



Fostering Meaningful Learning Through TPACK-Based Love Curriculum in Madrasah Ibtidaiyah

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ABSTRACT

This study aims to analyze how the implementation of a love-based curriculum integrated with the TPACK framework can foster meaningful learning in Madrasah Ibtidaiyah students. This study uses a qualitative approach with a case study conducted in the fourth grade of MI Miftahul Ulum Mataram Udik. Data collection techniques were carried out through observation, interviews, and documentation, while data analysis used the Miles and Huberman interactive analysis model. The results showed that the implementation of a love-based curriculum was able to create an empathetic and humanistic learning atmosphere, thereby increasing student motivation and participation in the learning process. The integration of TPACK through the use of digital media such as interactive presentations, educational videos, and Canva-based visual platforms helped students understand the material in a more contextual and interesting way. In addition, the application of the STEAM approach through project activities and group work was able to develop students' creativity, critical thinking skills, and collaboration.

Keywords: *Meaningful Learning, Love-Based Curriculum, TPACK, Madrasah Ibtidaiyah*

ABSTRAK

Penelitian ini bertujuan untuk menganalisis bagaimana penerapan kurikulum berbasis cinta yang terintegrasi dengan kerangka TPACK dapat menumbuhkan meaningful learning pada siswa Madrasah Ibtidaiyah. Penelitian ini menggunakan pendekatan kualitatif dengan jenis studi kasus yang dilaksanakan di kelas IV MI Miftahul Ulum Mataram Udik. Teknik pengumpulan data dilakukan melalui observasi, wawancara, dan dokumentasi, sedangkan analisis data menggunakan model analisis interaktif Miles dan Huberman. Hasil penelitian menunjukkan bahwa implementasi kurikulum berbasis cinta mampu menciptakan suasana pembelajaran yang empatik dan humanis sehingga meningkatkan motivasi serta partisipasi siswa dalam proses belajar. Integrasi TPACK melalui pemanfaatan media digital seperti presentasi interaktif, video pembelajaran, dan platform visual berbasis Canva membantu siswa memahami materi secara lebih kontekstual dan menarik. Selain itu, penerapan pendekatan STEAM melalui kegiatan proyek dan kerja kelompok mampu mengembangkan kreativitas, kemampuan berpikir kritis, serta kolaborasi siswa.

Kata Kunci: *Meaningful Learning, Kurikulum Berbasis Cinta, TPACK, Madrasah Ibtidaiyah*

INTRODUCTION

The development of 21st century education demands a learning process that is not only oriented to the delivery of material, but also to the formation of meaningful learning experiences (*meaningful learning*) (Peña-Ayala, 2021). Meaningful learning occurs when students are able to connect the concepts learned with real experiences so that the knowledge

gained becomes more profound and durable (Bryce & Blown, 2024). However, in practice in various elementary schools and madrasahs ibtidaiyah, learning still tends to be oriented towards memorization and one-way delivery of information (Altinyelken, 2021; Shofa & Hafidzi, 2026). This condition causes students to be less active in constructing knowledge and less understanding of the relevance of the material to daily life. Research shows that the right integration of technology and pedagogical strategies can increase student engagement and create a more meaningful learning experience (Shen, 2022).

On the other hand, the development of digital technology requires teachers to be able to integrate technology in learning effectively (Akram dkk., 2022). Framework *Technological Pedagogical Content Knowledge* (TPACK) is one of the important approaches in integrating technological knowledge, pedagogy, and content in an integrated manner (M. J. Koehler & Mishra, 2016). This framework emphasizes that the success of technology-based learning does not depend only on mastery of technology, but also on the ability of teachers to combine technology with pedagogical strategies and subject matter (Koh et al., 2021).

However, the implementation of technology integration in basic learning still faces various challenges (Aziz & Muzaini, 2026; Muzaini, 2023). Previous research shows that teachers' ability to apply the TPACK framework has not been optimal, especially in integrating technology pedagogically in the teaching and learning process (Ozden dkk., 2024; Santos & Castro, 2021). This causes the technology used in learning to often only function as a presentation tool, rather than as a means to build a deep and meaningful learning experience for students (Nanola dkk., 2024).

In addition to the technological aspect, the affective dimension in learning is also an important factor that is often overlooked. In the context of primary education, a value-based learning approach or a love-based curriculum emphasizes the importance of positive emotional connections between teachers, students, and the learning environment (Seventy et al., 2025; Shofa & Hafidzi, 2026). Learning based on the values of compassion, empathy, and appreciation for students' potential is believed to be able to increase learning motivation, student involvement, and create a more humane learning environment (Heriyudanta & Pradana, 2025). The integration of this approach with the TPACK framework has the potential to result in learning that is not only technologically innovative but also emotionally and socially meaningful.

Previous research has examined the application of the TPACK framework in learning in elementary schools. Studies conducted by Filina dkk., (2024) and Muzaini, (2024) found that the application of TPACK in elementary school learning is able to improve the quality of the learning process through the effective integration of technology, pedagogical strategies, and material content. The research shows that the use of technology integrated with the right learning methods can increase student engagement and create a more engaging and meaningful learning experience.

Other research also shows that teachers' pedagogical competence plays an important role in the successful implementation of TPACK (Zhakiyanova dkk., 2023). The influence of digital literacy and pedagogical knowledge on the competence of TPACK elementary school teachers that pedagogical knowledge has a significant influence on teachers' ability to integrate technology in learning (Demissie dkk., 2022). This shows that technology cannot stand alone, but must be integrated with the right pedagogical approach in order to have a positive impact on the learning process of students (Siregar et al., 2024).

In addition, a systematic literature review on TPACK-based learning in primary education shows that technology integration can improve student engagement, learning

motivation, and learning outcomes when applied appropriately (Latip dkk., 2023). However, the success of the implementation of TPACK is greatly influenced by various factors such as teacher readiness, institutional support, and the suitability of the learning model with the characteristics of students (Aslan dkk., 2025). Therefore, further research is needed to develop a learning model that is able to integrate technology with a humanist and contextual pedagogical approach.

Although various studies have discussed the application of TPACK in learning, most of the research still focuses on teacher competency development or the integration of technology in learning in general. Studies that specifically link TPACK to the development of meaningful learning in elementary school students are still relatively limited. Many studies have emphasized the technological aspect, but have not examined in depth how technology integration can be combined with a value and emotional approach to learning.

In addition, research on TPACK is also still largely carried out in the context of teacher education or prospective teachers compared to direct implementation in elementary school classrooms (Wollmann & Lange-Schubert, 2022). Some literature reviews show that most TPACK research focuses on pre-service teachers, while there is relatively little research exploring its implementation in real-world classroom learning practices. This condition shows that there is a need for more contextual research on learning practices in elementary schools (Shambare & Jita, 2024).

The love-based curriculum approach as a pedagogical approach that emphasizes the affective dimension and humanistic relationship in learning is still rarely studied in its integration with educational technology (Trifonova dkk., 2024; Umrati, 2026). In fact, the combination of humanistic values with the use of technology has the potential to produce learning that is not only innovative but also meaningful for students' cognitive, emotional, and social development (Mutia dkk., 2025). Therefore, this research seeks to present a new perspective by integrating a love-based curriculum with the TPACK framework to foster *meaningful learning* to students of madrasah ibtidaiyah.

Although many studies have examined the application of TPACK and deep learning strategies in improving the quality of learning, most studies still focus on cognitive aspects and technology integration without linking them to humanistic approaches that emphasize the emotional relationship between teachers and students. In addition, studies on the Love-Based Curriculum (LBC) are still limited and have not been systematically integrated with TPACK and deep learning strategies in the context of elementary schools. Therefore, this study attempts to fill this gap by analyzing the integration of LBC, deep learning, and TPACK in learning and their contribution to strengthening student creativity through the STEAM approach.

Based on the description of the background and research gaps, this study aims to analyze how the application of a love-based curriculum integrated with the TPACK framework can foster meaningful learning in grade IV students of Madrasah Ibtidaiyah. This research was conducted at MI Miftahul Ulum Mataram Udik by involving 38 students divided into two study groups, namely classes IV A and IV B. The focus of this research is to examine how the integration of the values of compassion in technology-supported learning can improve student engagement, learning experience, and conceptual understanding.

Theoretically, this research contributes to the development of an integrative learning model that combines a humanistic approach through a love-based curriculum with the TPACK framework in primary education. Practically, this research is expected to be a reference for

madrasah ibtidaiyah teachers in designing learning that is not only technologically innovative, but also able to foster a meaningful, contextual, and character-oriented learning experience.

METHODS

Research Approach and Type

This study uses a qualitative approach with the type of case study research (Muzaini, 2026). According to Creswell, (2019) Qualitative research is used to understand the meaning given by individuals or groups to a social or educational problem through the process of naturalistic data collection and interpretive analysis.

Subjects and Informants

The subject of this study is a fourth grade student of MI Miftahul Ulum Mataram Udik, Bandar Mataram District, Central Lampung Regency in the 2025/2026 school year. The total number of students was 38 people who were divided into two study groups, namely class IV A with 18 students and class IV B with 20 students. In addition to students, this study also involves classroom teachers as the main informants who play a role in designing and implementing TPACK's integrated love curriculum-based learning. The determination of the research subject uses the purposive sampling technique, which is the deliberate selection of samples based on certain considerations relevant to the research objectives (Patton, 2014).

Data Collection Techniques

The data collection techniques in this study used observation, interviews, and documentation. Observations were made to directly observe the learning process that integrates the values of a love-based curriculum with the use of technology within the framework of TPACK. Interviews were conducted in a semi-structured manner with teachers and several students to obtain information about learning experiences, perceptions of learning, and dynamics of interaction in the classroom. Meanwhile, documentation is used to complete research data in the form of learning tools, photos of learning activities, and notes of student learning outcomes. The use of these various data collection techniques aims to improve the validity of data through triangulation of sources and methods.

Data Validity Techniques

According to Miles dkk., (2014), triangulation is an important strategy in qualitative research to ensure the accuracy of data through the comparison of various sources of information. The data analysis technique in this study uses the Miles and Huberman interactive analysis model, which includes three main stages, namely data reduction, data presentation, and conclusion drawing (Miles dkk., 2020).

RESULTS AND DISCUSSION

Implementation of a Love-Based Curriculum in Learning

The results of the study show that the application of a love-based curriculum in learning in grade IV of MI Miftahul Ulum Mataram Udik is carried out through a pedagogical approach that emphasizes empathy, respect for students, and positive emotional relationships between teachers and students. Teachers start learning with simple reflection activities, open dialogue, and motivation that foster students' confidence. This approach makes students feel valued and comfortable in following the learning process. In class observation, students were seen to be more active in asking questions, discussing, and participating in group activities. This shows

that a positive learning atmosphere can increase student engagement in learning. One of the observational findings showed that teachers provide emotional reinforcement before starting learning by conveying motivational messages to students. As noted in the class observation sheet:

"Teachers start learning by greeting students personally and asking them how they feel before learning. The students looked enthusiastic and some students raised their hands to share their experiences at home." (OBS/01/KBCL/IV/2025).

The findings were reinforced by the results of interviews with classroom teachers who emphasized the importance of an emotional approach in learning. The teacher said that a learning atmosphere full of appreciation and empathy can help students be more open in learning and interacting with their classmates. In an in-depth interview, the teacher explained:

"I always try to start learning with a closer approach to students. When students feel valued and cared for, they are more courageous to ask questions and express their opinions in class." (W/Guru/KBCL/02).

In addition, students also feel the positive impact of the love-based curriculum approach. Some students said that they felt more comfortable learning because the teacher provided attention and support during the learning process. One of the students said in an interview: "It feels more fun to learn like this, because the teacher often encourages us and we get to discuss with friends." (W/Student/03).

These findings are in line with the concept *meaningful learning* which emphasizes the importance of students' emotional and cognitive involvement in the learning process (Kostiainen dkk., 2023). Learning that provides positive experiences and is relevant to students' lives can strengthen understanding of concepts and increase knowledge retention. Previous research has also shown that an emotionally supportive learning environment is able to increase students' motivation and participation in learning (Zhu et al., 2021). Research results by Hou et al., (2025) explains that emotions have an important role in cognitive and learning processes because emotional experiences can strengthen the process of constructing students' knowledge. Thus, the implementation of a love-based curriculum in learning not only creates a positive learning atmosphere, but also supports the creation of meaningful learning experiences for students.

Integration of TPACK in Learning to Enhance *Meaningful Learning*

The results of the study show that the integration of *Technological Pedagogical Content Knowledge* (TPACK) in learning in grade IV of MI Miftahul Ulum Mataram Udik is carried out through the use of various digital media such as interactive presentations, learning videos, and Canva-based visual design platforms. Teachers use these media to explain learning concepts in a more contextual and visual way so that students can more easily understand the material being learned. In practice, technology is not only used as a tool for delivering information, but also as a means to encourage active student involvement through group discussions, material exploration, and presentation of students' work. This technology integration makes learning more engaging and helps students with visual, auditory, and kinesthetic learning styles to understand the material more effectively.

Based on the results of observations in the classroom, the use of digital media in learning seems to be able to increase student attention and participation. When teachers show learning videos and interactive slides created through Canva, students show more active responses by asking questions and discussing with their group mates. Observation notes show that the use

of technology helps students understand concepts more concretely. This is seen in one of the following observation notes:

"When teachers display learning videos through projectors and explain the material using Canva slides containing images and illustrations, students are seen paying attention. Some students raised their hands to ask questions and give their opinions on the content of the video shown." (OBS/02/TPACK/IV/2025).

The findings were also strengthened by the results of interviews with classroom teachers who explained that the use of technology helps teachers explain concepts that are difficult for students to understand if they are only conveyed verbally. The teacher said that the integration of technology makes it easier for students to understand the material because it is accompanied by interesting visualizations. In the interview, the teacher stated:

"By using media such as Canva and learning videos, students can understand the material more easily because they can see pictures and examples directly. Usually they are also more enthusiastic about discussing after seeing the learning videos." (W/Guru/TPACK/03).

In addition, students also gave positive responses to the use of technology in learning. Some students said that the use of visual media makes learning more interesting and not boring. One of the students said in an interview:

"If you learn to use videos and images like in Canva, it becomes easier to understand. We can also discuss with friends after seeing the material shown." (W/Student/TPACK/04).

These findings reinforce TPACK's theory that emphasizes the importance of integration between technology, pedagogy, and material content in learning (Tseng dkk., 2022). According to Koehler & Mishra, (2009), effective learning with technology does not depend only on mastery of technology, but on the ability of teachers to integrate technology with pedagogical strategies that are in accordance with the characteristics of the material and the needs of students. Other research shows that the implementation of TPACK can improve the quality of learning and help students understand concepts more deeply through interactive and contextual learning experiences (Jibril & Adedokun-Shittu, 2024). Thus, the integration of TPACK in learning not only increases the effectiveness of material delivery, but also supports the creation of *meaningful learning* which is more contextual and meaningful for students.

Developing Creativity and STEAM Approaches in Learning

In addition to technology integration, this study also found that learning that combines the STEAM (*Science, Technology, Engineering, Arts, and Mathematics*) approach is able to increase students' creativity. In the learning activities, students are given simple project tasks that combine the exploration of science concepts with creative activities such as making simple models, drawing concepts, and presenting the results of group discussions. This activity encourages students to think critically, collaborate, and express ideas creatively. The teacher provides space for students to develop their own ideas in completing project tasks so that the learning process focuses not only on the final result, but also on the exploration process carried out by the students.

The results of the observation showed that students looked more active and enthusiastic when participating in STEAM project-based learning. In learning activities, students work in groups to complete tasks assigned by the teacher, such as creating simple models of the available materials and describing the concepts learned. The process encourages interaction and cooperation between students in groups. Observation records show that these activities

are able to increase student participation in learning. This is seen in one of the following observation notes:

"When the teacher gives the task of making a simple model related to the concept of science, students are seen actively discussing with their group mates. Some students draw a model design, while others prepare materials that will be used to create the project." (OBS/03/STEAM/IV/2025).

These findings are also reinforced by the results of interviews with classroom teachers who explain that the STEAM approach helps students understand the concept of learning through more creative and applicative activities. The teacher said that the project activities made students more involved in learning because they could directly practice the concepts learned. In the interview, the teacher stated:

"When students are given project tasks such as modeling or drawing lesson concepts, they look more enthusiastic. In addition to understanding the material, they also learn to work together and convey ideas to their group friends." (W/Guru/STEAM/05).

Meanwhile, students also said that project-based learning makes it easier for them to understand the material because they can learn while doing creative activities. One of the students revealed:

"Learning by making projects like this is more fun because we get to draw and create things with friends. So the lessons are easier to understand." (W/Student/STEAM/06).

The STEAM approach allows students to learn in an interdisciplinary manner, so that the concepts learned are not separate but interconnected between science, technology, art, and mathematics (Madden dkk., 2021). Previous research has shown that STEAM-based learning can improve students' creative thinking, problem-solving, and collaborative skills (Wahyudi et al., 2024). Other studies have shown that the integration of STEAM in basic learning can increase student engagement and provide a more meaningful and contextual learning experience (Maričić & Lavicza, 2024). Therefore, the application of the STEAM approach in this study not only contributes to increasing student creativity, but also strengthens the process of meaningful learning through active, collaborative, and contextual learning experiences.

The Impact of Learning on *Students' Meaningful Learning*

Based on the results of observations and interviews with students, learning that integrates a love-based curriculum, TPACK, and STEAM approach provides a more meaningful learning experience for students. Students stated that learning becomes more enjoyable because they can learn through group activities, the use of visual media, as well as creative projects related to daily life. This shows that learning does not only focus on the delivery of material, but also on the process of knowledge exploration that involves the direct experience of students. The results of the observations showed that students were more actively participating in group discussions and were able to relate the material learned to their experiences in the surrounding environment.

In learning activities, students are seen to be more involved when teachers provide opportunities to discuss and present the results of their group work. Observation notes show that learning that combines visual media and project activities makes students more focused and enthusiastic about participating in lessons. One of the observation notes states:

"When students are asked to present the results of the group project in front of the class, they look confident in explaining the concepts they have learned. Other students also gave responses and questions to the presentation." (OBS/04/ML/IV/2025).

This finding was also reinforced by the results of interviews with several students who stated that learning with project activities and group discussions made them better understand

the material learned. One of the students revealed that learning became easier to understand because they were able to discuss and help each other in a group. This statement is reflected in the following interview excerpt: "If I learn by discussing and creating projects with friends, I understand the lessons more easily because I can ask questions and help each other." (W/Student/07).

In addition, the teacher also said that a learning approach that combines technology, project activities, and emotional interaction with students is able to significantly increase student learning engagement. The teacher stated that students became more confident in expressing their opinions and more active in participating in learning activities. This is reflected in the following teacher statement:

"When learning uses digital media and project activities, students look more active and dare to express their opinions. They also find it easier to connect the subject matter with their everyday experiences." (W/Guru/ML/08).

These findings are in line with the theory *meaningful learning* submitted by Reigeluth, (2022) which states that learning will be more meaningful when new information can be linked to the knowledge structure that students already have. Learning that provides hands-on experience through collaborative and exploratory activities allows students to construct knowledge in more depth (Muzaini & Aziz, 2026). Recent research shows that learning that leverages digital technology and collaborative activities can improve students' cognitive engagement as well as help them relate learning concepts to real-life contexts (Purwanto, 2026). Thus, the integration of love-based curriculum, TPACK, and the STEAM approach has proven to be able to create a more meaningful learning experience for madrasah ibtidaiyah students.

To understand the impact of implementing a love-based curriculum that is integrated with the TPACK framework and the STEAM approach, the researcher analyzed the results of learning observations, interviews with teachers and students, and documentation of learning activities in grade IV of MI Miftahul Ulum Mataram Udik. The analysis showed changes in student learning engagement, concept understanding, and more meaningful learning experiences. The data obtained is then categorized through a thematic coding process so as to produce several main indicators that show the emergence of meaningful learning in students. A summary of findings on the impact of learning on students' meaningful learning is presented in the following table.

Table 1. Summary of Research Findings

Focus of Findings	Description of Findings	Learning Impact
Love-Based Curriculum	Teachers create an empathetic and respectful learning atmosphere for students	Increase student motivation and participation
TPACK Integration	Use of digital media and interactive pedagogical strategies	Makes it easier to understand concepts and increases student engagement
Creativity and STEAM	Project activities and creative exploration in learning	Develop creativity and critical thinking skills
Meaningful Learning	Contextual learning that connects the material to students' lives	Improve in-depth understanding of concepts

Based on the table of findings, it can be concluded that the implementation of a love-based curriculum integrated with TPACK and the STEAM approach has a positive impact on the creation of meaningful learning in students. This can be seen from the increase in students' active participation in discussions, the ability to relate learning materials to daily experiences,

and the development of creativity and cooperation in learning project activities. These findings show that learning that combines aspects of technology, pedagogy, and humanistic approaches is able to create a more contextual and meaningful learning experience for madrasah ibtidaiyah students. Thus, the integration of these three approaches is one of the effective strategies in improving the quality of the learning process in elementary schools.

CONCLUSION

Based on the results of the study, it can be concluded that the implementation of a love-based curriculum that is integrated with the TPACK framework and the STEAM approach is able to foster meaningful learning in grade IV students of MI Miftahul Ulum Mataram Udik. The implementation of a love-based curriculum creates an empathetic and humane learning atmosphere so that students feel valued and more confident in following the learning process. The integration of TPACK through the use of digital media such as interactive presentations, learning videos, and visual platforms helps students understand the material in a more contextual and engaging way. In addition, the STEAM approach applied through project activities and group work is able to develop creativity, critical thinking skills, and student collaboration. The combination of the three approaches has been proven to provide a more active, contextual, and meaningful learning experience as students not only receive information, but also construct knowledge through interaction, exploration, and hands-on learning experiences related to daily life.

Further research is recommended to examine the integration of the Love-Based Curriculum (KBC), deep learning strategies, and the TPACK framework using quantitative or mixed methods approaches in order to more objectively measure their impact on student learning outcomes and creativity. In addition, research can also be conducted at different education levels and school contexts to obtain a broader picture of the effectiveness of integrating these three approaches in learning.

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