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Generative AI-Assisted Design of Love-Based Curriculum Modules for Islamic Education Teachers

Zakiya Alifatuz[1]✉, Mubarok Achmat[2], Wiwin Fachrudin Yusuf[3], Muhammada[4]
Islamic Religious Education, Yudharta University of Pasuruan, Indonesia
E-mail: alifatuzzakiya6@gmail.com
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Corresponding author

Abstract

The ability to design effective teaching modules is a fundamental competency for Islamic Education teachers, yet the process is often constrained by curriculum alignment and administrative demands. This study aimed to explore teachers' experiences in designing Love-Based Curriculum teaching modules using Generative Artificial Intelligence (AI). Employing a qualitative approach, data were collected through interviews, observations, and document analysis. The findings reveal that Generative AI supports teachers in organizing instructional components, generating learning ideas, and improving the efficiency of module development while maintaining the values and principles of the Love-Based Curriculum. The effectiveness of AI utilization was determined not by its ability to replace teachers' roles, but by teachers' capacity to critically adapt and integrate AI-generated outputs into meaningful pedagogical practices. The study concludes that Generative AI serves as a valuable support tool for enhancing teachers' capacity in curriculum-based module design while preserving professional judgment and educational values. Further studies are recommended to examine AI-assisted curriculum design across broader educational contexts.

Keywords: *Generative Artificial Intelligence, Islamic Education Teacher, Love-Based Curriculum*

Abstrak

Kemampuan merancang modul ajar yang efektif merupakan kompetensi penting bagi guru Pendidikan Agama Islam, namun prosesnya sering menghadapi tantangan terkait kesesuaian kurikulum dan tuntutan administrasi. Penelitian ini bertujuan mengeksplorasi pengalaman guru dalam merancang modul ajar Kurikulum Berbasis Cinta dengan memanfaatkan Artificial Intelligence (AI) Generatif. Penelitian menggunakan pendekatan kualitatif dengan pengumpulan data melalui wawancara, observasi, dan analisis dokumen. Hasil penelitian menunjukkan bahwa AI Generatif membantu guru menyusun komponen pembelajaran, menghasilkan ide pembelajaran, serta meningkatkan efisiensi pengembangan modul ajar tanpa mengabaikan nilai dan prinsip Kurikulum Berbasis Cinta. Efektivitas pemanfaatan AI tidak ditentukan oleh kemampuan teknologi menggantikan peran guru, melainkan oleh kemampuan guru dalam mengadaptasi dan mengintegrasikan hasil yang dihasilkan AI ke dalam praktik pembelajaran yang bermakna. Penelitian ini menyimpulkan bahwa AI Generatif berfungsi sebagai instrumen pendukung yang membantu meningkatkan kapasitas guru dalam merancang modul ajar berbasis kurikulum tanpa menghilangkan pertimbangan profesional dan nilai-nilai pendidikan. Penelitian selanjutnya disarankan mengkaji implementasi desain kurikulum berbantuan AI pada konteks pendidikan yang lebih beragam.

Kata Kunci: Artificial Intelligence Generatif, Guru Pendidikan Agama Islam, Kurikulum Berbasis Cinta.

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INTRODUCTION

Islamic education in Indonesia continues to face challenges related to curriculum implementation, instructional innovation, and character development. Educational reforms have encouraged schools to adopt more adaptive and student-centered learning approaches that integrate academic achievement with ethical and social values. Within this context, Islamic Religious Education (PAI) plays a strategic role in fostering students' moral, spiritual, and social development while preparing them to respond to contemporary societal challenges (Hadi & Yusuf, 2022; Yusuf, 2019; Kirom, 2017).

Teaching modules serve as operational guides that assist teachers in organizing learning objectives, instructional activities, assessments, and learning resources systematically. Well-designed modules contribute significantly to instructional quality by ensuring alignment between curriculum goals and learning outcomes while supporting meaningful learning experiences for students (Weddakarti et al., 2023; Tania et al., 2025).

Despite their importance, designing teaching modules remains challenging because teachers must accommodate curriculum requirements, differentiated instruction, assessment design, and diverse learner characteristics within limited time and administrative resources. These increasing demands often affect teachers' ability to develop comprehensive and innovative learning tools (Theresa et al., 2025; Idola & Hainun, 2024; Saputra et al., 2024).

The Love-Based Curriculum (KBC) has emerged as a transformative educational framework emphasizing compassion, empathy, tolerance, social responsibility, and ethical awareness. This approach seeks to balance cognitive development with character formation by fostering meaningful relationships between learners, teachers, and society (Qathrun Nada & Listiana, 2025).

Implementing the Love-Based Curriculum requires teachers to translate philosophical values into concrete instructional practices. Teachers are expected to integrate compassion, empathy, and humanity into learning objectives, teaching strategies, and assessment processes while maintaining curriculum alignment and subject-specific competencies (Apriana, 2025; Yusuf, 2019).

Recent advancements in Artificial Intelligence (AI) have created new opportunities for educational innovation. AI technologies have been increasingly utilized to support teaching, learning, curriculum development, and educational decision-making processes. Research has demonstrated that AI can enhance instructional efficiency, support personalized learning, and facilitate the development of educational resources (Chen et al., 2020; Jaldemark et al., 2025; Purnama et al., 2025).

Generative AI, in particular, offers considerable potential for supporting instructional design. AI-assisted systems can help teachers generate teaching materials, organize learning content, design assessments, and adapt learning activities according to curriculum requirements and learner needs. These capabilities contribute to reducing

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teachers' administrative burdens while improving the quality of educational planning (Wibowo, 2021; Kaswar et al., 2024; Wahyuningsih & Nur, 2024).

Several studies have reported that AI-based applications contribute positively to teachers' professional development and instructional competence. Training programs involving AI have improved teachers' ability to design learning tools, create differentiated instruction, and integrate digital technologies into classroom practice (Mandailina et al., 2024; Marfu'ah et al., 2025; Mulyatiningsih et al., 2025).

Although previous studies have examined AI integration in learning, teacher competency development, and educational innovation, limited attention has been given to the use of Generative AI for designing teaching modules explicitly grounded in the Love-Based Curriculum. Existing research largely focuses on technological effectiveness, digital literacy, and instructional efficiency rather than the integration of compassion-based educational values into curriculum design (Theresa et al., 2025; Jaldemark et al., 2025).

The novelty of this study lies in its investigation of Generative AI as a pedagogical support tool for designing Love-Based Curriculum teaching modules in Islamic Education. Unlike previous studies that primarily emphasize digital competency enhancement or instructional material development, this study explores how AI can facilitate the integration of compassion, empathy, ethical responsibility, and character education into curriculum-based instructional design (Kaswar et al., 2024; Mandailina et al., 2024).

Therefore, this study aims to explore Islamic Education teachers' experiences in utilizing Generative Artificial Intelligence to design Love-Based Curriculum teaching modules and to examine how AI supports the integration of curriculum requirements, instructional planning, and character-based educational values. The findings are expected to contribute to the development of AI-assisted instructional design practices and provide insights into the implementation of value-oriented curricula in contemporary educational settings.

METHODS

Research Design

This study employed a qualitative approach to gain an in-depth understanding of the experiences and processes of Islamic Education teachers in designing Love-Based Curriculum teaching modules through the utilization of Generative Artificial Intelligence (AI). A qualitative approach was selected because the study sought to explore participants' perspectives, experiences, and interpretations regarding the integration of AI into curriculum development rather than to examine causal relationships quantitatively. The study adopted a descriptive qualitative design within an action research framework, enabling participants and researchers to engage collaboratively in reflective educational practices aimed at improving instructional planning. This approach facilitated a comprehensive exploration of how teachers

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utilized AI technologies to support curriculum implementation while maintaining the values and principles of the Love-Based Curriculum (Creswell & Poth, 2016).

The study was conducted within a vocational education environment that had adopted the philosophy of the Love-Based Curriculum as part of its educational innovation. This context provided a unique setting for examining how emerging technologies can support curriculum implementation while preserving humanistic, ethical, and character-oriented educational values. The institutional commitment to integrating compassion, empathy, and social responsibility into learning activities created an appropriate environment for investigating the role of Generative AI in supporting curriculum-based instructional design.

Research Participants

The participants consisted of Islamic Education teachers directly involved in designing and implementing Love-Based Curriculum teaching modules. Participants were selected purposively based on their active engagement in curriculum planning and their experience utilizing Generative AI during the instructional design process. This sampling strategy enabled the researchers to obtain rich and relevant information from individuals who possessed firsthand knowledge of the phenomenon being investigated.

Action Research Procedures

The study was conducted through a cyclical action research process involving planning, implementation, reflection, and improvement. During the planning stage, teachers identified challenges associated with developing teaching modules aligned with the Love-Based Curriculum. Subsequently, Generative AI was introduced as a supporting tool to assist teachers in organizing learning objectives, developing instructional activities, and integrating curriculum values into learning materials. During implementation, teachers utilized AI-generated outputs while critically adapting and refining the content according to pedagogical needs. Reflection sessions were then conducted to evaluate the usefulness, strengths, and limitations of AI-assisted module development. This continuous process enabled participants to improve their instructional practices while generating valuable insights regarding AI integration in curriculum design.

Data Collection Procedures

Data were collected through triangulation techniques to enhance the credibility and trustworthiness of the findings. The primary data collection methods included non-participant observations, in-depth interviews, and document analysis. Observations were conducted to examine teachers' interactions with AI technologies and to understand how AI-assisted instructional design occurred in practice. In-depth interviews explored participants' experiences, perceptions, challenges, and reflections regarding the use of Generative AI in developing Love-Based Curriculum teaching modules. In addition, document analysis was carried out on curriculum documents, teaching modules, AI-

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generated outputs, lesson plans, and supporting instructional materials. The combination of these techniques enabled the researchers to obtain comprehensive data from multiple perspectives and sources.

Data Analysis

Data analysis was conducted simultaneously with the data collection process using the interactive model proposed by Miles, Huberman, and Saldaña (2014). The analysis involved three interconnected activities: data condensation, data display, and conclusion drawing or verification. Data condensation involved selecting, organizing, simplifying, and focusing information relevant to the research objectives. Subsequently, the organized data were presented through thematic descriptions and narrative representations to facilitate interpretation. The final stage involved drawing conclusions and continuously verifying interpretations through comparisons across data sources and participant perspectives. This iterative analytical process enabled the researchers to generate credible and meaningful findings regarding the role of Generative AI in supporting the development of Love-Based Curriculum teaching modules.

Trustworthiness of the Data

To ensure the credibility of the findings, data triangulation was employed by comparing information obtained through observations, interviews, and document analysis. Member checking was also conducted by allowing participants to review and confirm interpretations of their responses. Furthermore, prolonged engagement with participants and continuous comparison of emerging themes contributed to enhancing the dependability and confirmability of the findings. These procedures helped ensure that the results accurately represented participants' experiences and perspectives.

Ethical Considerations

Ethical principles were observed throughout the research process. Participation was voluntary, and informed consent was obtained prior to data collection. Participants were informed about the objectives of the study, the use of collected information, and their right to withdraw at any stage of the research. Confidentiality and anonymity were maintained by protecting participants' identities and ensuring that all data were used solely for academic purposes. These ethical procedures were implemented to uphold research integrity and protect the rights of all participants.

RESULTS AND DISCUSSION

The analysis of interviews, observations, and document reviews revealed five major themes regarding the use of Generative Artificial Intelligence (AI) in supporting Islamic Education teachers in designing Love-Based Curriculum teaching modules: (1) AI as a pedagogical support tool rather than a teacher replacement, (2) theological verification of AI-generated content, (3) improvement in the quality and efficiency of

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teaching module development, (4) enhancement of teachers' professional well-being and pedagogical focus, and (5) stimulation of instructional innovation.

AI as a Pedagogical Support Tool

The findings indicate that teachers perceived AI as a supporting instrument rather than a substitute for their professional roles. Participants emphasized that the affective and spiritual dimensions of Islamic education, including empathy, moral guidance, and value transmission, remain fundamentally dependent on human interaction. While AI assisted in organizing instructional content and module structures, teachers maintained full responsibility for ensuring that learning materials reflected the principles of the Love-Based Curriculum. One participant explained:

> *"AI helps us prepare the structure of the teaching module, but the values of compassion, empathy, and moral guidance must come from the teacher. Those aspects cannot be generated automatically by technology." (T1)*

This perception was consistently observed across participants and was further supported by document analysis showing that teachers routinely revised AI-generated content before integrating it into final teaching modules.

Theological Verification of AI-Generated Content

A second theme concerned the verification of religious content produced by AI. Teachers reported adopting a rigorous process of *tabayyun* (verification) to ensure the accuracy of religious references, including Qur'anic verses, Hadith narrations, and scholarly interpretations. As one participant noted:

> *"We never use AI-generated religious content directly. Every quotation, verse, or religious explanation must be checked against authoritative Islamic sources." (T2)*

Document analysis confirmed that AI-generated drafts were frequently supplemented with references from primary Islamic literature. Teachers viewed this verification process as essential for maintaining the theological validity and educational integrity of Islamic Religious Education materials.

Improvement in Teaching Module Quality and Development Efficiency

Participants reported that Generative AI substantially improved the efficiency of teaching module preparation. The technology assisted teachers in organizing curriculum components, aligning Learning Outcomes (*Capaian Pembelajaran*) with Learning Objectives (*Tujuan Pembelajaran*), and developing assessment instruments in accordance with curriculum requirements. One teacher stated:

> *"Previously, preparing a complete module required several days. With AI assistance, the initial draft can be produced within a few hours, allowing us to focus more on refinement and contextualization." (T3)*

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Observation data further indicated that AI-generated drafts provided a structured foundation for module development, reducing repetitive administrative work while improving document organization and consistency.

Table 1. Perceived Benefits of AI-Assisted Teaching Module Development

Aspect	Findings
Curriculum Alignment	Facilitated the alignment of learning outcomes and objectives
Instructional Structure	Improved organization of learning activities and module components
Assessment Design	Assisted in generating assessment indicators and instruments
Time Efficiency	Reduced module preparation time significantly
Document Quality	Produced more systematic and professionally structured drafts

Enhancement of Teachers' Professional Well-Being

The findings also revealed that reducing administrative workload positively influenced teachers' professional well-being. Participants described feeling less burdened by clerical tasks and more capable of concentrating on instructional preparation and student engagement. One participant explained:

> *"The reduction in administrative work allows me to spend more time thinking about how to teach effectively and how to connect with students personally." (T4)*

Observation findings suggested that teachers experienced greater confidence and readiness in preparing lessons because AI reduced the time required for technical documentation tasks. This enabled teachers to devote more attention to pedagogical planning and student-centered learning.

Stimulation of Instructional Innovation

Another significant finding was the role of AI in encouraging instructional innovation. Participants reported using AI to explore alternative teaching strategies, including Game-Based Learning, Problem-Based Learning, collaborative learning activities, and contextual case discussions. According to one teacher:

> *"AI often provides ideas that I had not previously considered. It helps me explore different learning models and adapt them to the characteristics of vocational school students." (T5)*

Document analysis demonstrated that many of the developed teaching modules incorporated more interactive and student-centered learning approaches compared to previous module designs. Teachers indicated that AI functioned as an idea-generation tool that expanded their pedagogical repertoire while maintaining curriculum alignment.

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Table 2. Summary of Research Themes

Theme	Key Findings	Data Sources
AI as a Pedagogical Support Tool	AI supports but does not replace teachers' educational roles	Interviews, Documents
Theological Verification	Teachers verify all AI-generated religious content using authoritative sources	Interviews, Documents
Module Quality and Efficiency	AI improves instructional planning and reduces development time	Interviews, Observations, Documents
Professional Well-Being	Reduced administrative burden increases pedagogical focus	Interviews, Observations
Instructional Innovation	AI stimulates exploration of innovative learning models	Interviews, Documents

Discussion

The findings indicate that the effectiveness of Generative Artificial Intelligence in supporting the development of Love-Based Curriculum teaching modules is not determined by the extent to which technology replaces teachers' roles, but rather by how teachers critically control, adapt, and utilize the technology as a pedagogical and administrative support tool. This finding reinforces contemporary perspectives within Islamic education that position teachers not merely as transmitters of knowledge but as educators who facilitate the holistic development of learners through guidance, empathy, and moral exemplification. In this regard, the role of the teacher remains irreplaceable because educational processes involve emotional, ethical, and spiritual dimensions that cannot be fully replicated by technological systems. As argued by Zubair et al. (2026), the process of tarbiyah extends beyond the transfer of information and requires meaningful interpersonal interactions through which values, attitudes, and character are cultivated. Consequently, the integration of AI should be viewed as a complementary mechanism that strengthens teachers' professional practices while preserving the humanistic essence of education.

The study further demonstrates that the utilization of Generative AI significantly enhances the efficiency of instructional planning and curriculum implementation. Participants reported substantial reductions in the time required to develop teaching modules, enabling them to devote greater attention to pedagogical creativity, curriculum adaptation, and the integration of compassion-based values into learning activities. In practice, AI functioned as a "digital instructional assistant" capable of organizing curriculum components, aligning learning outcomes with learning objectives, and generating preliminary instructional structures that could subsequently be refined by teachers. These findings support the argument that AI serves as a capability-enhancing technology rather than a substitute for professional expertise. According to Holmes et al. (2025), AI technologies can automate routine cognitive tasks and reduce administrative burdens, thereby allowing educators to focus on higher-order

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instructional responsibilities. Within the context of the Love-Based Curriculum, this efficiency is particularly valuable because it provides teachers with additional opportunities to design learning experiences that foster empathy, compassion, and character development while maintaining curriculum alignment and instructional quality.

Beyond improving technical efficiency, the findings suggest that AI contributes to teachers' professional confidence and instructional flexibility. The availability of AI-generated suggestions, learning activities, and instructional structures enabled teachers to explore alternative pedagogical approaches and adapt learning materials more effectively to curriculum demands. This finding aligns with previous studies highlighting the role of AI in strengthening teachers' digital competencies and supporting innovative instructional practices (Mandailina et al., 2024; Marfu'ah et al., 2025). However, the results also indicate that the quality of AI-assisted module design depends heavily on teachers' professional judgment and their ability to critically evaluate AI-generated outputs. The process of integrating compassion-based values into instructional materials remained a distinctly human responsibility that required contextual understanding, ethical consideration, and pedagogical sensitivity. Therefore, the successful use of AI in curriculum development should be understood as a collaborative interaction between technological capabilities and professional expertise rather than a technology-driven replacement of teacher agency.

The findings should be interpreted within the context of the study, which focused on a specific educational setting and involved a limited number of participants directly engaged in the implementation of the Love-Based Curriculum. As a result, the experiences and perceptions reported in this study may not fully represent the diverse realities of teachers operating in different institutional, cultural, or curricular environments. Furthermore, the study primarily examined teachers' experiences and perceptions regarding AI utilization rather than measuring long-term instructional outcomes or student learning impacts. Nevertheless, the qualitative insights generated provide valuable evidence regarding how emerging technologies can support value-oriented curriculum implementation while maintaining the central role of educators in the learning process.

The evolving relationship between artificial intelligence and value-based education presents important opportunities for further scholarly exploration. As educational institutions increasingly integrate AI into curriculum planning and instructional design, there is a growing need to understand how technological tools can support not only efficiency and innovation but also the cultivation of ethical, emotional, and character-based learning outcomes. Expanding investigations across different educational levels, subject areas, and curriculum models may provide a broader understanding of how AI can be effectively aligned with diverse pedagogical philosophies. Such efforts could contribute to the development of more balanced educational frameworks that integrate technological advancement with the humanistic principles that remain fundamental to meaningful education.

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CONCLUSION

The findings indicate that Generative Artificial Intelligence effectively supports Islamic Education teachers in designing Love-Based Curriculum teaching modules by improving the efficiency of instructional planning and reducing administrative workload. Rather than replacing teachers' professional roles, AI functions as a supportive tool that assists in organizing learning components, generating instructional ideas, and facilitating curriculum implementation. The study further demonstrates that the successful integration of AI depends on teachers' ability to critically evaluate, adapt, and align AI-generated outputs with the principles of compassion, empathy, and character education embedded in the Love-Based Curriculum. Therefore, AI can be viewed as a strategic resource that strengthens teachers' capacity to develop meaningful, humanistic, and value-oriented learning experiences while maintaining their central role in the educational process.

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