SJME (Supremum Journal of Mathematics Education)
Vol.07, No.02, July 2023, pp. 157-167
ISSN: 2548-8163 (online)| ISSN: 2549-3639 (print)
DOI: 10.35706/sjme.v7i2.7746

Analysis of the Connecting, Organizing, Reflecting and Extending (CORE) Model to Improving the Mathematical Reasoning Ability Students

Khairini Atiyah[1*] dan Nanang Priatna[2]
[1*,2] Universitas Pendidikan Indonesia, Bandung, Indonesia
**Corresponding author*
Email: khairiniatiyah15@gmail.com[1*], nanang_priatna@upi.edu [2]

Article Information

Received 02-12-2022
Revised 14-05-2023
Accepted 01-07-2023

Diterima 02-12-2022
Direvisi 14-05-2023
Disetujui 01-07-2023

Keywords:
Connecting, Organizing, Reflecting and Extending, Mathematical Reasoning Ability.

Kata kunci:
Model Connecting, Organizing, Reflecting dan Extending, Kemampuan Penalaran Matematis

ABSTRACT

The low of students' reasoning ability is caused by the teacher's lack of ideas in applying the learning model in the class. This study aims to conduct a literature review on the improvement in students' of senior high school on mathematical reasoning ability after got the connecting, organizing, reflecting and extending (CORE) model and to determine the advantages of the CORE model in mathematics learning in the class. The research used is a qualitative using the systematic literature review (SLR) method with a survey-based descriptive approach. The survey was conducted on secondary data, namely the results of basic research on the CORE model on students' mathematical reasoning abilities. The research technique used data collection, data analysis, and drawing conclusions. The results indicate that the student's responses to the CORE learning model were positive. Based on the research criteria from 8 articles, students' can improve the mathematical reasoning after got the connecting, organizing, reflecting and extending (CORE) model, compared to students received conventional mathematics learning and the advantages of the CORE model in the class, namely developing students' activeness in learning, training memory, developing students' reasoning power, developing reasoning mathematical skills with the stages of connecting, organizing, reflecting and extending.

ABSTRAK

Rendahnya kemampuan penalaran siswa disebabkan oleh kurangnya ide guru dalam menerapkan model pembelajaran. Penelitian ini bertujuan untuk melakukan kajian literatur review terkait dengan peningkatan kemampuan penalaran matematis siswa SMA setelah mendapatkan model Connecting, Organizing, Reflecting dan Extending (CORE) dan untuk mengetahui keunggulan model Connecting, Organizing, Reflecting dan Extending (CORE) dalam pembelajaran matematika di kelas. Penelitian yang digunakan adalah penelitian kualitatif dengan menggunakan metode Systematic Literature Review (SLR) dengan pendekatan deskriptif berbasis survey. Survey dilakukan terhadap data sekunder yaitu hasil penelitian dasar model CORE terhadap kemampuan penalaran matematis siswa. Teknik penelitian menggunakan pengumpulan data, analisis data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa respon siswa terhadap model pembelajaran CORE adalah positif. Berdasarkan criteria penelitian dari 8 artikel, siswa dapat meningkatkan penalaran matematis setelah mendapatkan model Connecting, Organizing, Reflecting dan Extending (CORE), dibandingkan dengan siswa yang mendapat pembelajaran

ISSN: 2548-8163 (online) | ISSN: 2549-3639 (print)

matematika konvensional dan keunggulan model CORE di kelas yaitu mengembangkan keaktifan siswa dalam belajar, melatih daya ingat, mengembangkan daya nalar siswa, mengembangkan kemampuan penalaran matematis dengan tahapan menghubungkan, mengorganisasi, merefleksi dan memperluas.

INTRODUCTION

The rapid development of science and technology provides its own challenges for the Indonesian nation to be able to compete in the 21st century. The government, through the applicable curriculum in the Indonesian Education System, emphasizes the importance of mastering mathematics which is a compulsory subject at the primary and secondary education levels. Mathematics learning is learning that develops an understanding of the number system and counting skills (Shadiq, 2004). But in fact, so far learning mathematics does not seem to provide opportunities for students to be directly involved in the formation of their mathematical knowledge in terms of reasoning. Even though mathematics and mathematical reasoning are two things that cannot be separated where mathematical material is understood through reasoning and reasoning is understood and trained through learning mathematical material. The determination of reasoning ability as the goal and vision of learning mathematics is evidence that reasoning ability is so important for students. In other words, learning mathematics is inseparable from reasoning abilities.

According to Rizqi and Surya (2017), mathematical reasoning ability is the basis for obtaining mathematical knowledge. Mathematical reasoning ability is the ability to draw conclusions based on facts and relevant sources (Sukirwan, 2008). This is in line with the opinion of Yusdiana and Hidayat (2018) that reasoning is the most important part of thinking which involves generalizing and drawing valid conclusions between ideas and their relationships. The ability to reason allows a person to be able to understand various phenomena that occur (Hasratuddin, 2015). Napitupulu, Suryadi, and Kusumah (2016), revealed that there are four indicators to measure students' mathematical reasoning abilities, namely: (1) making logical conclusions; (2) describing existing models, facts, properties, relationships, or patterns; (3) making conjectures and evidence; and (4) using relationship patterns to analyze situations, make analogies, or generalize.

The low reasoning ability of students in learning mathematics is one of the effects of an inappropriate learning model. Errors in using learning models can hinder the achievement of learning objectives. Based on research from Sumarmo (in Sukirwan, 2008), revealed that students' reasoning scores were still low. Other studies have also found that mathematical reasoning skills at BabussalamPekanbaru High School, especially class X students, are mostly still lacking in reasoning (Dewi et al., 2019) and Indonesian students achieve the lowest percentage at the reasoning level with a score of 17% (Mullis, et al., 2012). Furthermore, another study was found by Karunika, Kusmayadi, and Fitrana (2019) that 32 students in class XII Accounting at Wiyata Mandala Vocational School showed that the results of students' mathematical reasoning qualifications were still low. It can happen because students are less involved in learning which so far tends to be teacher-centered and students tend to be passive (Murni, 2018), so innovation is needed in learning by using various models in order to achieve students' mathematical reasoning abilities.

To increase students' understanding of reasoning, they can use various learning models. So far the teacher is still carrying out learning in one direction where the teacher is the only source of learning and students are passive. This will create a learning atmosphere

ISSN: 2548-8163 (online) | ISSN: 2549-3639 (print) ❒

that is less conducive so that students will feel bored quickly and are not enthusiastic about participating in mathematics lessons. Using a variety of mathematics learning models will create a pleasant learning atmosphere, not monotonous and not boring as students have so far encountered in class so that students are interested in taking part in ongoing mathematics learning.

One model that can be used as a teacher's choice in learning activities in class is the Connecting, Organizing, Reflecting, and Extending (CORE) learning model. This learning model was popularized by Robert C. Calfee. Connecting, Organizing, Reflecting, and Extending (CORE) model is a learning model that has a contextual thinking foundation where in its activities it builds students to interact with their environment so that students' intelligence will increase (Yaniawati et al., 2019). This is in line with Retnowati (2017) opinion that the CORE learning model facilitates optimally for students to practice and develop their mathematical reasoning abilities. The Connecting, Organizing, Reflecting, and Extending (CORE) model is a discussion model that includes four processes, namely connecting, organizing, reflecting, and expanding (Jacob, 2005). According to Azizah(Hariyanto, 2017) reveals that the CORE learning model is a learning model that can be used to help students build knowledge and expand the knowledge they acquire.

The CORE (Connecting, Organizing, Reflecting, and Extending) model is a learning model that uses 4 stages in learning, namely Connecting (C) is an activity of connecting old information with new information or between concepts, Organizing (O) is an activity of organizing ideas to understand the material, Reflecting (R) is an activity to rethink information that has been obtained and understood, and Extending (E) is an activity to expand, use and find student knowledge about what is obtained during the learning process takes place (Ngalimun, 2017). The steps contained in the CORE learning model are based on constructivism theory, namely learning theory that gives students opportunities to explore and deepen their knowledge (Budiyanto, 2016). The steps in the CORE model start from connecting activities, organizing, reflecting, and extending knowledge as well as helping students to train their memory and thinking power. According to Fathurrahman (2018), the CORE model (Connecting, Organizing, Reflecting, and Extending) has advantages such as students will be more active in learning, train students' memory, train them to think critically and will provide a good learning experience for students. Even so, the CORE model also has drawbacks, namely it requires quite a long time, not all material can apply the model, and requires student activity in learning. Because if students are not critical and active then learning will not run smoothly.

Research conducted by Fadillah (2016) found that the average score of the experimental group was better than the average score of the control group. This shows that learning using the CORE model through a metacognitive skills approach can improve students' mathematical reasoning abilities compared to conventional learning. According to Muizaddin&Santoso (2016), the CORE learning model has a significant positive impact on students' cognitive learning outcomes. Thus learning using the CORE learning model is expected to be a solution to improving mathematical reasoning abilities. By using the CORE (Connecting, Organizing, Reflecting, and Extending) model, students can be trained to connect and find meaning, encourage students to be active, work together in groups, and emphasize creative and critical thinking. The novelty of this study is to focus on a higher level, namely at the high school level, by focusing on increasing the reasoning abilities of high school students with the Connecting, Organizing, Reflecting, and Extending (CORE) model.

ISSN: 2548-8163 (online) | ISSN: 2549-3639 (print)

Research on mathematical reasoning abilities has been carried out by many previous researchers, for example research is (Putri et al., 2019), (Irawan, 2018), (Septya et al., 2018) and other researchers. Research from Irawan (2018) show that the Connecting, Organizing, Reflecting, and Extending (CORE) model makes a good contribution to students' reasoning abilities in drawing logical conclusions, providing explanations with models, facts, properties, and relationships, addressing answers and solution processes, using patterns and relationships for analyzing mathematical situations, constructing and testing conjectures is increasing.

Based on the description above, the Connecting, Organizing, Reflecting, and Extending (CORE) model has many views in a positive direction in supporting learning success compared to conventional models. This is based on differences in models of learning. These differences have an impact on differences in mathematical reasoning abilities. It needed a comprehensive review of how research descriptions relate to the CORE model to improve the mathematical reasoning abilities of senior high school students. Therefore, it is necessary to analyze the improvement of senior high school students' mathematical reasoning skills after got Connecting, Organizing, Reflecting, and Extending (CORE) model and to determine the advantages of the Connecting, Organizing, Reflecting, and Extending (CORE) model. The research was carried out in the form of a systematic literature review. Thus learning using the CORE learning model is expected to be a solution to improving mathematical reasoning abilities.

METHOD

The research used is a qualitative using the Systematic Literature Review (SLR) method using a survey-based descriptive approach (Litte et al., 2008). The Systematic Literature Review method is used to recognize, evaluate, and interpret information on research results on certain topics, with the aim of answering predetermined research questions (Aliyah &Mulawarman, 2020). The survey was conducted on secondary data, namely the results of basic research on the CORE model on students' mathematical reasoning abilities. The data collected is in the form of primary research that has been published in national journal articles, theses and has been indexed by Google Scholar. Furthermore, all the articles found were extracted. Only articles that are relevant and meet the inclusion criteria are included in the analysis stage (Juandi&Tamur, 2020).

The population in this study is all research on the effect of the CORE model on mathematical reasoning abilities published in indexed journals. Based on a search using a search engine, a sample of 22 articles was found with the help of the Publish or Perish application. The keywords are Connecting, Organizing, Reflecting, Extending (CORE) model, and Mathematical Reasoning Ability. After being processed based on the inclusion criteria, 8 articles were selected to be analyzed where the articles were qualitatively descriptive. The collected data acts as inspiration or a source of ideas that can encourage other thoughts or ideas. The stages in the research include data collection, data analysis, and drawing conclusions (Juandi&Tamur, 2020). This analysis compares one study with other studies in the same field based on differences in time at the time of writing and the ability to achieve goals. Researchers examine ideas, opinions, or findings in the literature to provide theoretical information about the CORE model for mathematical reasoning abilities.

The inclusion criteria in this study are (1) evaluation studies in the field of mathematics; (2) this study must analyze the CORE model on mathematical reasoning ability; (3) the research sample must consist of students from the senior high school level of education; (4) studies were conducted throughout Indonesia in 2013-2023. In this case,

ISSN: 2548-8163 (online) | ISSN: 2549-3639 (print) ❒

primary data that did not meet the inclusion criteria in the study selection process were excluded from the systematic literature review process. The literature that was successfully selected and analyzed was then written in tables for study. At the data presentation stage, the researcher reviews and compares the results of research that has been carried out by other researchers by focusing on the research results section. Then the researcher concludes the results of the findings obtained.

RESULTS AND DISCUSSION

The low of students' reasoning ability is caused by the teacher's lack of ideas in applying the learning model in the class. Teachers must innovate in learning activities in class to improve mathematical reasoning abilities. The use of the Connecting, Organizing, Reflecting, and Extending (CORE) learning model is one of the educational innovations that improve students' mathematical reasoning abilities. The main feature of this CORE learning model is that it expects students to be able to construct their knowledge by connecting (Connecting), organizing new knowledge with old knowledge (Organizing) and then rethinking the concepts being studied (Reflecting) and it is hoped that students can broaden their knowledge during the process teaching and learning takes place (Extending) through questions that can direct and guide students in their cognitive processes to instill awareness in students how to be involved in thinking processes to improve learning and memory processes and improve students' ability to draw mathematical conclusions.

Researchers reviewed 8 articles from several journals, thesis, and articles involving the CORE model in improving the mathematical reasoning abilities of high school students which are presented in Table 1:

Table 1. The Previous Research Results

No	Name	Research Title	Research Result
1	(Agustin, 2019)	Students' Mathematical Reasoning Ability Through the CORE and Pairs Check (CPC) Learning Model on Statistics Material Statistics for Class XI MA Ma'arif Nu Jenggawah Students.	The results indicate that there is a significant difference between the students' mathematical reasoning abilities in the experimental class using the CORE model and those in the control class using the conventional model on statistics. In the experimental class, the percentage of students who successfully fulfilled the five indicators of mathematical reasoning ability in solving test questions was 88%. Whereas in the control class, the percentage of students who successfully fulfilled the five indicators of mathematical reasoning ability in solving test questions was 56%. It can be concluded that the experimental class has higher mathematical reasoning abilities using the CORE model than the control class using the conventional model. The advantages of the CORE model were also found to provide learning experience to students because they play an active role in the learning process.
2	(Dewi et al., 2021)	The Effect of Applying the Connecting, Organizing, Reflecting, and Extending (CORE) Learning Model to the Mathematical Reasoning Ability based on the Learning	The results indicate that There are differences in mathematical reasoning abilities between students who study using the CORE learning model and students who learn using conventional learning in class X SMA Babussalam Pekanbaru. The students' mathematical reasoning abilities in the experimental class were better than those in the

ISSN: 2548-8163 (online) | ISSN: 2549-3639 (print)

		Independence of SMA/MA Students.	control class, where the average value of the experimental class was 77.42 and the average value of the control class was 68.36. The advantages of the CORE learning model provide opportunities for students to be able to see the interrelationships that exist in mathematics, both between mathematical concepts, mathematics with other sciences, and mathematics with everyday life. Based on this explanation, it can be said that these things can trigger students' mathematical reasoning abilities in the experimental class to be higher than the students' mathematical reasoning abilities in the control class.
3	(Febriani, 2020)	Differences in The Mathematical Reasoning Ability and Understanding of Mathematical Concepts of Students Taught with the CORE Learning Model (Connecting, Organizing, Reflecting, Extending) and the CRH (Course Review Horay) Learning Model in Class XI MAS Darul Akhirah.	The results indicate that for the CORE learning model the average value of mathematical reasoning ability is 80.64, while the CRH learning model has an average value of mathematical reasoning ability is 83.15. Thus it can be concluded that overall the results of mathematical reasoning ability taught by the CORE learning model no better than students who were taught with the CRH learning model on the subject of arithmetic sequences and series in class XI MAS Darul Akhirah. It means that the CORE and CRH learning models can improve students' mathematical reasoning abilities and understanding of mathematical concepts.
4	(Utomo, 2021)	The Effect of Connecting, Organizing, Reflecting, Extending and Realistic Mathematics Education Learning Models on Students' Mathematical Reasoning Ability and Mathematical Creative Thinking in Sequences and Series Material in Class XI SMK S Satria Dharma Perbaungan T.P 2020/2021	The results indicate that The results of this study indicate that the average value is obtained students in the class that received the CORE learning model treatment were higher than the class that applied the RME learning model. The CORE (Connecting, Organizing, Reflecting, Extending) learning model has a superior effect than the class that is treated with the RME (Realistic Mathematics Education) learning model on students' mathematical reasoning abilities and mathematical creative thinking in the subject of Sequences and Series. The advantages of the CORE learning model were found, namely that it focused more on learning on students and made the teacher as a guide or facilitator who oversees the pace of the learning process.
5	(Utari et al., 2022)	The Influence of Connecting, Organizing, Reflecting, Extending (CORE) Learning Models on Students' Mathematical Reasoning Ability.	The results indicate that The average score of the experimental class taught using the CORE learning model was 14.67, which was 14.67 higher than that of students using the scientific approach, which was 10.33. From the results of the Mann Whitney U-test, the *Asymp* sig, (2-tailed) value was 0.014 < α (α = 0.05). This means that the mathematical reasoning abilities of students who are taught by the Connecting, Organizing, Reflecting, Extending (CORE) learning model are not the same as the mathematical reasoning abilities of students who are taught by scientific learning on sequences and series material. So it can be concluded that the Connecting, Organizing, Reflecting, Extending (CORE) learning model has an effect on the mathematical reasoning abilities of class XI

ISSN: 2548-8163 (online) | ISSN: 2549-3639 (print) ❒

			students of SMA Negeri 4 Lhokseumawe.
6	(Irawan, 2018)	The Influence of CORE Learning Models (Connecting, Organizing, Reflecting, Extending) on Vocational High School Students' Concepts of Understanding and Mathematics Reasoning Ability.	The results indicate that The experimental class showed a significant effect using CORE (Connecting, Organizing, Reflecting, Extending) learning on linear equations and inequalities compared to the control class using conventional learning models. The advantage of the CORE model was found that CORE learning made a good contribution to students' understanding abilities in collaborating, giving opinions, receiving suggestions from group members, can increase student activity in solving problems.
7	(Nanmumpuni & Listiyani, 2019)	Comparison of The Effectiveness of CORE and STAD Learning Models In View of Connection and Mathematical Reasoning Ability.	The results showed that Significance value in the experimental class with the learning model the CORE for the mathematical reasoning ability variable is 0.000. This significance value is less than 0.05, which means that it can be concluded that the CORE (Connecting Organizing Reflecting Extending) learning model is effective in terms of students' mathematical reasoning abilities. The advantage of the CORE model was found that this model requires each student to actively participate through discussions with their group where students find their own concepts in the material being studied and make students better understand the material being studied.
8	(Konita et al., 2019)	Mathematical Reasoning Ability in the Connecting, Organizing, Reflecting, Extending (CORE) Learning Model	The results showed that Mathematical reasoning abilities must always be accustomed to in every lesson. This habituation must start from students' understanding of problems where students must build relationships between concepts from the problems given. one habituation effort to improve mathematical reasoning abilities can be done in the learning process of students who are given a problem related to old concepts and new concepts and solved through systematic reasoning, one of the models that supports this is the CORE model. The advantage of the CORE model is that the CORE model involves many active students in learning activities so that the planned learning objectives are achieved by connecting stages, organizing ideas, exploring to explore the information obtained, and expanding or developing information.

Based on a literature review study of the 8 articles that have been analyzed based on the inclusion criteria, information is obtained that the education level is in the form of SMA and SMK, then the material used is series and arithmetic, sequences and series. The results of the research findings showed that the use of the Connecting, Organizing, Reflecting, and Extending (CORE) model in learning had a positive and significant effect on increasing the mathematical reasoning abilities of senior high school student. Furthermore, it was also found that there was a tendency to increase students' mathematical reasoning abilities through the CORE learning model. Using the CORE model is more effective for teachers to use in learning, especially in mathematics subjects compared to

ISSN: 2548-8163 (online) | ISSN: 2549-3639 (print)

using conventional models. It can be seen that the CORE learning model with its four stages, namely connecting, organizing, reflecting and extending is able to make students easily understand the material presented by the teacher in learning mathematics and students' reasoning processes when given problems by the teacher become more improved and developed. This is in accordance with previous research by Irawan (2018) that the CORE model makes a good contribution to students' mathematical reasoning abilities. From the research findings above, researchers also found the advantages of the CORE model, namely developing students' activeness in learning, training memory, developing students' reasoning power, and developing mathematical reasoning abilities with the stages of connecting, organizing, reflecting, and extending. Thus the CORE model is suitable to be applied to improve students' mathematical reasoning abilities.

The advantages of this study are that it can describe the use of the CORE model in improving mathematical reasoning abilities with inclusion criteria in the form of learning in the field of mathematics, focusing on the use of the CORE model in increasing mathematical reasoning abilities, research samples of high school students, research in Indonesia with articles relevant to the topic research published in the period 2013-2023. Furthermore, the limitations of this research lie in the research subjects in the form of senior high school students with a focus on sequences and series material.

By using the CORE learning model, students can do four important things to improve their mathematical reasoning abilities, namely making logical conclusions, explaining relationships between existing models, facts, and concepts, making estimates of answers or concepts used, and using relationship patterns to analyze situations or generalize. From the findings in this study regarding the use of the CORE model to improve mathematical literacy skills it has a big impact which can add insight to teachers or other researchers that by using the right learning model in class such as the CORE model (Connecting, Organizing, Reflecting and Extending) provides many views in a positive direction in supporting the success of learning compared to conventional models.

CONCLUSION

Based on the results of the research from the 8 articles and thesis, the conclusions that can be drawn based on an analysis of several existing literature review studies that the results of the study indicate that the response of senior high school students to the CORE learning model are positive. Students can improve mathematical reasoning after learning using the Connecting, Organizing, Reflecting, and Extending (CORE) model, compared to students who receive conventional learning models. Furthermore, the advantages that researchers found from 8 articles that have been analyzed related to the use of the CORE model are that this model can develop student activity in learning, train memory, develop students' reasoning power, develop mathematical reasoning abilities with the stages of connecting, organizing, reflecting and extending (CORE).

Based on the results of the research and conclusions above, several suggestions are put forward, namely: 1) For other researchers, they can further examine the use of the Connecting, Organizing, Reflecting, Extending (CORE) model in improving mathematical reasoning abilities from the elementary level to the college level in material other than sequences and series ; 2) Teachers can study and re-explore the Connecting, Organizing, Reflecting and Extending (CORE) model used to deliver innovative learning in class; 3) For students, the application of the Connecting, Organizing, Reflecting, and Extending (CORE) model can instill students' awareness and confidence so that they can improve students' mathematical reasoning abilities.

ISSN: 2548-8163 (online) | ISSN: 2549-3639 (print) ❒

REFERENCES

Aliyah, U., & Mulawarman, M. (2020). Kajian Systematic Literature Review (SLR) untuk Mengidentifikasi Dampak Terorisme, Layanan Konseling dan Terapi Trauma Pada Anak-Anak. *Islamic Counseling: Jurnal Bimbingan Konseling Islam*, 4(2), 209–222.

Agustin, N. M. (2019). Kemampuan Penalaran Matematika Siswa Melalui Model Pembelajaran CORE and Pairs Check (CPC) Pada Materi Statistika Siswa Kelas XI MA Ma'arif Nu Jenggawah. *JPM: Jurnal Pendidikan Matematika*, 5(1), 45–52.

Budiyanto, M. (2016). *Sintaks 45 Model Pembelajaran dalam Student Centered Learning (SCL).* Malang: UMM Press.

Dewi, T. M., Risnawati., & Muhandaz, R. (2019). Pengaruh Penerapan Model Pembelajaran Connecting, Organizing, Reflecting, Extending (CORE) Terhadap Kemampuan Penalaran Matematis berdasarkan Kemandirian Belajar Siswa SMA/MA. *Juring (Journal of Research in Mathematics Learning)*, 2(4), 305-316.

Fadillah, A. (2016). Pembelajaran Matematika Dengan Model CORE Melalui Pendekatan Keterampilan Metakognitif Terhadap Kemampuan Penalaran Matematis Siswa SMP. *Prima: Jurnal Pendidikan Matematika*, 5(2), 15–24.

Fathurrahman, M. (2018). *Pendekatan dan Model Pembelajaran.* Yogyakarta: Kalimedia.

Febriani, L. (2020). *Perbedaan Kemampuan Penalaran Matematis dan Pemahaman Konsep Matematika Siswa yang Diajar dengan Model Pembelajaran CORE (Connecting Organizing, Reflecting, Extending) dan Model Pembelajaran CRH (Course Review Horay) Di Kelas XI MAS Darul Akhirah*. UIN Sumatera Utara.

Hariyanto. (2017). Penerapan Model CORE dalam Pembelajaran Matematika Untuk Meningkatkan Kemampuan Komunikasi Matematik Siswa. *Jurnal Gammath*, 2(1), 11–19.

Hasratuddin. (2015). *Mengapa Harus Belajar Matematika*. Medan: Perdana Publishing.

Irawan, B. P. (2019). Pengaruh Model Pembelajaran CORE (Connecting, Organizing, Reflecting, Extending) Terhadap Kemampuan Pemahaman Konsep dan Kemampuan Penalaran Matematika Siswa Sekolah Menengah Kejuruan. *Journal of Mathematics Science and Education*, 1(2), 1–16.

Jacob, C. (2005). *Pengembangan Model CORE dalam Pembelajaran Logika dengan Pendekatan Reciprocal Teaching bagi Siswa SMA Negeri 9 Bandung dan SMA Negeri 1 Lembang*. Bandung: Laporan Piloting FPMIPA UPI.

Juandi, D., & Tamur, M. (2020). *Pengantar Analisis Meta*. UPI PRESS

Karunika, A. M., Kusmayadi, T. A., & Fitrana, L. (2019). Profile of Mathematical Reasoning Ability of Female Students Based on Self-Efficacy. *Journal of Physics: Conference Series*, 1265(1). https://doi.org/10.1088/1742- 6596/1265/1/012008

Konita, M., Asikin, M., & Asih, T. S. N. (2019). Kemampuan Penalaran Matematis dalam Model Pembelajaran Connecting, Organizing, Reflecting, Extending (CORE). *PRISMA,Prosiding Seminar Nasional Matematika*, 2(1), 611–615.

Litte, J. H., Corcoran, J., & Pillai, V. (2008). *Systematic Review and Data Analysis*. Oxford University Press. https://doi.org/https//doi.org/10.1016/j.medine.2017.10.012

Muizaddin, R., & Santoso, B. (2016). Model Pembelajaran CORE Sebagai Sarana dalam Meningkatan Hasil Belajar Siswa. *Jurnal Pendidikan Manajemen Perkantoran*, 1(1), 224. https://doi.org/10.17509/jpm.v1i1.3470

Mullis, I.V. S., Martin, M. O., Foy, P., & Arora, A. (2012). *TIMSS 2011 International Result in Mathematics*. TIMSS & PIRLS International Study Center, Boston College.

Murni, J. S. (2018). Analisis Penggunaan Media Sosial Smartphone oleh Siswa dalam

ISSN: 2548-8163 (online) | ISSN: 2549-3639 (print)
Proses Pembelajaran Sosiologi XI IIS 1 SMAN 01 Toho. *Jurnal Pendidikan dan Pembelajara*n, 7(5), 1–10.

Nanmumpuni, H. P., & Listyani, E. (2017). Komparasi Efektivitas Model Pembelajaran CORE dan STAD Ditinjau dari Kemampuan Koneksi dan Penalaran Matematis. *Jurnal Pendidikan Matematika*, *6*(6), 43–54.

Napitupulu, E. E., Suryadi, D., & Kusumah, Y. S. (2016). Cultivating Upper Secondary Students' Mathematical Reasoning Ability and Attitude Towards Mathematics Through Problem-Based Learning. *Journal on Mathematics Education*. 7(2), 61 – 71.

Ngalimun. (2017). *Strategi dan Model Pembelajaran*. Yogyakarta: Aswaja Pressindo.

Putri, K. D., Sulianto, J., & Azizah, M. (2019). Kemampuan Penalaran Matematis Ditinjau dari Kemampuan Pemecahan Masalah. *International Journal of Elementary Education*, *3*(3), 351. https://doi.org/10.23887/ijee.v3i3.19497

Retnowati, E., & Aqiila. (2017). Efektivitas Strategi Pengelompokan Berpasangan dalam Pembelajaran Matematika Model CORE. *Cakrawala Pendidikan: Jurnal Ilmiah Pendidikan*, 1, 13–23.

Rizqi, N. R., & Surya, E. (2017). An Analysis of Students' Mathematical Reasoning Ability In VIII Grade of Sabilina Tembung Junior High School. *International Journal of Advance Research and Innovative Ideas in Education (IJARIIE)*, *3*(2), 3527–3533.

Septya, E. G. I., Febriana, R., & Delyana, H. (2018). Penerapan Model Pembelajaran Discovery Learning Terhadap Penalaran Komunikasi Matematis Siswa. *LEMMA*, IV(1), 27–35.

Shadiq, F. (2004). *Pemecahan Masalah, Penalaran dan Komunikasi. Disampaikan pada Diklat Instruktur/Pengembangan Matematika SMA Jenjang Dasar Tanggal 6 s.d 19 Agustus 2004 di PPPG Matematika. Guru (PPPG) Matematika Yogyakarta*. Pendidikan Dasar dan Menengah Pusat Pengembangan Penataran Yogyakarta: Departemen Pendidikan Nasional Direktorat Jenderal.

Sukirwan. (2008). *Kegiatan Pembelajaran Eksploratif untuk Meningkatkan Kemampuan Penalaran dan Koneksi Matematika Siswa Sekolah Dasar*. Universitas Pendidikan Indonesia.

Utari, K., Nuraina., & Fonna, M. (2022). Pengaruh Model Pembelajaran Connecting, Organizing, Reflecting, Extending (CORE) Terhadap Kemampuan Penalaran Matematis Siswa. *Jurnal Pendidikan Matematika Malikussaleh*, 2(1), 172–180.

Utomo, S. H. (2021). *Pengaruh Model Pembelajaran (CORE) Connecting, Organizing, Reflecting, Extending dan (RME) Realistic Mathematics Education Terhadap Kemampuan Penalaran Matematis dan Berpikir Kreatif Siswa Pada Materi Barisan dan Deret Di Kelas XI SMK S Satria Dharma Perbaungan T.P 2020/202*1. UIN Sumatera Utara.

Yaniawati, R. P., Indrawan, R., & Setiawan, G. (2019). CORE Model on Improving Mathematical Communication and Connection, Analysis of Students' Mathematical Disposition. *International Journal of Instruction*, 12(4), 639–654.

Yusdiana, B. I., & Hidayat, W. (2018). Analisis Kemampuan Penalaran Matematis Siswa SMA Pada Materi Limit Fungsi. *JPMI: Jurnal Pembelajaran Matematika Inovatif*, 1(3), 409–414.