

Pedagogical Challenges of Catholic Religion Teachers in Integrating Artificial Intelligence-Based Learning in the Digital Era

Natalis Sukma Permana*  <https://orcid.org/0000-0001-6874-1348>
Donny Yulianto

Theological Education Study Program, Widya Yuwana College of Teacher Training and Education (STKIP), Madiun, Indonesia

ABSTRACT

Research on artificial intelligence (AI) in education is already extensive, yet studies targeting Catholic religion teachers specifically remain scarce. This is notable because their subject differs from others in that it influences students' faith, morality, and personal relationships. Using a qualitative case study design, this article examines how Catholic religion teachers in Madiun City interpret and respond to AI in their daily teaching. Data were gathered through an open-ended questionnaire completed by five Catholic Religious Education (CRE) teachers in Madiun City, then analyzed with Braun and Clarke's six-phase thematic model. The analysis yielded five themes: AI as a pragmatic pedagogical aid; the tension between AI's algorithmic logic and the spirituality of faith; the teacher's new role as guardian of theological orthodoxy over AI-generated content; concerns about teacher-student personal relationships and data privacy; and AI as an ambivalent reality, at once a gift, a challenge, and a threat. Teachers accept AI as long as its role remains administrative and technical, but they object once it enters spaces they regard as sacred, such as prayer, faith reflection, and personal encounter. Building on these findings, the article proposes a framework called AI Value-Centered Pedagogy, a middle path that allows CRE teachers to respond to AI wisely without losing the spiritual core of faith teaching. These findings are expected to inform the drafting of pastoral guidelines on the use of AI in Catholic religious education in Indonesia.

Copyright © 2026 Authors

This is an open access article under [CC BY-NC-SA 4.0](https://creativecommons.org/licenses/by-nc-sa/4.0/) license.



ARTICLE INFORMATION

Keywords:

Artificial Intelligence;
Catholic Religion
Teachers; Pedagogy;
Catholic Religious
Education; Digital Era

Article History:

Received: 7 October 2026
Revised: 10 October 2026
Accepted: 12 October 2026
Published: 15 October 2026

How to Cite in APA Style:

Permana, N. S.,
Yulianto, D. (2026).
Pedagogical Challenges
of Catholic Religion
Teachers in Integrating
Artificial Intelligence-
Based Learning in the
Digital Era. *JPAK: Jurnal
Pendidikan Agama
Katolik*, 26(2), 409-417

Introduction

AI is no longer a vision of the future; it has become part of everyday classroom life. Large language models, adaptive tutoring systems, and a variety of automated

*Corresponding author : Natalis Sukma Permana  natalisukma@widayuwana.ac.id
 <https://doi.org/10.34150/jpak.v26i2>

content generators open up both opportunities and new problems for educators at nearly every level and in nearly every subject (Holmes et al., 2022; Kasneci et al., 2023). The issue does not stop at the technical level. It extends into epistemological and ethical territory: who has the authority to determine the truth of knowledge when some of the answers are now produced by machines?

This question becomes sharper in the context of Catholic religious education. Science and mathematics are oriented toward mastery of content, whereas Catholic Religious Education (CRE) is concerned with forming students' faith, character, and religious identity. Lickona (2022) describes this process as being rich in affective and communal dimensions, far more than a mere transfer of information. When the algorithmic logic of AI, which works through statistical patterns in data, meets the personal and transcendent logic of faith, a tension arises that warrants further study.

The Catholic Church has also responded to this phenomenon. *The Rome Call for AI Ethics* (2020), signed by the Vatican together with several technology companies, affirms that AI development must rest on fairness, reliability, security, privacy, and inclusivity. In his message for the 58th World Communications Day, Pope Francis (2024) explicitly called for a human-centered AI built on wisdom and compassion rather than efficiency alone. These messages imply that Catholics, including their educators, are expected to be reflective and critical toward AI rather than passive users.

In Indonesia, Catholic religion teachers stand at the crossroads of two regulatory sources: the national curriculum from the Ministry of Education, Culture, Research, and Technology on one side, and the pastoral guidance of the Indonesian Bishops' Conference (KWI) on the other. AI policy in education is beginning to take shape, for instance through the Indonesian National Strategy for Artificial Intelligence 2020–2045 (BPPT, 2020). Even so, Catholic religion teachers must integrate new technology into a pedagogy that is relational and transcendent in nature, without official guidance from the relevant institutions.

Empirical research on this issue remains limited. Most existing studies focus on Islamic religious education or on religious education in general, without distinguishing denominational contexts (Hanum et al., 2023; Syahrul & Wicaksono, 2022). Similar research has previously been conducted abroad. Moran (2022), for example, studied Catholic religious education teachers in Ireland and found a tension between pastoral identity and technology-based professional demands. Kim and Park (2023) studied Protestant religious education teachers in South Korea and concluded that the main obstacle was theological unpreparedness rather than technical unpreparedness alone. However, studies that specifically examine Indonesian Catholic religious education teachers in relation to AI are still hard to find in the domestic academic literature.

This gap is the basis for the present study. By placing Catholic religion teachers at the center and adopting a qualitative approach that allows an in-depth exploration of their experiences and interpretations, the study seeks to answer two questions: how do Catholic religion teachers in Madiun City interpret the presence of AI in their teaching practice, and what pedagogical challenges do they face in the process? The answers are expected to carry academic value and contribute

practically to religious education policy and teacher formation within the Indonesian Catholic Church.

Method

This study adopts an interpretive paradigm, which views social reality as constructed and given meaning by social actors themselves (Creswell & Poth, 2018). This choice aligns with the exploratory nature of the research questions, which seek a deep understanding of teachers' experiences and interpretations rather than testing hypotheses or measuring variables. A qualitative approach was considered the most suitable because the challenges Catholic religious education teachers face with AI constitute a complex, contextual, and value-laden phenomenon, one that quantitative instruments can scarcely capture in full (Denzin & Lincoln, 2018).

Research Design and Subjects

The study uses a case study design with a multiple-case approach. Yin (2018) defines a case study as an empirical inquiry into a contemporary phenomenon within its real-life context, particularly when the boundary between the phenomenon and its context is not clearly evident. This definition is relevant here because the pedagogical challenges under study cannot be separated from each teacher's context: the school where they teach, the faith community they serve, and their formation background.

The subjects were five CRE teachers teaching at junior high and senior high/vocational school levels in Madiun City. They were selected through purposive sampling based on the following criteria: at least three years of teaching experience, prior use or trial of AI-based tools in preparing or delivering lessons, voluntary willingness to participate, and teaching at a school under a Catholic Foundation. Of the five participants, two are young teachers who are relatively familiar with technology, while the other three are senior teachers, thus providing a variety of generational perspectives.

Data Collection and Analysis

Data were collected through an open-ended questionnaire of 15 questions covering the pedagogical, technological, theological, relational, and ethical dimensions of AI use in CRE learning. A questionnaire was chosen because it gives participants more freedom to write their reflections than a structured interview does, while also protecting their confidentiality and comfort in expressing views that may be theologically sensitive.

Data analysis followed the six-phase thematic approach of Braun and Clarke (2006, 2021): familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Coding was inductive, following the meanings that emerged from the data itself rather than derived from existing theory. The initial codes were then grouped, reviewed, and refined until five final themes emerged that were coherent and adequately supported by the data.

Research Ethics

This study observed the principle of informed consent, protected the confidentiality of participants' identities, and gave participants the right to withdraw at any time without consequence. Participants' names in this report have been replaced with codes I1 to I5 to ensure their anonymity.

Results

The participant profiles are summarized in [Table 1](#).

Table 1. Profile of Research Participants

Code	Informant Initials	Institution	Age	Characteristics
I1	R.G.R.	SMP Negeri 3 Madiun	29	Young teacher, active on social media
I2	M.	SMA Negeri 6 Madiun	58	Senior teacher, experienced
I3	Y.Y.S.R.	SMP Negeri 1 Madiun	50	Senior teacher, collaborative approach
I4	R.S.	SMA Negeri 5 Madiun	56	Senior teacher, reflective
I5	M.M.W.I.	SMP Santo Bernardus Madiun	23	A young, tech-savvy teacher

Source: Research data (2026)

The five participants teach at public and private schools in Madiun City, and their ages range from 23 to 58. This range represents a generation of young teachers who are relatively comfortable with technology alongside a generation of senior teachers who approach it more cautiously. Thematic analysis of the five participants' responses produced five interrelated main themes, explained below.

AI as a Pragmatic Pedagogical Tool

All participants acknowledged that AI helps with their daily work as CRE teachers, especially in drafting teaching modules, writing assessment questions, designing learning media, and searching for reference materials. The young teachers (I1, I5) tended to use AI more creatively, while the senior teachers used it more occasionally, only when truly needed. "Sometimes I use it to look for ideas to make lessons more engaging, to create simple games, and to prepare simple assignments" (I1).

This acceptance is not unconditional. The teachers implicitly hold a dividing line: AI may be used for technical and administrative matters, but the spiritual dimension of CRE is kept out of the machine's reach.

Tension between the Spirituality of Faith and Algorithmic Logic

This theme appeared most often and stood out most strongly in the data. The teachers sensed a fundamental friction between AI's statistical pattern-based approach and the nature of CRE, which rests on authentic experiences of faith, prayer, and conversion. This concern extends beyond mere speculation, as it is already experienced firsthand in the classroom. "Children see AI as a source of

answers that replaces the role of God, so their experience of faith diminishes" (I3); "The values of faith are fading because students focus on AI's abilities. For example, they look up prayers on AI instead of praying from the heart" (I4).

All participants agreed that personal faith experience, spiritual reflection, sharing of life, and deeper study of Scripture are areas of CRE that must remain free from AI intervention. This stance reflects a conviction that faith cannot be reduced to computable content.

The Teacher as Guardian of Theological Orthodoxy

AI-generated content is not always accurate or consistent with the official teachings of the Catholic Church. A new role therefore emerges for CRE teachers: serving as a filter that validates and corrects AI content before it reaches students. Each teacher develops their own verification strategy. "I always add a keyword instruction: make sure it conforms to the Teachings and Tradition of the Catholic Church and the Bible, and then I re-examine the content generated by AI" (I1).

This guardian role shows that integrating AI actually adds to the professional burden of CRE teachers rather than reducing it. Teachers are required to be not only technologically literate but also deeply theologically literate, so that they can detect distortions in machine-generated content.

Threats to Personal Relationships and Data Privacy

The CRE tradition regards the personal encounter between teacher and student as an irreplaceable medium of faith formation. Some participants worry that AI may erode this relational dimension, and they also raise ethical concerns about student data privacy, particularly regarding personal faith experiences. "Students sometimes begin to ignore the teacher's presence, while in the CRE process, full presence in the event of faith is crucial" (I3).

In response, the teachers actively maintain rich face-to-face methods such as sharing, group reflection, and communal prayer as a way to counter the tendency toward depersonalization that they fear.

AI as an Ambivalent Reality

The final theme captures how the teachers make sense of AI as a whole. None of the participants viewed AI in black-and-white terms; nearly all used expressions reflecting ambivalence, such as "a gift and a challenge at once" or "it depends on how it is used." "AI can be called a gift, but it can also become a challenge and a threat. The point is to be wise in using AI" (I1).

From this arises a demand for systemic support: ongoing training from schools, theological and ethical guidelines from the Church, and an adaptive curriculum from the government.

Discussion

These findings essentially show that Catholic religion teachers in Madiun City neither reject AI on principle nor accept it uncritically. Their attitude is better described as conditional acceptance: AI is welcomed as long as it serves as an instrument that extends teaching capacity, but rejected once it enters territory

considered sacred. This pattern aligns with [Selwyn's \(2019\)](#) view that educational technology is never value-neutral, since AI systems carry particular assumptions about what counts as valid knowledge, which may clash with the faith-based epistemology embraced by CRE.

The TPACK framework developed by [Mishra and Koehler \(2006\)](#), later extended by [Celik \(2023\)](#) into AI-TPACK, helps explain the first and third themes. CRE teachers in Madiun evidently command AI-TPACK at the technical-administrative level, but this mastery is not enough to address a more fundamental problem: how to ensure that AI content is consistent with Church teachings. In other words, CRE teachers need a conceptual expansion beyond purely technical AI-TPACK, toward what might be called theological-AI knowledge.

The tensions in the second and fourth themes can be read through [Biesta's \(2021\)](#) framework of the three functions of education: qualification, socialization, and subjectification. Biesta argues that educational technology tends to support the qualification function strongly but the subjectification function weakly, even though subjectification, the formation of autonomous and responsible subjects, lies at the heart of religious education. The teachers' concerns that AI "replaces the role of God" or erodes the teacher-student relationship is, in fact, a concern about the disruption of this subjectification function. [Groome \(2023\)](#) adds that the pedagogy of encounter in the Catholic tradition presupposes personal interaction among teacher, student, and the living tradition of faith. According to the participants, no AI system, however sophisticated, can replicate this triad.

These findings also align with [Kim and Park's \(2023\)](#) study of Protestant religion teachers in South Korea, which found that the main obstacle was theological unpreparedness rather than technical limitations. CRE teachers in Madiun face a similar problem: they are relatively skilled at using AI but lack clear theological guidance on the limits of its use. Compared with [Hanum et al. \(2023\)](#), whose study of Islamic Religious Education teachers also showed an ambivalent attitude, acknowledging AI's benefits while worrying about its impact on spiritual values, the present results reinforce the suspicion that such ambivalence is not unique to one religion but a common pattern in religious education across denominations.

What distinguishes the Indonesian CRE context is the emergence of the teacher's role as a guardian of theological orthodoxy (the third theme), something that has not been widely discussed in either the AI-TPACK literature or other religious education literature. This role arises because CRE teachers must navigate two sources of authority simultaneously: the national curriculum and official Church teaching, while generative AI is not designed to distinguish between them. This additional burden is consistent with the findings of [Cahyadi et al. \(2023\)](#) regarding the digital competence gap among teachers in Indonesia, which shows a sharper gap among teachers of the humanities and character education.

Drawing on these five themes, this article proposes the AI Value-Centered Pedagogy for Catholic Religious Education (AIVCP-CRE) framework, built on four pillars: value affirmation (safeguarding the domains of faith that must not be mediated by AI), critical evaluation (verifying AI content against Church teaching), selective integration (using AI only for technical-administrative evolves), and continuous theological reflection (constantly reassessing the limits of AI use as technology develops). This framework places the values of faith as the starting point

of every AI-related pedagogical decision, rather than as an afterthought considered once technical decisions have been made.

Conclusion

This study finds that the pedagogical challenges that Catholic religion teachers in Madiun City face in integrating AI are layered and go beyond digital literacy. There is an epistemological dimension, in which the way faith is known clashes with the way AI processes knowledge; a pedagogical dimension, related to limited integration competence; an institutional dimension, because adequate guidelines are not yet available; and an ethical-theological dimension, concerning the authenticity of religious experience. Even so, none of the teachers in this study rejected AI on principle. A more fitting description of their stance is ongoing discernment: a continual process of weighing, rather than a one-time decision to be for or against.

Theoretically, this study strengthens the argument that educational technology is never value-neutral, and it contributes new empirical evidence from the Indonesian Catholic religious education context, which has rarely been studied. Practically, three recommendations can be drawn from the findings. First, the Indonesian Bishops' Conference should draft official pastoral guidelines on the use of AI in Catholic religious education, prepared in consultation with teachers, theologians, and educators. Second, Catholic teacher-education institutions should incorporate AI literacy into teacher formation programs, integrating it with theological reflection rather than offered as two separate modules. Third, Catholic schools should build teacher learning communities that regularly discuss AI issues in faith education.

This study also has limitations that should be acknowledged. With only five participants, all from a single city, the findings may not apply to other contexts, such as eastern Indonesia, where digital infrastructure differs. The study was also conducted in the early period of generative AI's penetration in Indonesia, so some findings may need updating as the technology evolves rapidly. Students' perspectives are not covered here either. Further research that involves students directly, compares contexts across countries, or tests the effectiveness of training based on the AIVCP-CRE framework would be very useful for deepening the understanding of this topic.

Acknowledgments

The authors thank the five Catholic Religious Education teachers in Madiun City who generously took the time to complete the questionnaire, as well as the Institute for Research and Community Service (LPPM) of STKIP Widya Yuwana for its administrative support throughout the research process.

Funding

This research was funded by the Institute for Research and Community Service (LPPM) of the Widya Yuwana College of Teacher Training and Education, under Research Contract No. 29/LPPM/Wina/III/2026 for Fiscal Year 2026.

References

- Badan Pengkajian dan Penerapan Teknologi (BPPT). (2020). Strategi nasional kecerdasan artifisial Indonesia 2020–2045. Kementerian Komunikasi dan Informatika. <https://aptika.kominfo.go.id/wp-content/uploads/2020/08/Stranas-KA.pdf>
- Biesta, G. (2021). World-centred education: A view for the present. Routledge. <https://doi.org/10.4324/9781003098850>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.
- Cahyadi, A., Hendryadi, H., Hartono, H., & Mulyono, S. (2023). Emergency remote teaching evaluation: The role of e-learning, facilitating conditions, and digital literacy in teacher performance. *Education and Information Technologies*, 28(2), 1921–1940. <https://doi.org/10.1007/s10639-022-11176-6>
- Celik, I. (2023). Towards Intelligent-TPACK: An empirical study on teachers' professional knowledge to ethically integrate artificial intelligence (AI)-based tools into education. *Computers in Human Behavior*, 138, 107468. <https://doi.org/10.1016/j.chb.2022.107468>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). *The SAGE handbook of qualitative research* (5th ed.). SAGE Publications.
- Groome, T. H. (2023). *Will there be faith? A new vision for educating and growing disciples* (Updated ed.). HarperOne.
- Hanum, F., Asyhar, R., & Hamid, A. (2023). Persepsi guru Pendidikan Agama Islam terhadap pemanfaatan kecerdasan buatan dalam pembelajaran: Studi kasus di sekolah menengah. *Jurnal Pendidikan Islam*, 12(1), 45–62. <https://doi.org/10.14421/jpi.2023.121.45-62>
- Holmes, W., Anastopoulou, S., Schaumburg, H., & Mavrikis, M. (2022). Technology-enhanced personalised learning: Untangling the evidence. Robert Bosch Stiftung.
- Kasneci, E., Sessler, K., et al. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Kim, S., & Park, J. (2023). Exploring challenges of integrating artificial intelligence in Protestant religious education in South Korea. *Religions*, 14(3), 312. <https://doi.org/10.3390/rel14030312>
- Lickona, T. (2022). *How to raise kind kids: And get respect, gratitude, and a happier family in the bargain*. Penguin Books.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Moran, G. (2022). Digital transformation and the Catholic religious educator: Navigating professional identity in a technological age. *Journal of Religious Education*, 70(2), 145–162. <https://doi.org/10.1007/s40839-022-00170-5>
- Paus Fransiskus. (2024). *Pesan Bapa Suci untuk Hari Komunikasi Sedunia ke-58: Kecerdasan buatan dan kebijaksanaan hati – Menuju komunikasi yang sepenuhnya manusiawi*. Vatican Press.
- Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.
- Syahrul, S., & Wicaksono, A. (2022). Tantangan dan peluang integrasi teknologi digital dalam pembelajaran pendidikan agama di sekolah menengah Indonesia. *Jurnal*

- Pendidikan Agama dan Keagamaan, 20(2), 88–105.
<https://doi.org/10.36667/jpak.v20i2.881>
- Vatican-Microsoft-IBM. (2020). Rome call for AI ethics. Pontificia Academia Pro Vita.
<https://www.romecall.org>
- Yin, R. K. (2018). Case study research and applications: Design and methods (6th ed.). SAGE Publications.