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META-SYNTHESIS OF STUDIES ON CORE LEARNING INTEGRATED WITH ETHNOMATHEMATICS FOR ENHANCING MATHEMATICAL CONNECTION ABILITY

Vena Ulya Maulida*[1], Arief Agoestanto[2], Mulyono[3]
[1,2,3] Universitas Negeri Semarang

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ABSTRACT

This study aims to analyze the CORE learning model integrated ethnomathematics to enhance mathematical connection ability. The research method employed is a Systematic Literature Review using meta-synthesis with a meta-aggregation approach. The reporting of the literature identification and selection process follows the PRISMA 2020 guidelines. Literature was searched in the Google Scholar database using Publish or Perish from 2017 to 2026. The search strategy uses the following combination of Boolean operators: ("CORE learning model" OR "Connecting Organizing Reflecting Extending") AND ("etnomatematika" OR "ethnomathematics") AND ("mathematical connection ability" OR "kemampuan koneksi matematis"). The synthesis results indicate that the CORE learning model intergrated with ethnomathematics has the potential to enhance mathematical connection ability through three mechanism: (1) cognitive reinforcement through the systematic implementation of the CORE learning model's syntax, (2) the application of formal mathematical concepts to contextual situations through local culture, (3) the use of learning media that intergrates the CORE learning model and ethnomathematics, which has been proven to be valid and practical. Thus, the syntax in the CORE learning model can build students' thinking processes, particularly mathematical connection ability, by integrating ethnomathematics as a context for mathematics learning, thereby making learning more culturally relevant and meaningful.

Corresponding Author:

Vena Ulya Maulida,
Departement of Mathematics Education,
Universitas Negeri Semarang, Indonesia
Email: venaulya04@students.unnes.ac.id

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1. INTRODUCTION

Mathematics is a discipline that encompasses complex and interconnected concepts (Nurlaylly & Surya, 2023). Ziliwu et al., (2022) state that mathematical concepts are interconnected; therefore, to learn a particular concept, one must first understand the other concepts that serve as its prerequisites. In this regard, mathematical connection ability is necessary for establishing connections among mathematical concepts (Muharomi & Afriansyah, 2022). Students with strong mathematical connection abilities can understand mathematics in a deep and meaningful way (NCTM, 2000). In the mathematics category of the PISA results, Indonesia scored 366 points, which is still below the international average of 472 points (OECD, 2023). The low performance of Indonesian students in PISA indicates that students still face difficulties in solving mathematical problems that require connecting concepts across contexts. This finding is consistent with studies reporting that students' mathematical connection ability remains low (Hotipah et al., 2021; Yusuf et al., 2022; Ziliwu et al., 2022). According to Fatharani et al. (2024), students are not yet able to connect relevant concepts, which poses a challenge when studying mathematical material. These mathematical concepts can be linked to real-life contexts to make it easier to understand their meaning (Ismiasih & Hermanto, 2025).

Understanding mathematical concepts can be linked to local experiences and culture. As explained by Rawani & Fitra (2022), ethnomathematics can bridge mathematics and culture. The application of ethnomathematics in learning fosters positive attitudes among students and an awareness of the benefits of mathematics (Dr.Abasi & Dr.George, 2025). As a result, the learning process becomes engaging and meaningful, and can gradually enhance students' mathematical connection abilities (Aristya et al., 2025).

Mathematical connection ability can be improved using the CORE learning model (Supianti et al., 2022). This model was developed by Miller & Calfee (2004) and consists of four syntaxes: Connecting, Organizing, Reflecting, and Extending. The CORE components that support mathematical connection abilities are Connecting and Organizing (Wahyuni et al., 2021). This is because in the Connecting and Organizing components, students are asked to connect and organize their knowledge in a structured manner so that the concepts they construct are well-organized (Budiyanto, 2019).

Based on previous research, numerous studies have been conducted on the partial implementation of CORE or ethnomathematics. Rahmadhani et al. (2024) noted that the CORE model has a positive impact on students' ability to make mathematical connections. The study by Febryanti et al. (2024) showed that the application of ethnomathematics in mathematics learning fosters students' mathematical connections. Therefore, the research question of this study is how does the CORE learning model integrated with ethnomathematics enhance mathematical connection ability. However, research examining the effects of the CORE learning model integrated with ethnomathematics on mathematical connection ability, as determined through meta-synthesis, remains limited.

Most previous research on the CORE model or ethnomathematics has relied on experimental studies with limited sample sizes. However, to date, no meta-synthesis studies have been identified in the literature that focus on analyzing the CORE learning model integrated with ethnomathematics in relation to mathematical connection ability. A meta-synthesis integrates the results of previous studies collectively through a systematic and structured process to produce general conclusions regarding the research phenomenon, which are drawn inductively (Thorne et al., 2012). Therefore, the meta-synthesis approach can describe the studies of the CORE learning model integrated with ethnomathematics in relation to mathematical connection ability. The expected outcome of this study is to provide information on CORE learning integrated ethnomathematics to enhance mathematical

connection ability. Thus, through meta-synthesis, the objective of this study is to analyze the CORE learning model integrated with ethnomathematics to enhance mathematical connection ability.

2. METHOD

This study employed a systematic literature review using a meta-synthesis approach. This approach was used to identify, select, evaluate, and synthesize findings from previous studies relevant to the CORE learning model, integrated with ethnomathematics, regarding mathematical connection ability. Meta-synthesis allows for the systematic integration of interrelated research findings to gain a more comprehensive understanding of a research phenomenon (Walsh & Downe, 2005). In this study, a meta-aggregation approach was used, which involves grouping similar findings into specific categories and subsequently aggregating them into synthesized findings. This approach was chosen because the study aims to identify patterns in findings from previous research and draw conclusions that can provide insight into the contributions of the CORE model and ethnomathematics to mathematical connection ability. The meta-aggregation approach differs from meta-ethnography, which places greater emphasis on the reinterpretation of findings and the development of new conceptual constructs (Lewin, 2008; Walsh & Downe, 2005).

The research process followed the stages of a systematic review, which included formulating research question, establishing eligibility criteria, conducting a literature search, selecting literature, extracting data, synthesizing findings, and drawing conclusions. The reporting of the literature identification and selection process follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines to enhance the transparency and traceability of the systematic review process (Page et al., 2021). PRISMA 2020 emphasizes the importance of transparent reporting regarding the rationale for the review, the procedures used, the source selection process, and the results obtained.

Formulating Research Question

The research questions were formulated based on the research background. These questions were formulated to provide focus and direction for the research and align with the research objectives. The research questions serve as guidelines for identifying relevant literature, formulating inclusion and exclusion criteria, and synthesizing findings from the literature. The research questions are as follows.

RQ: How does the CORE learning model integrated with ethnomathematics enhance mathematical connection ability?

Literature Search Strategy

The literature search was conducted using the Google Scholar database and the Publish or Perish application. Google Scholar was chosen because it provides extensive coverage of educational literature, including national journal articles and academic research relevant to the research focus. The search covered publications from 2017 to 2026. The keywords used were related to the study's three main concepts: the CORE learning model, ethnomathematics, and mathematical connection ability.

The search strategy uses the following combination of Boolean operators:

(“CORE learning model” OR “Connecting Organizing Reflecting Extending”) AND (“etnomatematika” OR “ethnomathematics”) AND (“mathematical connection ability” OR “kemampuan koneksi matematis”)

This strategy was used to identify literature that addressed a combination of the CORE model, ethnomathematics, and mathematical connection ability. The search was

conducted on July 29, 2026, and all results were documented for subsequent screening against the inclusion and exclusion criteria. Documenting the search strategy, data sources, and selection process is necessary to ensure that the systematic review process is traceable and replicable (Page et al., 2021).

Inclusion and Exclusion Criteria

Inclusion and exclusion criteria were established prior to the literature selection process to limit the scope of the study, enhance selection consistency, and minimize potential bias in source selection. The inclusion criteria were as follows: (1) the study addressed the CORE learning model integrated with ethnomathematics; (2) the study focused on cognitive abilities or mathematical connection abilities; (3) studies using quantitative, qualitative, mixed-methods, quasi-experimental, development research, or classroom action research approaches; (4) studies published in 2017 to 2026; (5) the article was published in a SINTA-indexed scientific journal or in the proceedings of a nationally or internationally reputable conference; (6) the manuscript is available via open access; (7) the manuscript is written in Indonesian or English; and (8) the research source can be a journal article, undergraduate thesis, master's thesis, or doctoral dissertation.

Meanwhile, the exclusion criteria include: (1) studies that discuss only the CORE model or ethnomathematics separately; (2) studies that do not focus on mathematics education; (3) studies that are literature review articles; (4) studies published outside the 2017–2026 period; (5) manuscripts not available via open access; (6) studies that are duplicates of the same research; and (7) manuscripts written in languages other than Indonesian or English.

Literature Selection

Literature selection was conducted in several stages: identification, screening, eligibility assessment, and inclusion. During the identification stage, all literature retrieved from the search results was collected and reviewed for potential duplicates. During the screening stage, titles and abstracts are reviewed for relevance to the research focus. Literature that meets the initial criteria is then reviewed in full during the eligibility stage. At this stage, each source is compared against all established inclusion and exclusion criteria. The selection process yielded four studies that met all the criteria and were subsequently analyzed. The flow of studies at each selection stage is presented in the PRISMA diagram in Figure 1. The presentation of the number of studies identified, screened, assessed for eligibility, and ultimately included in the synthesis follows the PRISMA 2020 reporting transparency principles (Page et al., 2021).

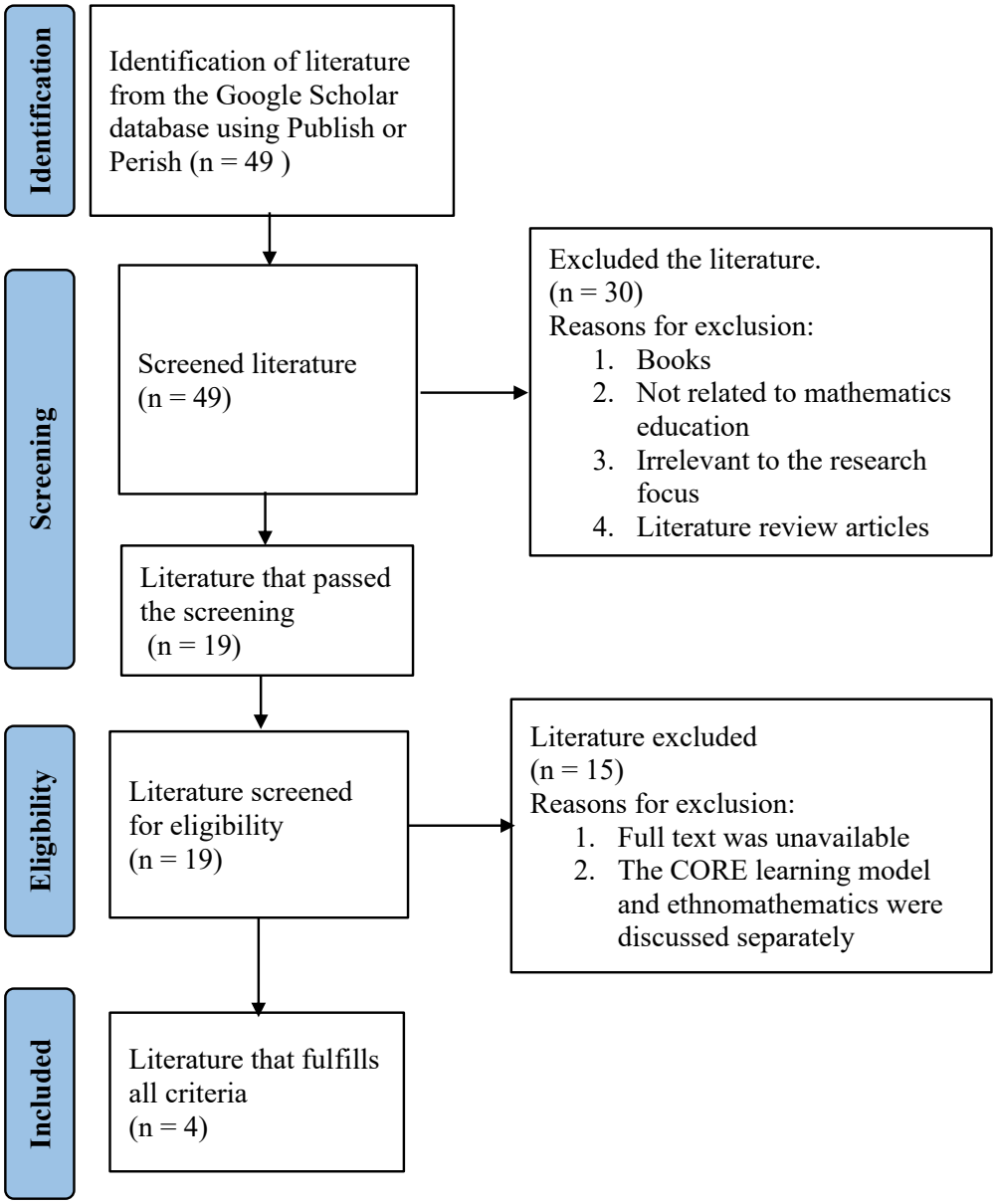

Figure 1. PRISMA Framework

Data Extraction

Data from each study that met the criteria were systematically extracted using a data extraction matrix. The information collected included the study's identification, year of publication, research objectives, research design or methods, research subjects, the form of integration between the CORE model and ethnomathematics, the learning media or tools used, the mathematical skills examined, and the study's main findings.

Data extraction was conducted to ensure that information from each study could be systematically compared. Findings with similar characteristics or implications were then grouped into categories relevant to the research questions. This process allowed the synthesis not only to describe each study individually but also to identify patterns of findings that emerged across the literature as a whole.

Data Analysis and Synthesis

Data analysis was conducted using a meta-aggregation approach. The first stage involved identifying the main findings from each study related to the CORE model, the integration of ethnomathematics, and mathematical connection ability. The second stage involved grouping findings with similar meanings into categories. The third stage involved comparing categories across sources to identify patterns, similarities, and differences in the findings. The final stage was to aggregate these categories into synthesized findings describing the relationship between the CORE learning model, integrated with ethnomathematics, and mathematical connection ability.

This approach preserves the key findings of the primary research and avoids repeating the summaries of each article separately. Thus, the synthesis aims to produce cross-study conclusions regarding the patterns of contribution of the "Connecting," "Organizing," "Reflecting," and "Extending" syntaxes, the role of the ethnomathematics context, and empirical evidence regarding mathematical connection ability. In meta-aggregation, the synthesis process focuses on grouping findings to generate aggregate statements, rather than conducting an in-depth reinterpretation of the primary findings (Lewin, 2008; Walsh & Downe, 2005).

To improve the consistency of interpretation, the process of extracting and categorizing findings must be cross-checked against the primary sources. If there are discrepancies in the interpretation or categorization of findings, they are resolved by reexamining the sources and discussing them until consensus is reached. This procedure is used to minimize subjectivity in the synthesis process.

Study Quality Assessment

Before the final synthesis was conducted, each study that met the inclusion criteria was assessed based on its methodological quality. The assessment considered the appropriateness of the study's objectives, study design, subjects or data sources, data collection techniques, instruments, data analysis, and clarity of results reporting. The results of the quality assessment were used to interpret the strength of evidence from each study.

Quality assessment is important in systematic reviews because the synthesis depends not only on the number of studies identified, but also on the quality and reliability of the findings from the primary studies. In the evidence synthesis approach, methodological quality assessment, data extraction, and synthesis are key components that must be reported transparently (Lockwood et al., 2024).

Based on these stages, the study's final results are presented as a table of study characteristics and a synthesis of findings. The table of study characteristics provides an overview of the sources analyzed, while the synthesis of findings highlights the main patterns and categories identified across the literature.

3. RESULTS AND DISCUSSION

3.1 Results of The Literature Selection

Based on the literature search and selection process, 49 sources were identified from the Google Scholar database using the Publish or Perish tool. A total of 30 sources were excluded during the initial screening stage because they were books, not related to mathematics education, irrelevant to the research focus, or literature review articles. Of the 19 sources that were subsequently assessed for eligibility, 15 were excluded because the full text was unavailable or because the CORE model and ethnomathematics were discussed separately. Consequently, four sources that met all inclusion criteria were identified and analyzed further. This selection process is presented in the PRISMA framework in Figure 1.

The four selected sources consist of three journal articles and one thesis. The three journal articles were published in 2025, while the thesis was published in 2019. Based on the indexing listed in the sources, two articles were published in a SINTA 4 journal and one article in a SINTA 3 journal, while the thesis was from Muria Kudus University. The characteristics of the analyzed literature are presented in table 1.

Table 1. Identities Literatures

Title	Author, Year	Journal/ Repository	Index	Method	Instrument
Pengembangan Modul Ajar dengan Menggunakan Model CORE Berbasis Etnomatematika Minangkabau untuk Meningkatkan Kemampuan Koneksi Matematis Siswa	(Aristya et al., 2025)	Jurnal Pendidikan Matematika Malikussaleh	SINTA 4	ADDIE	Test, student feedback questionnaire
Pengembangan E-LKPD Berbasis CORE Pendekatan Etnomatematika pada Materi Relasi dan Fungsi Siswa Kelas VIII	(Pangestuti et al., 2025)	Jurnal Ilmiah Profesi Pendidikan	SINTA 4	ADDIE	Validation sheet, questionnaire sheet
Model CORE Terintegrasi TPACK berbasis Ethnomathematics	(Ardiana et al., 2025)	Jurnal e-DuMath	SINTA 3	4D	Observation sheet, test
Pengaruh Model CORE Berbantuan Audio Visual Etnomatematika (AVE) terhadap Kemampuan Koneksi Matematis dan Keterampilan Kinerja Proses Siswa IV	(Agustin, 2019)	Repository Universitas Muria Kudus	-	Quan-titative	Test, observasion sheet

3.2 Characteristics and Research Findings

The four studies exhibit different characteristics in terms of their objectives, research methods, subjects, products or interventions, and the mathematical abilities studied. These differences must be taken into account in the synthesis process because not all studies directly measure mathematical connection ability.

The first study by Aristya et al. (2025) was titled " Pengembangan Modul Ajar dengan Menggunakan Model CORE Berbasis Etnomatematika Minangkabau untuk Meningkatkan Kemampuan Koneksi Matematis Siswa." The study employed a research and development approach using the ADDIE model and involved eighth-grade students at SMP Negeri 1 Silangkitang. The product developed was a teaching module that integrated the CORE model with Minangkabau ethnomathematics and incorporated cultural elements of the Nantigo layered cake. During the development phase, the module and assessment instruments were validated by expert validators and practitioners. The module validation results yielded an average score of 4.74, falling into the "very good" category, while the test instruments received an average score of 3.67, classified as "valid." During the implementation phase, improvements in mathematical connection ability were demonstrated by N-Gain values ranging from 0.714 to 0.933, all of which fell into the "high" category. These results indicate that the developed module has a high level of validity and enhances the research subjects' mathematical connection ability.

The second study was conducted by Pangestuti et al. (2025) through a study titled "Pengembangan E-LKPD Berbasis CORE Pendekatan Etnomatematika pada Materi Relasi dan Fungsi Siswa Kelas VIII." This study employed a research and development approach based on the ADDIE model, but implementation was limited to the Analysis, Design, and Development phases. The Implementation and Evaluation phases were not carried out due to time constraints. The product developed was a CORE-based E-LKPD using an ethnomathematics approach for the topic of relations and functions. Validation was conducted by media experts and subject matter experts. The validation results yielded scores of 88.9% and 84%, respectively, with an overall average of 86.45%, thereby indicating that the E-LKPD is highly valid. The practicality test also showed positive responses from teachers and students. Student responses scored 88.2% for the media aspect, 79.9% for the content aspect, and 84.7% for the benefits aspect. These findings indicate that the E-LKPD has a good level of validity and practicality. However, because the implementation and evaluation phases were not conducted, this study has not yet provided direct empirical evidence of improvements in students' mathematical connection ability.

The third study was conducted by Ardiana et al. (2025) and titled "Model CORE Terintegrasi TPACK berbasis Ethnomathematics". This study aimed to develop a textbook that integrates the CORE model, TPACK, and ethnomathematics to improve mathematical problem-solving ability. The study employed research and development method using the 4D model and a one-group pretest-posttest design. The research subjects were eighth-grade students at SMP Negeri 7 Padangsidimpuan. The pretest and posttest instruments were pilot-tested and yielded reliability coefficients of 0.744 and 0.78, respectively. After four learning sessions, the average learning management score was 4.31, falling into the "good" category. The posttest score increased by 15.17 points from the pretest average of 66.99, while the N-Gain value of 0.46 fell into the moderate category. These findings indicate that the developed textbook improved students' mathematical problem-solving ability. Although the primary variable of this study was not mathematical connection ability, these findings remain relevant to the synthesis because the problem-solving ability examined in this study involves the use and connection of mathematical concepts in the problem-solving process. This study uses the Pythagorean theorem as content knowledge integrated with ethnomathematics, thus

requiring the ability to connect mathematical concepts to contextual situations. Furthermore, the CORE learning model syntax Connecting, Organizing, Reflecting, and Extending, provides learning activities designed to connect prior knowledge with new concepts, organize information, reflect on learning, and extend knowledge. Thus, this study applies a learning model that emphasizes the process of connecting concepts, contexts, and prior knowledge to support students' mathematical connection ability, particularly in learning the Pythagorean Theorem.

The fourth study was conducted by Agustin (2019) and titled "Pengaruh Model CORE Berbantuan Audio Visual Etnomatematika (AVE) terhadap Kemampuan Koneksi Matematis dan Keterampilan Kinerja Proses Siswa IV". This study employed a quantitative approach with a one-group pretest-posttest pre-experimental design. The research subjects were fourth-grade students at SD 2 Demaan. Data was collected through tests, observations, and documentation. The instrument for measuring mathematical connection ability consisted of open-ended questions, while process performance skills were measured using an observation sheet. The results showed a difference in the mean mathematical connection ability scores before and after the implementation of the AVE-assisted CORE model. Additionally, process performance skills also showed a difference following the intervention. Process performance skills contributed 73.5% to mathematical connection ability, while 26.5% was influenced by other factors. The results also showed that the scores for mathematical connection ability and process performance skills reached the mastery threshold of 68. Thus, this study provides direct empirical evidence regarding the relationship between the implementation of the CORE model supported by media containing elements of ethnomathematics and mathematical connection ability.

3.3 Synthesis of Findings Across Studies

The results of the analysis of the four studies reveal a general pattern indicating that integrating the CORE model with ethnomathematics has the potential to support mathematics learning by developing students' ability to make mathematical connections. However, the strength of the evidence obtained varies across studies. The studies by Aristya et al. (2025) and Agustin (2019) provide more direct evidence, as the mathematical connection ability was one of the observed variables. Meanwhile, the study by Pangestuti et al. (2025) placed greater emphasis on the product's validity and practicality, without an implementation and evaluation phase, whereas Ardiana et al. (2025) focused on mathematical problem-solving ability.

Topic 1: The Role of the CORE Learning Model

The characteristics of the CORE model provide opportunities for students to connect prior knowledge with new knowledge (connecting), organize information (organizing), reflect on the knowledge they have acquired (reflecting), and apply knowledge in a broader context (extending). This approach supports a learning process oriented not only toward mastering procedures but also toward understanding the relationships among concepts and applying knowledge. This is supported by studies by Aristya et al. (2025) and Agustin (2019), which implemented the full syntax of the CORE learning model to improve students' mathematical connection ability. A study by Ardiana et al. (2025) also applied the CORE learning model, which successfully supported students in solving mathematical problems by connecting mathematical concepts. Findings regarding the role of CORE in connecting prior knowledge with new knowledge are also consistent with Apriyanti et al. (2025), who demonstrated that the CORE model fosters students' active engagement, curiosity, and ability to connect existing knowledge with new knowledge.

Topic 2: The Role of Ethnomathematics in Context

The synthesis also shows that integrating ethnomathematics provides a context that connects mathematical concepts to students' personal experiences and cultures. Aristya et al. (2025) integrated a teaching module with worksheets incorporating cultural elements of the Minangkabau Nantigo layered cake; the module was rated "very good" with a score of 4.74. Pangestuti et al. (2025) used E-LKPD on the topic of relations and functions using an ethnomathematics approach, achieving a percentage of 86.45%, considered valid and appropriate, along with an 88.2% student response rate. Agustin (2019) used AVE (Audio-Visual Ethnomathematics) as a learning medium, achieving a 73.5% effectiveness rate in improving process skills and mathematical connection ability. Ardiana et al. (2025) used an ethnomathematics-based textbook that achieved an N-Gain score of 0.46, classified as moderate. This textbook integrates mathematics, technology, and local culture, making learning more meaningful and relevant. These findings align with those of Astuti et al. (2024), who highlight the importance of utilizing students' culture and surrounding environment as sources for mathematics learning. In the context of mathematical connection ability, Rahmawati (2023) demonstrates that an ethnomathematics context can help students connect mathematical concepts to their culture and everyday life situations. Thus, ethnomathematics in all four studies not only serves as an additional context but also has the potential to act as a bridge between formal mathematical knowledge and students' real-world experiences.

Topic 3: Learning Media

In terms of learning products, the three development studies produced materials that integrate CORE and ethnomathematics, namely teaching modules, E-LKPDs, and textbooks. All three products demonstrated good validation results and received positive feedback from users or in pilot tests. The teaching module developed by Aristya et al. (2025) achieved an average validation score of 4.74 and yielded an N-Gain in the high category. The E-LKPD developed by Pangestuti et al. (2025) achieved a validity of 86.45% and demonstrated good practicality, as indicated by feedback from teachers and students. Meanwhile, the textbook developed by Ardiana et al. (2025) yielded an N-Gain of 0.46 in the moderate category and improved posttest scores compared to pretest scores.

Topic 4: Effectiveness

From the perspective of instructional interventions, the study by Agustin (2019) provides more explicit evidence regarding mathematical connection ability. The implementation of CORE supplemented with Audio-Visual Ethnomathematics demonstrated changes in mathematical connection ability before and after instruction. These findings complement the results of the development study, which indicate that CORE- and ethnomathematics-based learning tools can be developed with good levels of validity and practicality. Thus, the emerging pattern of findings not only demonstrates the feasibility of the learning tools but also indicates the potential of applying CORE, integrated with an ethnomathematics context, to support mathematical connection ability.

Topic 5: Implementation Limitations

Overall, the synthesis results indicate that integrating CORE and ethnomathematics has the potential to support mathematical connection ability. However, empirical evidence that directly measures mathematical connection ability remains limited, as only a portion of the analyzed studies treated this ability as a primary variable. Therefore, the findings of this study are best understood as preliminary indications of the potential of integrating CORE and ethnomathematics, rather than as sufficient evidence to draw general conclusions about

its effectiveness. The limited number of studies and the diversity of research objectives highlight the need for further empirical research using stronger experimental designs to test the effectiveness of this integration in improving mathematical connection ability.

3.4 Discussion

Based on a synthesis of four studies, it appears that the CORE learning model integrated with ethnomathematics plays a role in improving students' mathematical connection ability. The main finding is that the implementation of learning tools, such as teaching modules, digital worksheets (E-LKPD), and textbooks, based on the CORE learning model and integrated with ethnomathematics demonstrates a relatively high level of validity and practicality. Furthermore, empirical evidence shows that implementing the CORE learning model, supported by Ethnomathematics Audio-Visual (AVE) media, positively affects students' mathematical connection ability.

The CORE learning model's syntax works synergistically with ethnomathematics to support the development of mathematical connection ability. The "Connecting" and "Extending" syntaxes stimulate students' cognitive bridges to link existing knowledge with new concepts and expand their understanding by applying mastered concepts to contextual situations (Kirana, 2025). Integrating ethnomathematics as a learning context transforms abstract mathematical concepts into concrete ones that are more relevant to students' real lives.

The CORE learning model, which integrates ethnomathematics, aligns with constructivist theory. Constructivist theory emphasizes students' active role in constructing their knowledge based on prior knowledge. This is consistent with meaningful learning theory, as proposed by Ausubel (1962), which involves connecting new information to relevant concepts within students' cognitive structures. Findings by Apriyanti et al. (2025) indicate that the CORE learning model fosters active student participation. Furthermore, utilizing the cultural environment as a learning context can support meaningful learning. This is supported by Astuti et al. (2024), who state that using students' culture and surrounding environment as sources for learning mathematics makes the learning process more meaningful. From the perspective of mathematical connection ability, ethnomathematics makes it easier for students to relate mathematical concepts to culture, daily life, and various situations (Rahmawati, 2023).

The practical implications of this study highlight the importance of the teacher's role and a curriculum that focuses on integrating local culture with formal mathematical content. The syntax of the CORE learning model is structured to support the development of mathematical connection ability. This meta-synthesis study provides a theoretical foundation for the CORE learning model integrated with ethnomathematics as an alternative approach to learning aimed at improving students' mathematical connection ability.

The scientific contribution of this study is a synthesis of four studies demonstrating the effects of the CORE learning model, integrated with ethnomathematics, on improving mathematical connection ability. These results provide comprehensive information regarding the implementation of learning tools based on the integration of the CORE learning model and ethnomathematics, which demonstrate high levels of validity and practicality and are effective in enhancing mathematical connection skills. Furthermore, empirical evidence for the CORE learning model intervention supported by AVE media has shown effectiveness in improving students' mathematical connection ability and process skills.

Studies on the CORE learning model integrated with ethnomathematics remain very limited, particularly regarding mathematical connection ability. Experimental research is needed that provides direct intervention to students to demonstrate the effectiveness of the

CORE learning model integrated with ethnomathematics, especially in enhancing mathematical connection ability. In addition, research could be conducted on the influence of other factors, such as learning motivation, learning styles, or mathematical disposition.

4. CONCLUSION

Based on the results of a meta-synthesis using a meta-aggregation approach to four studies, it was found that the CORE learning model integrated with ethnomathematics has a positive impact on students' mathematical connection ability. Both of these integrations play their respective roles. The CORE learning model, which stands for connecting, organizing, reflecting, and extending supports the development of students' thinking processes, including mathematical connection ability. At the same time, ethnomathematics contributes to a more culturally relevant and meaningful learning context. In three articles on the development of learning modules, digital worksheets (E-LKPD), and textbooks that integrate ethnomathematics, these materials have been proven to be valid and practical, as well as designed to serve as resources in the CORE learning process. Thus, the CORE learning model integrated with ethnomathematics has the potential to enhance students' mathematical connection ability through three mechanisms: cognitive reinforcement through the systematic application of the CORE learning model's syntax; the application of formal mathematical concepts to contextual situations through local culture; and the use of learning media that integrates the CORE learning model and ethnomathematics, which has been proven to be valid and practical. Nevertheless, further research on the implementation of this learning innovation is still needed to provide more empirical evidence, as the literature on this topic remains very limited. In addition, research could be conducted on the influence of other factors, such as learning motivation, learning styles, or mathematical disposition.

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