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INTEGRATION OF TPACK IN ISLAMIC CULTURAL HISTORY LEARNING: IMPLICATIONS FOR TEACHERS' PEDAGOGICAL AND PROFESSIONAL COMPETENCIES

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Abstrak

Artikel ini bertujuan untuk mengkaji implementasi TPACK (Technological, Pedagogical, and Content Knowledge) dalam pembelajaran serta implikasinya terhadap kompetensi pedagogik dan profesional guru SKI di MTs Negeri 2 Temanggung dan MTs Al Mu'min Muhammadiyah Tembarak. Penelitian ini merupakan penelitian jenis kualitatif dengan desain multisitus. Data dikumpulkan melalui observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa implementasi TPACK dalam pembelajaran SKI di kedua madrasah telah berjalan dengan baik pada tahap perencanaan, pelaksanaan, dan evaluasi. Implikasi TPACK terhadap kompetensi pedagogik guru SKI terlihat pada kemampuan guru menyusun perencanaan pembelajaran yang terintegrasi, menerapkan pembelajaran berpusat pada murid, serta memanfaatkan teknologi informasi dan komunikasi secara efektif dalam pembelajaran dan evaluasi. Sementara itu, implikasi TPACK terhadap kompetensi profesional guru SKI tampak pada penguasaan materi yang lebih mendalam meskipun terjadi perubahan kurikulum. Guru memahami capaian dan tujuan pembelajaran yang tercermin dari kesesuaian modul ajar dengan kurikulum yang berlaku, mampu mengontekstualkan serta mengembangkan materi SKI secara kreatif dan inovatif, serta terdorong untuk mengembangkan profesionalisme secara berkelanjutan melalui pelatihan pemanfaatan teknologi pembelajaran

Kata kunci: TPACK, Kompetensi Pedagogik, Kompetensi Profesional.

Abstract

This article examines the implementation of TPACK (Technological, Pedagogical, and Content Knowledge) in learning and its implications for the pedagogical and professional competencies of SKI teachers at MTs Negeri 2 Temanggung and MTs Al Mu'min Muhammadiyah Tembarak. This study employs a qualitative multisite field research approach, with data collected through observation, interviews, and documentation. The findings indicate that the implementation of TPACK in SKI learning at both madrasahs has been effectively carried out at the planning, implementation, and evaluation stages. The implications of TPACK for the pedagogical competence of SKI teachers are reflected in their ability to design integrated lesson plans, implement student-centered learning, and utilize information and communication technology (ICT) effectively in both instruction and assessment. Meanwhile, the implications of TPACK for the professional competence of SKI teachers are evident in their deeper mastery of subject matter despite curriculum changes. Teachers demonstrate a clear understanding of learning outcomes and

objectives, as reflected in the alignment of teaching modules with the current curriculum. They are also able to contextualize and creatively develop SKI content and are encouraged to continuously enhance their professionalism through participation in training on the use of instructional technology.

Keywords: TPACK, Pedagogical Competence, Professional Competence.

INTRODUCTION

The rapid development of information and communication technology (ICT) in the twenty-first century has brought about significant transformations in the field of education (Nurhaliza, 2024). Teachers can no longer rely solely on lecture-based instruction but are required to integrate technology into the learning process (Valle, 2020). Today, learning activities can be facilitated through various technology-based platforms and applications, such as Zoom, Google Meet, e-learning systems, PowerPoint, Canva, and others (Alfi et al., 2023). Whereas instruction was previously teacher-centered, contemporary learning increasingly emphasizes student autonomy, as learners are now able to access information easily and seek solutions to learning problems independently (Khudlori, 2023). Teachers are expected to be more adaptive by integrating technology into instructional practices. In this context, the Technological, Pedagogical, and Content Knowledge (TPACK) framework is needed to guide teachers in integrating technological, pedagogical, and content dimensions in a comprehensive manner.

TPACK is a framework that emphasizes teachers' ability to integrate technological knowledge, pedagogical knowledge, and content knowledge in a coherent and meaningful way (Nurhidayati, 2021). TPACK introduces the complex relationships among these three core domains of knowledge, technology, pedagogy, and content (Sahidin et al., 2022). TPACK represents the dynamic interaction among the three essential forms of knowledge that teachers must possess: (1) knowledge of technology to support learning, including the selection of appropriate tools and media; (2) knowledge of instructional models, strategies, and methods that effectively facilitate student learning; and (3) deep knowledge of subject matter or content being taught.

The implementation of TPACK is particularly relevant to twenty-first-century education, which emphasizes creativity, collaboration, communication, and problem-solving (Effendi et al., 2024). Through the TPACK framework, teachers utilize technology not only as a supporting medium for delivering content but also as an integral component of instructional strategies that foster meaningful learning experiences. This approach is especially important in madrasah education, where the subject of Islamic Cultural History (*Sejarah Kebudayaan Islam/SKI*) is often perceived as monotonous because it tends to focus on memorization of historical facts with limited connection to contemporary contexts.

The SKI subject emphasizes drawing lessons (*ibrah*) from past historical events as a foundation for addressing present and future challenges. One of its

primary objectives is to develop students' ability to derive insights from Islamic history, emulate exemplary figures, and relate historical narratives to contemporary social, cultural, political, economic, scientific, technological, and artistic phenomena in order to advance Islamic civilization (Directorate General of Islamic Education, 2024). Therefore, SKI instruction requires teachers who are capable of designing creative and innovative learning processes that respond effectively to the challenges of the digital era by implementing TPACK to create engaging, meaningful, and contextually relevant learning experiences.

In the practice of teaching Islamic Cultural History (SKI), various problems related to teachers' pedagogical and professional competencies are still encountered. Some teachers experience difficulties in designing and implementing effective and meaningful instruction. Learning tends to focus more on content delivery than on achieving learning objectives, resulting in less optimal development of students' critical thinking skills. In addition, instructional methods remain dominated by conventional, teacher-centered approaches, which lead to relatively low levels of student engagement in SKI learning (Sele & Sila, 2022).

In terms of professional competence, some SKI teachers also face limitations in mastering and developing instructional materials, which affects the achievement of learning outcomes (Munawir & Fifi, 2024). Moreover, the use of technology in learning has not yet been fully integrated pedagogically. Many teachers have not yet understood how to balance the integration of technology, pedagogy, and content to create effective learning experiences. Although technology offers significant potential benefits, the outcomes largely depend on teachers' ability to integrate these three components coherently in the instructional process (Mdhlalose & Mlambo, 2023).

This study was conducted due to the limited number of studies that specifically examine the extent to which Islamic Cultural History (SKI) teachers implement TPACK in classroom instruction and its implications for their pedagogical and professional competencies (Haluti et al., 2025). Although numerous studies have explored the application of TPACK across various educational levels, most have focused primarily on its implementation and impact on students (Haluti et al., 2025). Meanwhile, research investigating the implications of TPACK for teacher competence remains relatively scarce, particularly in the context of SKI as a subject area.

This study examines in greater depth the implementation of TPACK and its implications for the pedagogical and professional competencies of SKI teachers through a qualitative multisite case study approach at MTs Negeri 2 Temanggung and MTs Al Mu'min Muhammadiyah Tembarak. This research is expected to fill this gap by analyzing how TPACK is applied in instruction and how it contributes to enhancing SKI teachers' pedagogical and professional competencies.



METHOD

This study employs a qualitative approach conducted in a natural setting to gain an in-depth understanding of the meanings underlying individual and group behaviors and to describe social phenomena as they occur naturally. In qualitative research, the researcher serves as the key instrument who directly collects data from participants. Data collection techniques include observation, interviews, and documentation to obtain comprehensive data related to instructional practices and the competencies of Islamic Cultural History (SKI) teachers.

The research design adopted is a multisite study involving research subjects with similar institutional and contextual backgrounds. The study was conducted at two madrasahs purposively selected due to their comparable characteristics, namely MTs Negeri 2 Temanggung and MTs Al Mu'min Muhammadiyah Tembarak. The research subjects are SKI teachers at both institutions, while the research object focuses on analyzing their competencies in implementing the TPACK framework and its implications for enhancing their pedagogical and professional competencies.

RESULT AND DISCUSSIONS

TPACK-Based SKI Instructional Management

The findings indicate that the implementation of TPACK in Islamic Cultural History (SKI) learning at MTs Negeri 2 Temanggung and MTs Al Mu'min Muhammadiyah Tembarak has become an integral part of instructional management. Based on classroom observations, SKI teachers consistently integrated digital technology into teaching activities, from presenting learning materials to conducting classroom assessments. The available facilities, including projectors, Smart TVs, laptops, internet access, and computer laboratories, were actively utilized to support classroom instruction. During observations, teachers were seen presenting learning materials using digital presentations, instructional videos, online maps, and interactive quizzes, while students actively participated in discussions and responded to digital learning activities. The observation findings were consistent with the interviews conducted with the three SKI teachers. First teacher explained that technology had become part of her teaching routine because it enabled students to understand historical events more easily.

"Students understand the material more quickly when they can see pictures, videos, or historical illustrations. If I only explain verbally, many of them lose focus."

Similarly, another teacher stated that digital media helped create a more enjoyable classroom atmosphere.

"I usually combine Canva presentations with Kahoot because students become more enthusiastic. They compete to answer correctly, but at the same time they are actually reviewing the lesson."

Meanwhile, third teacher emphasized that visual technology was particularly important in SKI because many topics involve historical places that are difficult for students to imagine.

"Google Maps and YouTube help students visualize where historical events took place. They are no longer just memorizing names of places."

These interview findings were supported by classroom documentation showing teachers using Smart TVs to display Canva presentations, YouTube videos, and Google Maps during SKI lessons as described on Figure 1.



Figure 1. Teachers Using Technology into Teaching Activities

The observations also revealed differences in teachers' preferences for digital platforms. At MTs Negeri 2 Temanggung, frequently employed Canva as the primary presentation medium. The first teacher generally concluded lessons with Quizizz to assess students' understanding, whereas second teacher preferred Kahoot because it encouraged active participation through competition. In contrast, the third teacher at MTs Al Mu'min Muhammadiyah Tembarak relied more on YouTube videos and Google Maps during content delivery and used Google Forms for formative assessment. Although different digital platforms were employed, classroom observations demonstrated that each teacher selected technology according to the instructional objectives and characteristics of the learning materials rather than merely using technology for its own sake.

Student interviews further confirmed these findings. Several students stated that they preferred learning SKI through videos, pictures, and quizzes rather than conventional lectures.

"It is easier to understand because we can actually see the historical places and events."

Another student explained,

"Quizizz makes learning more exciting because we immediately know whether our answers are correct."

Students at MTs Al Mu'min Muhammadiyah Tembarak expressed similar opinions.

"When Sir uses YouTube videos and maps, we remember the lesson longer because we can imagine the story."

These responses were consistent with classroom observations showing that students actively participated in discussions after watching instructional videos. During group activities, students referred to information presented through digital media to explain historical events and answer questions posed by the teacher. The implementation of TPACK was also reflected in teachers' instructional strategies. Rather than relying solely on lectures, teachers organized students into discussion groups, assigned collaborative tasks, invited classroom presentations, and encouraged question-and-answer sessions. During observations, students were given opportunities to analyze historical events, identify moral values, and relate them to contemporary situations. Teachers acted as facilitators by guiding discussions instead of providing all information directly.

One important finding concerned the contextualization of SKI materials. All observed teachers consistently connected historical content with students' daily lives. For example, when discussing the leadership of the Prophet Muhammad and the Rightly Guided Caliphs, teachers encouraged students to reflect on honesty, responsibility, discipline, and leadership within the school environment. During one classroom session, students were asked to identify examples of trustworthy leadership practiced by class leaders and relate these examples to the historical figures being studied. This contextual approach was appreciated by students. One participant commented,

"The stories are connected with our daily activities, so the lessons are easier to remember."

Students presenting group discussions about leadership values and participating in classroom reflections after completing digital learning activities based on Figure 2.



Figure 2. Group Discussions about Leadership Values

The findings demonstrate that the implementation of TPACK in SKI learning extends beyond the use of digital technology as instructional media, encompassing the integration of technological, pedagogical, and content knowledge to create meaningful learning experiences. The use of Canva, YouTube, Google Maps, Quizizz, Kahoot, and Google Forms enabled teachers to present historical content more interactively, encourage student participation, and provide immediate feedback through digital assessments. These findings reinforce previous studies indicating that effective TPACK implementation enhances student engagement, critical thinking, communication, collaboration, and creativity while simultaneously improving teachers' instructional competence in integrating technology with subject content (Mishra & Koehler, 2006). Furthermore, the variation in digital platforms selected by teachers reflects adaptive instructional decision-making, demonstrating that technology integration is influenced not only by teachers' technological knowledge but also by pedagogical considerations and learning objectives (Effendi et al., 2024). This supports the argument that technology becomes pedagogically meaningful only when it is aligned with appropriate teaching strategies and content characteristics (Suyamto et al., 2020).

Another important finding is that SKI teachers consistently contextualized historical materials by connecting Islamic historical values with students' everyday experiences. Rather than emphasizing memorization of historical events, teachers encouraged students to reflect on values such as honesty, leadership, responsibility, and trustworthiness, making historical learning more relevant and applicable to contemporary life (Jendriadi et al., 2025). This contextual approach was further strengthened through collaborative discussions, presentations, and problem-solving activities that encouraged active student participation (Latief, 2022). These findings are consistent with previous research showing that contextual learning enhances students' conceptual understanding, motivation, and ability to apply knowledge in authentic situations (Yuliani, 2025). The successful implementation of TPACK in SKI learning depends not only on teachers' ability to utilize digital technologies but also on their capacity to transform historical content into meaningful learning experiences that foster both cognitive understanding and character development (Risdianto, 2024).

Implications of TPACK for the Pedagogical Competence of SKI Teachers

The findings indicate that the implementation of TPACK has strengthened the pedagogical competence of SKI teachers at MTs Negeri 2 Temanggung and MTs Al Mu'min Muhammadiyah Tembarak, particularly in lesson planning, instructional implementation, classroom management, and assessment practices. Classroom observations showed that teachers integrated technology into each stage of instruction rather than using it merely as a supporting tool. Learning activities were organized systematically, beginning with digital stimulation, followed by collaborative learning activities, classroom discussions, presentations, and technology-assisted assessments.

Classroom observations further revealed that technology encouraged more active student participation. Rather than listening passively to lectures, students worked collaboratively in groups to analyze historical events, discuss the values contained in Islamic history, and present their conclusions before receiving feedback from the teacher. During presentations, teachers facilitated classroom discussions by asking follow-up questions that encouraged students to explain and defend their opinions using historical evidence. Students also actively participated in digital quizzes, where immediate feedback enabled both teachers and learners to identify misconceptions before proceeding to subsequent learning activities.

The implementation of TPACK also influenced teachers' classroom management. Observations indicated that teachers functioned primarily as facilitators, providing learning resources, guiding discussions, and encouraging students to construct their own understanding rather than simply transmitting information. The classroom atmosphere was interactive and collaborative, with students showing greater confidence in asking questions and expressing opinions compared to conventional lecture-based instruction. Student interviews confirmed these observations. One student explained,

"Learning is more enjoyable because we discuss together instead of only listening to the teacher."

Another student added,

"The quizzes and videos make us more enthusiastic, and we can immediately know which answers are correct."

In addition to improving classroom interaction, the findings showed that teachers consistently contextualized SKI materials by relating historical events to students' daily experiences. During observations, teachers encouraged students to reflect on values such as honesty, responsibility, leadership, and trustworthiness by connecting historical figures with situations encountered in school and community life. Students were invited to compare the leadership of the Prophet

Muhammad and the Rightly Guided Caliphs with examples of leadership within their classrooms and student organizations. TPACK implementation has strengthened teachers' pedagogical competence by enabling them to design systematic lessons, employ diverse student-centered learning models, facilitate meaningful classroom interaction, contextualize historical content, and utilize digital technology to support both instruction and assessment.

The findings demonstrate that the implementation of TPACK in SKI learning extends beyond the use of digital technology as instructional media, encompassing the integration of technological, pedagogical, and content knowledge to create meaningful learning experiences. The use of Canva, YouTube, Google Maps, Quizizz, Kahoot, and Google Forms enabled teachers to present historical content more interactively, encourage student participation, and provide immediate feedback through digital assessments. These findings reinforce previous studies indicating that effective TPACK implementation enhances student engagement, critical thinking, communication, collaboration, and creativity while simultaneously improving teachers' instructional competence in integrating technology with subject content (Munawir, 2024). Furthermore, the variation in digital platforms selected by teachers reflects adaptive instructional decision-making, demonstrating that technology integration is influenced not only by teachers' technological knowledge but also by pedagogical considerations and learning objectives (Riswan et al., 2025). This supports the argument that technology becomes pedagogically meaningful only when it is aligned with appropriate teaching strategies and content characteristics (Nurhidayati et al., 2021).

Another important finding is that SKI teachers consistently contextualized historical materials by connecting Islamic historical values with students' everyday experiences. Rather than emphasizing memorization of historical events, teachers encouraged students to reflect on values such as honesty, leadership, responsibility, and trustworthiness, making historical learning more relevant and applicable to contemporary life. This contextual approach was further strengthened through collaborative discussions, presentations, and problem-solving activities that encouraged active student participation (Risdianto, 2024). These findings are consistent with previous research showing that contextual learning enhances students' conceptual understanding, motivation, and ability to apply knowledge in authentic situations (Yuliani, 2025). The successful implementation of TPACK in SKI learning depends not only on teachers' ability to utilize digital technologies but also on their capacity to transform historical content into meaningful learning experiences that foster both cognitive understanding and character development (Arizah et al., 2021).



The Impact of TPACK on the Professional Competence of SKI Teachers

The findings indicate that the implementation of TPACK has contributed to strengthening the professional competence of SKI teachers at MTs Negeri 2 Temanggung and MTs Al-Mu'min Muhammadiyah Tembarak. Based on document analysis, all participating teachers possessed undergraduate qualifications in education relevant to their teaching responsibilities, providing an appropriate academic foundation for teaching Islamic Cultural History (SKI). Classroom observations further revealed that teachers demonstrated confidence in explaining historical concepts, responding to students' questions, and connecting learning materials with broader historical and contemporary contexts.

Interviews with the participants showed that they experienced few difficulties in adapting to curriculum changes because they continuously updated their knowledge and instructional resources. One teacher explained,

"Curriculum changes require us to adjust our teaching materials, but the essential concepts remain the same. We continue learning so that the materials we deliver remain relevant."

Another teacher similarly stated,

"Every curriculum has its own characteristics. As teachers, we must be ready to adapt and enrich the learning resources that we use."

These findings indicate that teachers maintained strong subject-matter mastery while continuously updating instructional content in response to educational developments. The observations also demonstrated that teachers prepared teaching modules before conducting classroom instruction. Learning objectives, instructional activities, digital learning resources, and assessment methods were systematically organized to ensure that classroom implementation remained aligned with the intended learning outcomes.

The implementation of TPACK also encouraged teachers to diversify instructional strategies and continuously improve their professional competence. Classroom observations showed that teachers combined various instructional models, including Problem-Based Learning, Project-Based Learning, and Discovery Learning, supported by digital technologies such as Canva, YouTube, Google Forms, Kahoot, Quizizz, and artificial intelligence applications. Rather than relying exclusively on lectures, teachers selected instructional approaches according to the characteristics of the learning materials and students' needs. Document analysis supported these findings by showing certificates of participation in professional development programs, including online training organized through the Ministry of Religious Affairs' MOOC PINTAR platform based on Figure 3.



Figure 3. Discovery Learning Supported by Digital Technologies

The findings indicate that TPACK implementation has strengthened teachers' professional competence by improving subject-matter mastery, supporting systematic instructional planning, encouraging the integration of diverse digital technologies into teaching, and motivating teachers to engage continuously in professional learning activities. Observations, interviews, and documentary evidence consistently demonstrate that teachers have become more adaptive to curriculum changes and technological developments while maintaining the quality of SKI instruction.

TPACK implementation contributes to teachers' professional competence by strengthening both content mastery and the capacity to integrate technology into instructional practice. Teachers were not only able to adapt to curriculum changes but also demonstrated continuous efforts to update instructional materials, select appropriate digital resources, and design technology-supported learning activities that aligned with intended learning outcomes. These findings support previous studies emphasizing that professional competence within the TPACK framework requires the integration of content knowledge, pedagogical knowledge, and technological knowledge rather than mastery of technology alone (Effendi et al., 2024; Nurhaliza, 2024; Suyamto et al., 2020).

Participation in technology-related training, independent learning, and the exploration of digital platforms enabled teachers to remain responsive to educational and technological developments (Haluti et al., 2025). The use of various digital applications, including interactive learning platforms and artificial intelligence tools, indicates that professional competence is increasingly associated with teachers' willingness to learn and innovate throughout their careers (Suwardi & Rozak, 2025). These findings are consistent with previous research showing that continuous professional development enhances teachers' readiness to implement technology-integrated instruction and supports more effective, innovative, and student-centered learning environments (Effendi et al., 2024; Jendriadi et al., 2025; Risdianto, 2024).



CONCLUTION AND SUGGESTIONS

Based on the foregoing discussion, it can be concluded that the implementation of TPACK in SKI instruction at MTs Negeri 2 Temanggung and MTs Al-Mu'min Muhammadiyah Tembarak has been effectively carried out across the stages of planning, implementation, and evaluation. At the planning stage, teachers integrate digital technology through the use of various devices and platforms such as laptops, projectors, Canva, PowerPoint, YouTube, and digital maps to visualize SKI content in concrete and interactive ways. During implementation, instruction combines diverse pedagogical strategies, including discovery learning, structured lectures, group discussions, independent literacy activities, and question-and-answer sessions supported by digital media, thereby fostering more interactive and contextual learning experiences. At the evaluation stage, teachers utilize digital platforms such as Quizizz, Kahoot, and Google Forms, along with oral assessments, to confirm students' understanding.

Furthermore, the implementation of TPACK has yielded positive implications for the pedagogical and professional competencies of SKI teachers in both madrasahs. Pedagogically, teachers are able to design systematic lesson plans that integrate learning objectives, content, pedagogical strategies, and technology, as well as implement student-centered learning approaches aligned with the characteristics of Generation Alpha. Learning becomes more interactive, collaborative, and meaningful through the application of active, technology-supported instructional models and methods. Professionally, teachers demonstrate strong mastery of SKI content and disciplinary structure, the ability to develop materials creatively and contextually, and enhanced professionalism through the effective use of information and communication technology in the digital era.

REFERENCES

- AM Alfi, A Febriasari, JN Azka (2023). Transformasi Pembelajaran PAI melalui Media Digital Interaktif. *Jurnal Studi Islam*, 2 (4), 511-522. <https://doi.org/10.55606/religion.v1i4.249>
- Anggraeni, Monica, Putri Herpalinda, dan Alimni Alimni. (2022). Strategi Pembelajaran Kontekstual untuk SKI (Penerapan Pembelajaran SKI Melalui Pendekatan Kontekstual MTs Negeri 1 Kota Bengkulu). *Al-Hikmah (Jurnal Pendidikan dan Pendidikan Agama Islam)*. 4, (2); 167-73. <https://doi.org/10.36378/al-hikmah.v4i2.3385>
- Arizah, & Huda. (2021). Integrasi TPACK dalam Pembelajaran Pendidikan Agama Islam: Analisis Implementasi dan Tantangan di SMP Muhammadiyah 8 Yogyakarta. *Secondary: Jurnal Inovasi Pendidikan Menengah*, 6(1), 215-225. <https://doi.org/10.51878/secondary.v6i1.9150>
- Effendi, M. I., Elmunsyah, H., & Widiyanti, W. (2024). Peran Technological

- Pedagogical Content Knowledge (TPACK) terhadap Ketercapaian 4C Skills (Critical Thinking, Creative Thinking, Collaboration, and Communication) Siswa SMK. *Didaktika: Jurnal Kependidikan*, 13(1), 435-444. <https://doi.org/10.58230/27454312.1677>
- Riswan, & Mardia Hayati. (2026). Teknologi Pedagogical and Content Knowledge (TPACK) dalam Pembelajaran Pendidikan Agama Islam. *Didaktik : Jurnal Ilmiah PGSD STKIP Subang*, 11(04), 256 - 280. Retrieved from <https://journal.stkipsubang.ac.id/index.php/didaktik/article/view/10665>
- Himah, A. F. (2021). *Pembelajaran SKI di Madrasah (Diklat)*. Jember: UIN KH. Achmad Siddiq Jember.
- Jendriadi, et al. (2025). Peran Google Form dalam mendukung asesmen formatif berbasis daring di lingkungan sekolah dasar. *JEM: Jurnal Edumatika (Jurnal Pendidikan Matematika dan Ilmu Matematika)*, 2(1), 138-146. <https://ojs.unitas-pdg.ac.id/index.php/edumatika/article/view/1168>
- Khudlori, N. (2023). Kompetensi guru dalam menghadapi revolusi industri 4.0. *JPGMI: Jurnal Pendidikan Guru MI*, 6(1), 91-104. <https://doi.org/10.24090/jk.v11i1.8358>
- Latief, S. (2022). Eksplorasi TPACK dalam mendukung keterampilan berpikir tingkat tinggi. *Jurnal Pendidikan Matematika*, 13(2), 212-227. <https://doi.org/10.36709/jpm.v13i2.15>
- Mdhhalose, D., & Mlambo, G. (2023). Integration of technology in education and its impact on learning and teaching. *Asian Journal of Education and Social Studies*, 47(2), 54-63. <https://doi.org/10.9734/ajess/2023/v47i21021>
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6). <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Munawir, & Fifi. (2024). Analisis problematika guru dalam pembelajaran SKI di MI beserta solusinya. *INNOVATIVE: Journal of Social Science Research*, 4(1). 4303-4313. <https://doi.org/10.31004/innovative.v4i1.8186>
- Nurhidayati, N., et al. (2021). Model pembelajaran PAI berbasis TPACK dalam meningkatkan kualitas pembelajaran. *Jurnal Pendidikan Islam*, 9(2). 30-44. <https://doi.org/10.62097/ices.v12i4.5>
- Nurhaliza, S. (2024). Analisis kompetensi technological, pedagogical, and content knowledge (TPACK) guru SKI di MAN 2 Model (Tesis). Medan: UIN Sumatera Utara.
- Risdianto, E. (2024). *Pengelolaan pembelajaran berbasis TPACK*. Banyumas: Wawasan Ilmu.
- Sele, & Sila. (2022). Problematika kompetensi pedagogik guru dalam pembelajaran. *Biocaster: Jurnal Kajian Biologi*, 2(4), 230-235.



<https://doi.org/10.36312/bjkb.v2i4.152>

- Sulistiyowati, C., & Asriati, N. (2024). Pemanfaatan Teknologi untuk Meningkatkan Efektivitas Pembelajaran dan Keterlibatan. *Jurnal Ilmiah Pendidikan Citra Bakti*, 11(4), 1176–1188. <https://doi.org/10.38048/jipcb.v11i4.4542>.
- Suwardi, & Rozak, A. (2025). *Modul pedagogik sejarah kebudayaan Islam: Topik 3 pendekatan pembelajaran SKI berbasis kesatuan materi, pedagogik, dan teknologi (TPACK)*. Jakarta: Direktorat Jenderal Pendidikan Islam Kementerian Agama RI.
- Suyamto, J., et al. (2020). Analisis kemampuan TPACK (technological, pedagogical, and content knowledge) guru biologi SMA dalam menyusun perangkat pembelajaran materi sistem peredaran darah. *INKUIRI: Jurnal Pendidikan IPA*, 9(1), 46. <https://doi.org/10.20961/inkuiri.v9i1.41381>
- Voogt, J., et al. (2013). Technological pedagogical content knowledge, A review of the literature. *Journal of Computer Assisted Learning*, 29(2). <https://doi.org/10.1111/j.1365-2729.2012.00487.x>
- Valle, R., et al. (2020). Teachers' development of TPACK: A review. *Educational Technology Research and Development*, 68(4). <https://doi.org/10.4236/jss.2021.97027>
- Yuliani, I. (2025). Penerapan metode pembelajaran berbasis TPACK (technological pedagogical content knowledge) di UPTD SD Negeri Braja Gemilang. *VIJNANA: Jurnal Hasil Penelitian Multidisiplin*, 1(1), 87. <https://e-journal.samsarainstitute.com/jhpm/article/view/90>