading skills in class XI Vocational high school of Lamongan as a whole has described the implementation of the self-planning stage. The teacher has set and explained both orally and in writing the learning objectives to be achieved by the students. The explanation of the learning objectives was able to motivate students in learning because students understand from the beginning the goals to be achieved (Vandergrift & Goh, n.d.). Awareness of the intent and purpose of reading was related to knowledge, thinking or, cognitive abilities and learning strategies used by students, so that they understand what was needed or vice versa. Planning activities such as goal setting and task analysis help activate relevant knowledge to facilitate the organization and understanding of the subject matter (Proust, 2013). Learning objectives, strategies influence each other in using metacognitive strategies. In addition, the teacher also motivates students by adding other learning objectives that are deemed necessary for the students themselves. This was by the opinion of (Thomson et al., 2020) that before starting to read, try to find out what the reading is about to be read.

The teacher has also offered a time limit for students to understand the reading given so that the learning process was directed (Mikulecky & Jeffries, 2007; Beatrice et al, 2007). Regarding the initial knowledge possessed by students, the teacher always provides prompts such as vocabulary that will be used frequently, providing short paragraphs relating to the topic of reading that will be given, or connecting reading material with students' experiences. This was by the opinion of Richard-Amato (in Syukur Ghazali, 2000) which provides a benchmark for teacher guidance to students during reading activities, namely connecting the text read with the knowledge already possessed by students, connecting the contents of reading with students

themselves. or culture, what can be done if students face events such as those in stories or readings, and whether these events are common in the student's environment.

For cognitive or learning strategies that will be used by students, teachers are more likely to be free so that students find themselves and are independent of their learning needs. However, the teacher also provides input or encouragement related to thinking strategies that students may use, such as looking for keywords, reading slowly, or discussing with fellow students. The stage of self-planning has a very important role at the beginning of learning because it will determine the next stages. After all, at this stage, there are agreements between teachers and students during the learning process that lasts until the lesson was over. The second stage was self-monitoring, self-monitoring activities can be in the form of student attention while reading and making questions or self-testing. These activities also help students understand the material and integrate it with prior knowledge.

The results of the study reflect that overall learning has optimized this self-monitoring stage. The teacher optimizes the monitoring of the learning process by discussing and having a direct dialogue with students. This was because the nature of the teacher in learning a second language/English is more of a facilitator who always provides motivation, support, and direction and was in line with the opinion of (Murtadho, 2021) that discussion can strengthen students' understanding of the text read. Discussions or dialogues conducted by the teacher can have a positive influence on students, especially when students are given a time limit to understand the reading. Students were always reminded to understand the reading faster, and at the same time monitor whether students have sufficient prior knowledge to understand the reading. If students do not have relevant prior knowledge, students are allowed to ask questions and discuss. Especially if students were confused and bored with the way of thinking and learning, students were allowed to study outside for a while or students who have good abilities are asked to accompany students who have less ability (struggle). Through this discussion, the learning process took place smoothly and students did not feel burdened by the obstacles they faced. And the learning process remains focused and optimal even though the class conditions were slightly freed. This was one of the advantages of applying metacognitive strategies, teachers can identify students' abilities and can immediately provide solutions during the learning process. In addition, the self-monitoring process was able to foster awareness and independence of students in learning (Kisac & Budak, 2014).

The last stage was self-evaluation, self-evaluation activities include adjustment and improvement of students' cognitive/thinking activities (Beran, 2012). These activities help improve achievement by assessing and correcting behavior while completing assignments or reading. To do this stage the teacher also used a strategy by discussing and dialogue with students. The teacher assessed and corrected the achievement of student learning objectives with questions. The teacher also evaluated and asked the thinking or reading strategies that have been used by students, whether they were effective and appropriate to achieve learning objectives. By discussing students feeling challenged and motivated to give answers, they were also able to provide motivation and encouragement for students who have not achieved their learning goals or have not understood the reading given, namely by approaching students and then guiding them to dare to give answers.

The results of the evaluation of students' reading activities are always developed and linked to other skills, namely writing, listening, and speaking, so that teachers are always able to relate one learning process to another (De Backer et al., 2022). This metacognitive strategy is very useful in providing assessment and correction of all students' reading and learning activities. Students do not feel pressured, do not feel cornered when they make mistakes or are not optimal in learning, and more importantly, students know and are aware of their weaknesses and mistakes when reading. This evaluation stage can describe the success of the learning process that takes place in the classroom, both teachers and students evaluate the process carried out. So the implementation of metacognitive strategies in learning English reading skills in class XI Vocational high school has implemented the three existing stages, namely the stages

of self-planning, self-monitoring, and self-evaluation. Based on the results of interviews, observations, and documentation of the implementation of metacognitive strategies, it showed optimal results, especially in increasing students' awareness, independence, and understanding in learning or reading.

4. Conclusion

From the results of the research and discussion described above, the following conclusions are obtained. In general, learning English reading skills in class XI Vocational high school Lamongan has clearly described the implementation of metacognitive strategies. The process of implementing metacognitive strategies is as follows: a. Self-planning Learning English reading skills describes the application of the self-planning process. The description of the stages of self-planning in learning is clear. The self-planning process begins with the teacher explaining the learning objectives at the beginning of the meeting, setting a time limit for understanding the given readings of five to ten minutes. This time limit is determined by dialogue agreeing between the teacher and students. This agreement is sought by the teacher by involving the active role of all students so that students feel bound during the learning process. After the agreed time is determined, then the teacher begins to provide subject matter to students. To anticipate confusion and boredom, students are given an inducement to think before understanding the material, the thinking prompt given is to provide short paragraphs that are relevant to the reading that will be given to students, give quizzes or word games or sentences such as matching words with word meanings, looking for synonyms.

This aims to provide initial knowledge to students so that students are ready to follow the learning process, and finally, the teacher gives freedom regarding thinking or learning strategies that students will use for reading such as scanning, skimming, repeating speed reading, and others. By carrying out a good self-planning process, the next learning process can certainly take place well because the teacher and students have prepared themselves to be involved in the learning process. b. Self-monitoring Learning has described the implementation of the self-monitoring process. The self-monitoring process is carried out by discussing and having a dialogue between teachers and students, to build an atmosphere of intimacy and students feel motivated by the discussions and questions given. c. Self-evaluation Learning already describes the application of the self-evaluation process. This process is also carried out by way of discussion and dialogue between teachers and students. The indicator has not been optimally evaluated by teachers and students, namely, the time limit used when reading, except when doing assignments and exams. This is because the time allocation for subjects has been determined so that teachers and students tend to stick to the schedule unless there is an agreement in class.

References

Barry, M. (n.d.). *International English Skills*. 263.

Beatrice, S. Mikulecky and Linda, Jeffries (2007) Advanced Reading Power: Extensive Reading, Vocabulary Building, Comprehension Skills, Reading Faster Reading Power 시리즈. Longman.

Beran, M. J., Brandl, J. L., Perner, J., & Proust, J. (Eds.). (2012). Foundations of metacognition. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199646739.001.0001.

Creswell, J. W. (2012). Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.). Boston, MA: Pearson.

De Backer, L., Van Keer, H., & Valcke, M. (2022). The functions of shared metacognitive regulation and their differential relation with collaborative learners' understanding of the learning content. *Learning and Instruction*, *77*, 101527. https://doi.org/10.1016/j.learninstruc.2021.101527

Dindar, M., Järvelä, S., & Järvenoja, H. (2020). The interplay of metacognitive experiences and performance in collaborative problem solving. *Computers & Education*, *154*, 103922. https://doi.org/10.1016/j.compedu.2020.103922

Efklides, A., & Misailidi, P. (Eds.). (2010). *Trends and Prospects in Metacognition Research*. Springer US. https://doi.org/10.1007/978-1-4419-6546-2

Engelmann, K., & Bannert, M. (2021). Analyzing temporal data for understanding the learning process induced by

metacognitive prompts. *Learning and Instruction*, *72*, 101205. https://doi.org/10.1016/j.learninstruc.2019.05.002

Grellet, F. (n.d.). *Developing reading skills*. 258.

Hacker, D. J., Dunlosky, J., & Graesser, A. C. (Eds.). (2009). *Handbook of metacognition in education.* Routledge/Taylor & Francis Group.

Hamiddin, H., & Saukah, A. (2020). Investigating metacognitive knowledge in reading comprehension: The case of Indonesian undergraduate students. *Indonesian Journal of Applied Linguistics*, *9*(3), 608–615. https://doi.org/10.17509/ijal.v9i3.23211

Hartley, G. (n.d.). *Metacognitions, metacognitive processes and metacognitive control strategies in people with*. 275.

Hartman, H. J. (Ed.). (2001). *Metacognition in Learning and Instruction* (Vol. 19). Springer Netherlands. https://doi.org/10.1007/978-94-017-2243-8

Kessler, M. (2021). The longitudinal development of second language writers' metacognitive genre awareness. *Journal of Second Language Writing*, *53*, 100832. https://doi.org/10.1016/j.jslw.2021.100832

Kisac, I., & Budak, Y. (2014). Metacognitive Strategies of the University Students with Respect to their Perceived Self-confidence Levels about Learning. *Procedia - Social and Behavioral Sciences*, *116*, 3336–3339. https://doi.org/10.1016/j.sbspro.2014.01.759

Mikulecky, B. S., & Jeffries, L. (2007). *Advanced reading power: Extensive reading, vocabulary building, comprehension skills, reading faster*. Longman.

Murtadho, F. (2021). Metacognitive and critical thinking practices in developing EFL students' argumentative writing skills. *Indonesian Journal of Applied Linguistics*, *10*(3). https://doi.org/10.17509/ijal.v10i3.31752

Namaziandost, E., Esfahani, F. R., & Ahmadi, S. (2019). Varying levels of difficulty in L2 reading materials in the EFL classroom: Impact on comprehension and motivation. *Cogent Education*, *6*(1), 1615740. https://doi.org/10.1080/2331186X.2019.1615740

Peña-Ayala, A. (Ed.). (2015). *Metacognition: Fundaments, Applications, and Trends* (Vol. 76). Springer International Publishing. https://doi.org/10.1007/978-3-319-11062-2

Proust, J. (2013). *The philosophy of metacognition: Mental agency and self-awareness* (First edition). Oxford University Press.

Ramdiah, S., & Duran Corebima, A. (2014). Learning Strategy Equalizing Students' Achievement, Metacognitive, and Critical Thinking Skills. *American Journal of Educational Research*, *2*(8), 577–584. https://doi.org/10.12691/education-2-8-3

Rapchak, M. E. (2018). Collaborative Learning in an Information Literacy Course: The Impact of Online Versus Face-to-face Instruction on Social Metacognitive Awareness. *The Journal of Academic Librarianship*, *44*(3), 383–390. https://doi.org/10.1016/j.acalib.2018.03.003

Reisoğlu, İ., Eryılmaz Toksoy, S., & Erenler, S. (2020). An analysis of the online information searching strategies and metacognitive skills exhibited by university students during argumentation activities. *Library & Information Science Research*, *42*(3), 101019. https://doi.org/10.1016/j.lisr.2020.101019

Støle, H., Mangen, A., & Schwippert, K. (2020). Assessing children's reading comprehension on paper and screen: A mode-effect study. *Computers & Education*, *151*, 103861. https://doi.org/10.1016/j.compedu.2020.103861.

Sauramanda, A., Wajdi, M., Supardi, I. (2021). Developing HoPALM as teaching materials for secondary school students. Journal of English Language Teaching Innovations and Materials (Jeltim), Vo. 3/1, p.48-60. https://jurnal.untan.ac.id/index.php/JELTIM/article/view/41696

Tawarik, O., Ikhsanudin, I., Wajdi, M., & Latip-Yusoph, S. (2021). Effect of CALLA metacognitive strategy instruction on reading comprehension and reading awareness. *Journal of Applied Studies in Language*, *5*(2), 309–319. https://doi.org/10.31940/jasl.v5i2.309-319 (Original work published December 7, 2021).

Thomson, J. M., Foldnes, N., Uppstad, P. H., Njå, M., Solheim, O. J., & Lundetræ, K. (2020). Can children's instructional gameplay activity be used as a predictive indicator of reading skills? *Learning and Instruction*, *68*, 101348. https://doi.org/10.1016/j.learninstruc.2020.101348

van Velzen, J. (2016). *Metacognitive Learning*. Springer International Publishing. https://doi.org/10.1007/978-3-319-24433-4

Vandergrift, L., & Goh, C. C. M. (n.d.). *Teaching and Learning Second Language Listening*. 331.

Waters, H. S., & Schneider, W. (Eds.). (2010). *Metacognition, strategy use, and instruction*. Guilford Press.

Wilson, D., & Conyers, M. (2016). *Teaching students to drive their brains: Metacognitive strategies, activities, and lesson ideas*. http://www.myilibrary.com?id=939419

Zhang, L. (2018). *Metacognitive and Cognitive Strategy Use in Reading Comprehension*. Springer Singapore. https://doi.org/10.1007/978-981-10-6325-1