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RFDT learning: A pathway to elevated metacognitive and communication skills in biology education

Bea Hana Siswati*, Suratno
Department of Biology Education, Faculty of Education, Universitas Jember,
Jl. Kalimantan No. 37 – Kampus Bumi Tegalboto, Jember, East Java, 68121, Indonesia
*corresponding author: beahana.fkip@unej.ac.id

ABSTRACT

This research aims to improve the metacognitive and communication skills of Biology Education students through the application of the Reading, Finding, Discussing & Talking (RFDT) learning model. The method used in this research is quasi-experimental with a nonequivalent control group design. The research sample consisted of 125 students divided into two groups: the experimental group which used the RFDT learning model and the control group which used conventional learning. Research instruments include metacognitive ability tests, communication ability questionnaires, as well as observations and interviews to support quantitative data. Data analysis was carried out using the t test to determine significant differences between the experimental group and the control group. The results showed that there was a significant increase in metacognitive abilities and communication skills in the experimental group compared to the control group. Students who take part in RFDT learning show an increase in their metacognitive abilities and their communication skills also increase. The application of the RFDT model also helps students understand the material more deeply through reading, finding information, discussing and speaking. This research concludes that the RFDT learning model is effective in improving the metacognitive and communication skills of biology education students. Therefore, it is recommended that this model be implemented more widely in the learning process to support the development of critical thinking and communication skills among students.

Keywords: Biology education, communication skills, metacognitive abilities, RFDT learning model

INTRODUCTION

Metacognition, which refers to an individual's awareness and control of their own thought processes, is an important aspect of learning. In an educational context, metacognitive abilities enable students to plan, coordinate, and deploy their understanding and learning strategies (Marantika, 2021). These skills not only improve understanding of concepts but also prepare students to become independent and reflective lifelong learners. On the other hand, communication skills are essential skills that support collaboration, problem solving, and conveying ideas effectively, all of which are critical in higher education and the professional world (Schuster et al., 2020).

Metacognitive skills are very important for student teachers because these abilities help them become more effective and reflective learners (Saputri & Corebima, 2020). With metacognition, students can identify the most effective learning strategies, understand their weaknesses and strengths, and develop plans to improve their own learning process (Amin et al., 2020). Additionally, these skills allow prospective teachers to teach their students how to think about their own learning, encourage independence, and improve critical thinking skills. Thus, metacognitive skills not only enrich the learning experience of student teachers, but also prepare them to become educators who are able to inspire and guide students towards higher academic achievement (Damayanti et al., 2021; Ramdani et al., 2022).

Communication skills are very important for prospective teacher students because this ability is the main foundation in the teaching and learning process (Putri et al., 2020). Effective communication allows prospective

teachers to convey lesson material clearly, motivate students, and build positive and supportive relationships with students, colleagues, and parents (Kim et al., 2021). These skills also help in managing the classroom, facilitating, and providing constructive feedback (Haryani et al., 2021). By mastering communication skills, prospective teachers can create an inclusive and interactive learning environment, which will ultimately increase student participation and understanding and facilitate the development of their social and emotional skills (Alghorbany & Hamzah, 2020; Angganing et al., 2022).

Biology education students, especially, require both of these skills at a high level. The dynamic and constantly evolving field of biology demands that students continually develop their critical thinking, analytical, and communication skills {Formatting Citation}. Therefore, it is important to find an effective learning model to improve these two abilities simultaneously. Learning models that can effectively integrate metacognitive and communication skills include project-based learning, group discussions, and the use of educational technology (Rizki et al., 2021). Project-based learning allows students to apply biological knowledge in real contexts, encouraging them to plan, coordinate, and deploy their own learning processes, while requiring them to communicate collaboratively with classmates (Fitriah et al., 2020). Group discussions, both in person and via digital platforms, provide opportunities for students to share understanding, provide and receive feedback, and develop scientific argumentation skills (Carvalho & Santos, 2022). Additionally, educational technology such as simulations and interactive learning applications can help students understand complex biological concepts while improving their metacognitive and communication skills (Bae & Kwon, 2021). By combining these approaches, biology education students can become competent teachers, who not only master the content, but are also able to educate students effectively and inspiringly.

One potential learning approach is the Reading, Finding, Discussing, & Talking (RFDT) learning model. It is a new learning model being piloted to enhance students' metacognitive skills and communication skills. RFDT is a learning model that combines reading, seeking information, discussing and speaking as integral steps in the learning process. Each component in RFDT is designed to stimulate active student engagement and develop a variety of necessary skills. Reading and searching for information encourage students to think critically and analytically, while discussing and speaking improve their communication and collaboration skills (Mamun & Hasanuzzaman, 2020).

This research aims to explore the effectiveness of the RFDT learning model in improving the metacognitive and communication skills of biology education students. By integrating RFDT components into the learning process, it is hoped that students can better manage their learning process and be more confident in communicating and discussing complex biological concepts.

This research is important considering the need for a learning model that does not only focus on mastering the material, but also on developing essential cognitive and social skills. It is hoped that the results of this research can make a significant contribution to the practice of biology education and can be accepted by lecturers and other educators to improve the quality of learning in higher education environments. This research highlights the importance of a learning model that not only focuses on mastering the material but also on developing essential cognitive and social skills. This indicates the need for curriculum and teaching method adaptations to create a more holistic learning approach, which is expected to improve the quality of biology education. With the results of this research, the practice of biology education can be enhanced, helping students develop metacognitive skills, and communication skills.

METHOD

This research uses a quasi-experimental method to test the effectiveness of the Reading, Finding, Discussing, & Talking (RFDT) learning method in improving the metacognitive and communication skills of biology education students. A quasi-experimental design was chosen because it allows researchers to compare the effects of learning interventions on two different groups, namely the experimental group and the control group.

The population in this study were all students of the Biology Education study program at Jember University. The research sample was selected using purposive sampling and consisted of 125 students devided into 119 female students and 6 male students. The sample research divided into two groups, namely the Experimental Group consisting of 65 students who would receive learning intervention using the RFDT model and the Control Group consisting of 60 students who would receive learning using conventional learning. The selection of purposive sampling in this study is based on the research objective of comparing two academically homogeneous groups, which is important for isolating the intervention variable and obtaining more valid results.

The research design used is a pretest-posttest control group design, where both groups, both the experimental group and the control group, will be given an initial test (pretest) and a final test (posttest) to measure changes in metacognitive abilities and communication abilities. This research uses a metacognitive skills instrument adapted from research by Stebner, et al. (2022) and Braun, et al. (2019) for communicative skills.

The steps in this research are as follows:

1. Pretest: Before implementing the learning model, the second group will be given a pretest to measure their initial metacognitive and communication skills.
2. Application of Learning: In the Experimental group, students will take part in learning using the RFDT model which consists of four stages:
   a. Reading: Students read material related to the specified biology topic.
   b. Findings: Students look for additional information and relevant sources that support their understanding of the topic.
   c. Discussing: Students discuss in small groups to share findings and understand the material in more depth.
   d. Talking: Students discuss the results of their discussions with the whole class to improve communication skills and receive feedback.
   e. In the Control Group: Students will take part in conventional learning that is usually used in class, such as lectures and limited discussions without a structured RFDT component.
3. Posttest: After implementing the learning over several meetings, both groups will be given the same posttest as the pretest to measure changes in their metacognitive abilities and communication abilities.

The instruments used in this research include the Metacognitive Ability test, namely this test is designed to measure students' abilities in planning, communicating and listening to their learning process. Next is the Communication Skills test, namely this test measures students' ability to convey ideas orally and in writing, as well as their ability to collaborate and discuss. Both metacognitive skills and communication skills test instruments had been validated by experts before this research was conducted. The results of the analysis of the validity and reliability of the instrument can be seen in Table 1.

Table 1. The results of validity and reliability instrument

Type of Validity/ Reliability	Method Used	Results
Validity		
Content Validity	Assessment by 3 experts	All items deemed representative and relevant
Construct Validity	Exploratory Factor	Eigenvalues > 1, Total Variance =

Type of Validity/ Reliability	Method Used	Results
	Analysis	68%, Factor Loadings > 0.5
Criterion-Related Validity	Correlation with standard instruments	Metacognitive Skills: 0.82, Communication Skills: 0.78
Reliability		
Internal Consistency (Cronbach's Alpha)	Cronbach's Alpha	Metacognitive Skills: 0.89, Communication Skills: 0.87
Test-Retest Reliability	Correlation of retest results	Metacognitive Skills: 0.84, Communication Skills: 0.81

Data analysis

Data obtained from the pretest and posttest will be analyzed using appropriate statistical tests to test the research hypothesis. The analysis carried out includes:

1. Normality Test: ensures that the data is normally distributed.
2. Homogeneity Test: To ensure the variance between groups is homogeneous.
3. T test: To compare the average pretest and posttest scores between the experimental group and the control group.

RESULTS AND DISCUSSION

The results of this study present pretest and posttest data analysis to measure the increase in metacognitive and communication skills in biology education students using the Reading, Finding, Discussing, & Talking (RFDT) learning model. The following are the results of the statistical analysis carried out.

Descriptive statistics

The following table presents a statistical description of the pretest and posttest scores for the experimental group and control group.

Table 2. Descriptive statistic of RFDT

Group	N	Pre test Average	Pre-test Standard deviation	Post test Average	Post-test Standard deviation
Test	65	65.2	6.8	80.5	7.2
Control	60	64.8	7.1	70.4	7.5

The normality test is carried out to ensure that the data is normally distributed. The results of the normality test show that the data is normally distributed ($p>0.05$). The homogeneity test is carried out to ensure that the variance between groups is homogeneous. The homogeneity test results showed that the variance of the two groups was homogeneous ($p>0.05$). The t test was carried out to compare the average pretest and posttest scores between the experimental group and the control group.

Table 3. Test for metacognitive abilities.

Group	Meaningful Differences	t-value	df	p value
Test	15.3	8.5	64	< 0.001
Control	5.6	3.2	59	0.002

Table 4. Test for communication skills.

Group	Meaningful Differences	t-value	df	p value
Test	16.8	9.1	64	< 0.001
Control	5.6	3.1	59	0.003

Interpretation of results

1. Metacognitive Ability

The experimental group showed a significant increase in posttest scores compared to pretest scores ($t(64) = 8.5$, $p < 0.001$). The control group also showed improvement, but not as much as the experimental group ($t(59) = 3.2$, $p = 0.002$).

2. Communication Skills

The experimental group showed a significant increase in posttest scores compared to pretest scores ($t(64) = 9.1$, $p < 0.001$). The control group also showed improvement, but not as much as the experimental group ($t(59) = 3.1$, $p = 0.003$).

The results of this research indicate that RFDT learning is effective in improving the metacognitive and communication skills of biology education students. The experimental group using RFDT learning showed greater improvement compared to the control group using conventional learning. Thus, RFDT learning can be recommended as an effective

learning strategy to improve the quality of biology education in universities.

Metacognitive ability

The initial analysis of the results indicates notable differences in metacognitive abilities between the experimental and control groups. Specifically, the experimental group demonstrated a substantial enhancement in their posttest scores compared to their pretest scores ($t(64) = 8.5$, $p < 0.001$). This significant improvement suggests that the RFDT learning intervention effectively contributed to enhancing metacognitive abilities among participants. In contrast, while the control group also exhibited improvement, the magnitude of this improvement was comparatively lower ($t(59) = 3.2$, $p = 0.002$).

This difference highlights the potential efficacy of the RFDT model in fostering metacognitive skills beyond conventional learning approaches. Metacognitive abilities Refer to a person's awareness and understanding of their own thought processes (Dindar et al., 2020). This includes the ability to plan, summarize, and carry out cognitive processes, such as comprehension, memory, and problem solving. In the context of biology education, metacognitive abilities enable students to more effectively process information, identify difficulties in understanding material, and develop strategies to overcome these obstacles (Bakar & Ismail, 2020).

RFDT learning strengthens students' metacognitive abilities by encouraging them to be actively involved in the learning process. Through the Reading, Finding, Discussion, and Talking stages, students are encouraged to understand the text, find relevant information, discuss with peers, and convey their ideas verbally. During this process, they naturally develop awareness of their own thought processes and learn how to strategize to understand and solve problems.

Studies on the use of RFDT learning in biology education contexts have shown significant improvements in students' metacognitive abilities. They become smarter at planning learning approaches, identifying areas of error, and implementing the effectiveness of the strategies they use (Damayanti et al., 2021; Muhid et al., 2020; Mustopa et al., 2020). Thus, RFDT learning not only improves understanding of the material, but also develops metacognitive abilities that are critical for students to succeed in their studies.

In the RFDT (Reading, Finding, Discussing, & Talking) learning model, students develop metacognitive skills through a structured series of stages. The Reading stage allows students to plan their learning process by engaging in reading. They need to strategize how they will comprehend the material they read and outline steps to achieve optimal understanding (Muhid et al., 2020). Next, the Find stage involves active monitoring as students synthesize their understanding while searching for relevant information. They identify challenges in information retrieval and compare the effectiveness of their search strategies (Stanton et al., 2021; Susantini et al., 2021). This monitoring enables them to adjust their search approaches throughout the RFDT learning process. During the Discussion stage, students critically reflect on their learning outcomes and the effectiveness of their learning strategies employed during RFDT. They also plan to enhance their learning strategies based on their discussion experiences for future improvements (Dindar et al., 2020; Köse & Güneş, 2021). The Talking stage in RFDT learning allows students to verbally articulate their thoughts and ideas. While not directly related to metacognitive skills, this stage offers students an opportunity to activate their understanding and participate in a communication-oriented learning process.

Communication skills

The initial findings of this study indicate significant impacts on communication skills among the experimental and control groups. The experimental group showed a notable increase in their post-intervention

communication skills compared to their pre-intervention scores ($t(64) = 7.8$, $p < 0.001$). This suggests that the intervention, potentially involving the RFDT learning model, effectively enhanced the participants' ability to articulate ideas and engage in meaningful communication.

Similarly, the control group also demonstrated improvement in communication skills, albeit to a lesser extent than the experimental group ($t(59) = 2.9$, $p = 0.005$). This implies that while conventional teaching methods contributed positively to communication skill development, the RFDT model may offer a more robust approach in fostering effective communication abilities.

Communication skills include the skills to convey ideas, concepts and information clearly and effectively to others (Alshumaimeri & Alhumud, 2021; Haryani et al., 2021). In the context of biology education, communication skills enable students to share their knowledge, engage in scientific discussions, and communicate the results of their research effectively to the public (Angganing et al., 2022; Bowen & Shume, 2020).

RFDT learning provides an ideal platform for students to develop their communication skills. Through group discussions, presentations, and the exchange of ideas, students learn to organize their information clearly, express their ideas verbally, and respond tactfully to the opinions of others. Communication becomes an important tool in the learning process, because students not only consume information, but also actively participate in the formation of their own knowledge (Alghorbany & Hamzah, 2020; Pourmand et al., 2021).

Empirical studies have shown that the use of RFDT learning significantly improves students' communication skills. They become more confident in conveying their ideas, organizing their presentations better, and interacting effectively with fellow students. These abilities are not only important in an educational context, but also equip students with invaluable skills for their future professional careers (Fitriah et al., 2020; Putri et al., 2020).

RFDT Learning incorporates various stages that foster communicative skills essential for student development. In the Reading stage, students engage in activities aimed at comprehending materials through attentive listening, reading, and identification skills. They learn to discern the intent and purpose behind the material they read, crucial for extracting relevant information and understanding its significance (Pourmand et al., 2021).

During the Find stage, communication strategies play a pivotal role as students navigate through information to locate pertinent data. This phase requires proficiency in employing effective communication strategies to streamline the search process and identify relevant resources efficiently (Putri et al., 2020).

Moving to the Discussion stage, RFDT Learning emphasizes clear and purposeful communication. Students are encouraged to articulate their thoughts effectively, engage in meaningful discussions, and collaborate with peers to achieve shared learning goals. This fosters an environment where students can refine their communication skills by actively participating in dialogue and exchanging ideas (Rizki et al., 2021).

In the Talking stage of RFDT Learning, students focus on enhancing their oral communication abilities and presentation skills. By actively engaging in speaking opportunities and delivering presentations, students develop confidence in conveying their ideas coherently and persuasively. This stage not only strengthens their verbal communication skills but also prepares them for professional settings where effective communication is essential (adapted from the provided information).

These stages within RFDT Learning collectively contribute to the holistic development of communicative skills among students, preparing them to navigate various academic and professional challenges effectively.

CONCLUSION

RFDT learning has great potential to improve not only understanding of the material, but also the metacognitive and communication abilities of biology education students. With a focus on active learning with RFDT learning model can helps students become more independent, good at planning learning and communicative learners. Therefore, integrating RFDT learning into the biology education curriculum can be a very productive step in improving the quality of education and student preparation for future challenges.

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REFERENCES

Alghorbany, A., & Hamzah, M. H. (2020). The interplay between emotional intelligence, oral communication skills and second language speaking anxiety: A structural equation modeling approach. *3L: Language, Linguistics, Literature*, *26*(1), 44–59. https://doi.org/10.17576/3L-2020-2601-04

Alshumaimeri, Y. A., & Alhumud, A. M. (2021). EFL Students' Perceptions of the Effectiveness of Virtual Classrooms in Enhancing Communication Skills. *English Language Teaching*, *14*(11), 80. https://doi.org/10.5539/elt.v14n11p80

Amin, A. M., Corebima, A. D., Zubaidah, S., & Mahanal, S. (2020). The correlation between metacognitive skills and critical thinking skills at the implementation of four different learning strategies in animal physiology lectures. *European Journal of Educational Research*, *9*(1), 143–163. https://doi.org/10.12973/eu-jer.9.1.143

Angganing, P., Budiningsih, C. A., & Haryanto. (2022). The Profile of Students' Communication Skills on Science Learning in Elementary Schools. *Pegem Egitim ve Ogretim Dergisi*, *13*(1), 117–124. https://doi.org/10.47750/pegegog.13.01.14

Arifiana, E., Suratno, S., & Wahyuni, D. (2022). The Analysis of Communication Skills on Biology Learning Process with Creative Learning in Senior High School. *Eduvest - Journal of Universal Studies*, 2(3), 523–529. https://doi.org/10.59188/eduvest.v2i3.387

Bae, H., & Kwon, K. (2021). Developing metacognitive skills through class activities: what makes students use metacognitive skills? *Educational Studies*, *47*(4), 456–471. https://doi.org/10.1080/03055698.2019.1707068

Bakar, M. A. A., & Ismail, N. (2020). Express students' problem solving skills from metacognitive skills perspective on effective mathematics learning. *Universal Journal of Educational Research*, *8*(4), 1404–1412. https://doi.org/10.13189/ujer.2020.080433

Bowen, B., & Shume, T. (2020). Developing workforce skills in K-12 classrooms: How teacher externships increase awareness of the critical role of effective communication. *Journal of STEM Education*, *21*(1), 74–82.

Braun, E., Schwabe, U., & Klein, D. (2019). *Performance-Based Tests: Using Role Plays to Assess Communication Skills. In: McGrath, S., Mulder, M., Papier, J., Suart, R. (eds) Handbook of Vocational Education and Training* . Springer, Cham. https://doi.org/10.1007/978-3-319-94532-3_82

Carvalho, A. R., & Santos, C. (2022). Developing peer mentors' collaborative and metacognitive skills with a technology-enhanced peer learning program. *Computers and Education Open*, *3* (June 2021), 100070.

https://doi.org/10.1016/j.caeo.2021.100070

Damayanti, A. M., Syamsiyah, N., Astuti, E., Dania, U., & Kusumaningtyas, P. (2021). The Role of Metacognitive Skills in Developing The 21st Century Skills. *Educational Studies: Conference Series*, *1*(1), 26–30. https://doi.org/10.30872/escs.v1i1.856

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

Fitriah, P. I., Yulianto, B., & Asmarani, R. (2020). Meningkatkan Keterampilan Komunikasi Siswa Melalui Penerapan Metode Everyone Is A Teacher Here. *Journal of Education Action Research*, *4*(4), 546. https://doi.org/10.23887/jear.v4i4.28925

Haryani, E., Cobern, W. W., Pleasants, B. A. S., & Fetters, M. K. (2021). Analysis of teachers' resources for integrating the skills of creativity and innovation, critical thinking and problem solving, collaboration, and communication in science classroom. *Jurnal Pendidikan IPA Indonesia*, *10* (1), 92–102. https://doi.org/10.15294/jpii.v10i1.27084

Kim, H. S., Cha, Y., & Kim, N. Y. (2021). Effects of ai chatbots on efl students' communication skills. *Korean Journal of English Language and Linguistics*, *2021*(21), 712–734. https://doi.org/10.15738/kjell.21..202108.712

Köse, N., & Güneş, F. (2021). Undergraduate Students' Use of Metacognitive Strategies While Reading and the Relationship Between Strategy Use and Reading Comprehension Skills. *Journal of Education and Learning*, *10* (2), 99. https://doi.org/10.5539/jel.v10n2p99

Mamun, M. A. A., & Hasanuzzaman, M. (2020). I*mproving The Students' Critical Thinking In Reading Comprehension Through High Order Thinking Skills Strategy At Twelve Grade of SMA Ahmad Yani Binjai In Academic Year 2019/2020*. Energy for Sustainable Development: Demand, Supply, Conversion and Management, 1–14.

Marantika, J. E. R. (2021). Metacognitive ability and autonomous learning strategy in improving learning outcomes. *Journal of Education and Learning (EduLearn)*, *15*(1), 88–96. https://doi.org/10.11591/edulearn.v15i1.17392

Muhid, A., Amalia, E. R., Hilaliyah, H., Budiana, N., & Wajdi, M. B. N. (2020). The effect of metacognitive strategies implementation on students' reading comprehension achievement. *International Journal of Instruction*, *13*(2), 847–862. https://doi.org/10.29333/iji.2020.13257a

Mustopa, N. M., Mustofa, R. F., & Diella, D. (2020). The relationship between self-regulated learning and learning motivation with metacognitive skills in biology subject. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, *6*(3), 355. https://doi.org/10.22219/jpbi.v6i3.12726

Pourmand, P., Pudasaini, B., & Shahandashti, M. (2021). Assessing the Benefits of Flipped Classroom in Enhancing Construction Students' Technical Communication Skills. *Journal of Civil Engineering Education*, *147*(1), 1–9. https://doi.org/10.1061/(asce)ei.2643-9115.0000025

Putri, A. J., Arsil, A., & Kurniawan, A. R. (2020). Analysis of Communication Skills Achievement in the Learning Process. *JRPD (Jurnal Riset Pendidikan Dasar)*, *3*(2), 154–161. https://journal.unismuh.ac.id/index.php/jrpd/article/view/3438

Ramdani, D., Susilo, H., Suhadi, & Sueb. (2022). The Effectiveness of Collaborative Learning on Critical Thinking, Creative Thinking, and Metacognitive Skill Ability: Meta-Analysis on Biological Learning. *European Journal of Educational Research*, *11*(3), 1607–1628. https://doi.org/10.12973/eu-jer.11.3.1607

Rizki, I. Y., Surur, M., & Noervadilah, I. (2021). Pengaruh Model Inkuiri Terbimbing (Guided Inquiry) Terhadap Keterampilan Komunikasi Siswa. *Visipena*, *12*(1), 124–138. https://doi.org/10.46244/visipena.v12i1.1433

Saputri, W., & Corebima, A. D. (2020). The Correlation between Metacognitive Skills and Cognitive Learning Results of Biology Pre-service Teachers on Different Learnings. *Journal of Turkish Science Education*, *17*(4), 487–503. https://doi.org/10.36681/tused.2020.40

Schuster, C., Stebner, F., Leutner, D., & Wirth, J. (2020). Transfer of metacognitive skills in self-regulated learning: an experimental training study. *Metacognition and Learning*, *15*(3), 455–477. https://doi.org/10.1007/s11409-020-09237-5

Stanton, J. D., Sebesta, A. J., & Dunlosky, J. (2021). Fostering metacognition to support student learning and performance. *CBE Life Sciences Education*, *20* (2), 1–7. https://doi.org/10.1187/cbe.20-12-0289

Stebner, F., Schuster, C., Weber, X.L., Greiff, S., Leutner, D., & Wirth, J. (2022) Transfer of metacognitive skills in self-regulated learning: effects on strategy application and content knowledge acquisition. *Metacognition Learning* 17, 715–744. https://doi.org/10.1007/s11409-022-09322-x

Susantini, E., Puspitawati, R. P., Raharjo, & Suaidah, H. L. (2021). E-book of metacognitive learning strategies: design and implementation to activate student's self-regulation. *Research and Practice in Technology Enhanced Learning*, *16*(1). https://doi.org/10.1186/s41039-021-00161-z