

Analysis of the Use of Artificial Intelligence and Its Impact on the Character and Cultural Identity of Junior High School Students at Homeschooling Smart Makassar

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Abstract. *This study analyzes teachers' strategies for using Artificial Intelligence (AI) as an instructional medium and its implications for the character development and cultural identity of junior secondary (SMP) students in a homeschooling setting. Unlike prior studies focusing on students' direct use of AI, this study positions the teacher as the pedagogical agent mediating AI use. A qualitative single case study, grounded in an interpretive/constructivist paradigm, was conducted at Homeschooling Smart Makassar, involving three teachers as primary informants and three students and three parents as supporting informants for triangulation. Data were analyzed through data condensation, display, and conclusion drawing, with trustworthiness maintained via triangulation, member checking, and peer debriefing. Findings show that all three teachers consistently curated AI outputs before delivering them to students, indicating augmentation of the teacher's role rather than automation. AI use was associated with increased learning engagement, while its influence on academic honesty and critical thinking depended on each teacher's policy strictness. On cultural identity, findings diverged: one class showed enrichment of formal-language vocabulary, another showed increased slang use, while the family remained the primary space for maintaining local language and culture. These findings are synthesized into a Three-Layer Teacher Mediation Model (technical curation, character safeguarding, and cultural strengthening), indicating that AI's influence on character and cultural identity is shaped more by teachers' mediation strategies than by the technology itself.*

Keywords: *Artificial Intelligence; Instructional Media; Character Education; Cultural Identity; Homeschooling; Teacher Mediation*

Received: August 25, 2026

Revised: September 12, 2026

Accepted: October 3, 2026

INTRODUCTION

Since OpenAI released ChatGPT in late 2022, the use of generative AI in classrooms has increased at a pace unprecedented among previous educational technologies (Firaina & Sulisworo, 2023). Teachers across different levels of education, including in Indonesia, have begun to use this technology not merely as an administrative tool but as a learning medium itself, ranging from the development of ChatGPT-based teaching materials (Rachbini, Evi, & Suyanto, 2023; Pardede et al., 2026; Muthmainnah et al., 2026; Lestari, 2024; Juliantri et al., 2026; Situmorang et al., 2025; Ikram et al., 2026) and its application in Islamic Religious Education learning (Rubini & Herwinsyah, 2023) to measuring secondary school teachers' readiness to implement the AI-based Merdeka Curriculum (Ashshiddiqi et al., 2024; Pratiwi et al., 2025;

Hakim, 2025; Cahyani et al., 2025; Kaneishia, 2025)). This shift marks a new phase in the teacher–technology relationship: teachers now determine not only what is taught but also through which medium learning is delivered a choice that, referring to McLuhan’s thesis that “the medium is the message,” is never neutral because the medium itself carries a logic of communication and patterns of relationships that help shape its users.

The homeschooling context makes the issue of mediation even more relevant (Aram et al., 2016; Aznar et al., 2021; Burke, 2022). As an educational model that emphasizes flexibility and personalization, homeschooling in Indonesia has grown significantly since the early 2000s, driven by parents’ desire to instill moral and religious values in a more personalized manner and by dissatisfaction with formal education’s emphasis on report card grades (Annisa et al., 2023). These characteristics place homeschooling teachers or tutors in a much more central position than teachers in formal schools: almost all decisions regarding the type, intensity, and presentation of AI-based media are made by them, without the balancing influence of rigid institutional structures or strict peer control. This study focuses on junior high school students, who are in a transitional stage of cognitive, moral, and identity development. Therefore, teachers’ patterns of AI mediation may have distinctive implications for the formation of their character and cultural identity (Ghiasvand & Seyri, 2025; Lan, 2024).

Regarding the character dimension, a study involving university students in Vietnam found that easy access to generative AI encouraged academic misconduct that was increasingly difficult to detect (Nguyen & Goto, 2024; Cong-Lem et al., 2024; Phan et al., 2026; Giray et al., 2026), while the systematic review conducted by Balalle and Pannilage (2025) confirmed that the widespread use of generative AI has contributed to blurring the boundary between students’ original work and machine-generated output. Supriyadi (2024), Chatto & Logronio (2025), Deep & Chen (2025), Octaberlina et al. (2024), Qureshi (2026) also indicated that using ChatGPT in academic writing may weaken independent thinking processes when it is not accompanied by ethical awareness. A study involving elementary school teacher education students at Universitas Jambi found that the use of AI chatbots improved learning efficiency and motivation but also presented limitations in contextual understanding and reduced human interaction (Hadid et al., 2024). The question, therefore, is what happens to students’ character when human interaction with teachers is partially replaced by an AI medium selected and curated by the teachers themselves?

Regarding the cultural identity dimension, relevant indications have also begun to emerge, although their direction is not always negative. A study involving Communication Science students at Universitas Abdurrah found that intensive AI use changed students’ learning patterns, but local wisdom values such as mutual cooperation, personal responsibility, and academic ethics persisted and even adapted to digital spaces (Anita & Hadrizal, 2025). However, at a broader level, a study on the impact of information and communication technology on local cultural values revealed the opposite tendency: the reconfiguration of cultural identity among younger generations due to the dominance of globally oriented digital content (Setiawan, 2018). This contrast reinforces the central argument of this study that the direction of AI’s impact on cultural identity strongly depends on how AI is mediated, curated, and pedagogically guided rather than on the technology itself (Sánchez-Vera, 2025; Raffaghelli et al., 2026; Almashour et al., 2025; Sheikh & Sheikh, 2025).

To systematically map the position of this study, Table 1 presents a synthesis of ten previous studies relevant to three main issues: the use of AI by teachers or educators, the impact of AI on character and academic integrity, and the impact of AI on culture and identity.

Table 1. Synthesis of Previous Research

No.	Researcher(s) (Year)	Research Focus	Main Findings	Research Gap Addressed
1	Rachbini et al. (2023)	Introduction to ChatGPT for beginners	AI facilitates the preparation of teaching materials.	Connects the technical use of AI with its impact on students.
2	Rubini and Herwinsyah (2023)	AI in Islamic Religious Education learning	AI supports a more varied delivery of learning materials.	Links AI use to religious and cultural character.
3	Ashshiddiqi et al. (2024)	Readiness of teachers and senior high school students for the Merdeka Curriculum	Readiness to adopt AI is relatively high.	Examines the impact of teacher-mediated AI use on students' character.
4	Nguyen and Goto (2024)	AI-assisted academic misconduct	AI facilitates academic misconduct that is difficult to detect.	Shifts the focus to teachers as mediators of AI use.
5	Balalle and Pannilage (2025)	Systematic review of AI and academic integrity	Generative AI blurs the originality of students' work.	Contextualizes the issue within homeschooling education.
6	Supriyadi (2024)	ChatGPT in academic writing	Dependence on AI weakens independent thinking.	Examines teachers' role in preventing students' dependence on AI.
7	Hadid et al. (2024)	AI chatbots among elementary school teacher education students	AI increases learning efficiency and motivation but reduces human interaction.	Examines its impact on the character of homeschooling students.
8	Anita and Hadrizal (2025)	AI, learning culture, and local wisdom	Local values persist when AI is used proportionally.	Investigates adaptation patterns among homeschooling students.
9	Setiawan (2018)	Impact of ICT on local culture	Cultural identity is reconfigured toward global orientations.	Focuses on AI as a learning medium curated by teachers.
10	Annisa et al. (2023)	Parents' motivations for choosing homeschooling	Homeschooling has grown because of the personalization of values.	Integrates the issue of AI into homeschooling studies.

The mapping presented in Table 1 highlights four dimensions of the research gap. First, most previous studies have focused on students or university students as direct users of AI rather than on teachers' roles in selecting and curating AI-based learning media. Second, studies conducted in formal education settings have generally assessed AI effectiveness in terms of learning outcomes or technical readiness rather than its impact on students' character and cultural identity. Third, studies addressing teachers' roles as AI mediators remain limited to technical skills and have not examined the homeschooling context, where teachers' mediating role is considerably more dominant than in formal schools. Fourth, almost no studies have

simultaneously connected teachers' use of AI with two dimensions students' character and cultural identity within a comprehensive analytical framework in the context of junior high school homeschooling.

These gaps establish the position of the present study. Instead of positioning students as the primary users of AI, this study places homeschooling teachers or tutors as pedagogical agents who mediate AI technology, in line with McLuhan's thesis that the medium itself is the message. This position is strengthened through the integration of six theoretical frameworks: Artificial Intelligence in Education by Luckin et al. (2016) to examine the pedagogical logic of AI; technological determinism to understand how AI as a medium shapes patterns of thinking and communication; Homeschooling theory to understand the characteristics of the learning environment under investigation; Character education theory to examine the dimensions of independence, academic honesty, and critical thinking; Cultural identity theory to investigate communication ethics, linguistic politeness, and students' appreciation of local culture; and Principles of educational quality management to interpret findings related to learning management, particularly policy consistency and quality assurance in AI-based classroom learning processes.

Based on the preceding discussion, this study is designed to answer three principal research questions: (1) What forms and strategies are employed by teachers in using AI as a learning medium within a homeschooling environment? (2) How does this use affect the character development of junior high school students? and (3) How does it affect students' cultural identity? Accordingly, this study aims to describe the patterns through which homeschooling teachers or tutors use AI and to analyze its implications for students' character and cultural identity using the frameworks of Lickona and Collier. It also seeks to formulate a conceptual model of teachers' comprehensive mediating role as the study's theoretical contribution. By focusing its analysis on teachers as mediators of technology, this study is expected to provide a conceptual contribution to Artificial Intelligence in Education research in Indonesia, particularly in the context of junior high school homeschooling. It is also expected to offer a practical contribution in the form of guidelines for the balanced use of AI that integrates technological efficiency with the strengthening of students' character and cultural identity, including implications for managing the quality of learning in homeschooling institutions.

METHODS

Research Design and Case Definition

This study employed a descriptive qualitative approach using a single-case study strategy (Yin, 2018) within an interpretivist/constructivist paradigm (Creswell & Poth, 2018). The case was defined as the teacher-mediated use of AI and AI-supported digital learning media in the junior high school program at Homeschooling Smart Makassar. The primary unit of analysis was the mediation practices of teachers/tutors in selecting, preparing, curating, presenting, and supervising technology-supported learning materials. Students and parents/guardians were included as supporting informants to provide additional perspectives on how these practices were experienced in learning and home contexts.

The study focused on junior high school learning delivered by three teachers/tutors representing different instructional areas: English and Indonesian language learning, science and mathematics-related learning, and a special program subject. The analysis distinguished between two forms of technology exposure. The first was teacher-mediated use, in which teachers used digital or AI-supported applications to prepare and adapt learning materials before presenting them to students. The second was student-direct use, in which students interacted with AI applications themselves, either independently or under teacher supervision. This distinction was necessary because the study examined not only the technological tools used by teachers but also how teachers regulated students' interaction with these tools.

The study was conducted at Homeschooling Smart Makassar, a non-formal educational institution characterized by individualized learning and a personal tutor–student approach. This setting was selected because teachers have substantial pedagogical autonomy in determining learning media, instructional strategies, and the level of student access to digital technologies. The research activities were conducted in July 2026 and included preliminary exploration, development of the interview guides, field data collection, initial analysis, and verification of the findings. The empirical fieldwork consisted primarily of interviews and collection of supporting information from teachers, students, and parents/guardians, while analysis and report preparation continued after the interview data had been collected.

Participant Selection and Informant Characteristics

Participants were selected through purposive sampling (Patton, 2015) because the study required informants with direct experience of technology-supported learning in the junior high school program. Teachers were eligible when they: (1) were actively teaching junior high school students at Homeschooling Smart Makassar; (2) had experience using AI applications or AI-supported digital media for instructional purposes; (3) were directly involved in preparing and delivering learning materials; and (4) were willing to participate in an in-depth interview.

Three junior high school teachers/tutors (G1–G3) who met these criteria were selected as the primary informants. Three junior high school students (S1–S3) and three parents/guardians (O1–O3) were included as supporting informants for source triangulation. The students were selected because they had experience with technology-supported learning and had used or been exposed to applications such as ChatGPT, Gemini, and Canva. Parents or guardians were included because they were able to provide information concerning students’ learning behaviour, AI use, language practices, and supervision outside the instructional setting.

Students and parents were not treated as separate units of analysis or as independent cases. Instead, their accounts were used to confirm, complement, or contrast the teachers’ descriptions. Cross-informant comparison was therefore conducted at the thematic level rather than assuming a fixed one-to-one pairing between each teacher, student, and parent. This approach was used to preserve anonymity while allowing the study to examine areas of convergence and divergence among the three groups of informants. The characteristics of the research informants are presented in Table 2.

Table 2. Characteristics of Research Informants

Code	Role	Description
G1	Junior High School Teacher/Tutor (English & Indonesian)	Primary informant; approximately 2–3 years of experience using Gemini, ChatGPT, and a cloud-based digital application in preparing and supporting learning materials
G2	Junior High School Teacher/Tutor (Science, Mathematics, Natural Sciences)	Primary informant; approximately 2 years of experience using ChatGPT and Gemini for instructional support
G3	Junior High School Teacher/Tutor (Special Program Subject)	Primary informant; has used Canva since 2025 as a digital visual medium for preparing and presenting learning materials
S1–S3	Junior High School Students	Supporting informants; junior high school students with experience using and/or being exposed to ChatGPT, Gemini, and Canva in learning contexts
O1–O3	Parents/Guardians	Supporting informants; provided information concerning their children’s technology use, learning behaviour, and supervision at home

To preserve confidentiality, detailed identifying characteristics of the students, including names and personally identifying educational information, were not reported. All informants were instead assigned codes indicating their roles: G for teachers/tutors, S for students, and O for parents/guardians.

Operational Definition of AI and Technology Use

In this study, AI use referred primarily to the use of digital applications capable of generating, adapting, organizing, or assisting in the preparation of instructional content through automated computational functions. ChatGPT and Gemini were treated as generative AI applications because they were used to generate or expand text-based instructional materials. Canva was treated separately as an AI-enabled digital design environment and visual learning medium because its use in the study primarily concerned the organization and presentation of instructional content.

Importantly, the use of Canva was not automatically interpreted as equivalent to the use of generative AI. The analysis therefore distinguished between generative AI use, represented mainly by ChatGPT and Gemini, and AI-supported or digitally mediated visual preparation, represented by Canva. This distinction prevented conventional activities such as manual layout, image arrangement, or visual editing from being interpreted as generative AI activity.

For analytical purposes, the study focused on what teachers did with the applications rather than simply whether an application was available. Teacher-mediated technology use included determining learning objectives, preparing an initial instructional draft, selecting relevant information, modifying or editing generated materials, and deciding how and when materials would be presented to students. Student-direct AI use referred to situations in which students independently or jointly with teachers accessed applications such as ChatGPT or Gemini. The level of access and supervision varied among the participating teachers, which became an important dimension of the analysis.

The term “cloud-based digital application” used in describing G1 refers to a supplementary online tool reported by the participant. Because the available data did not establish its specific generative AI functions, it was not independently classified as a generative AI application in the analysis.

Data Collection Procedures

The primary data collection method was semi-structured, in-depth interviewing. Interviews were conducted with three teachers/tutors as primary informants and with three students and three parents/guardians as supporting informants. The interview process was conducted individually to allow participants to describe their experiences, practices, perceptions, and concerns in sufficient depth.

Separate interview guides were developed for the three informant groups. The teacher interview guide addressed the applications used, the purposes of technology use, preparation and curation of instructional materials, supervision of students’ technology use, academic honesty, independent learning, critical thinking, learning engagement, language practices, and local cultural identity. Representative questions included: *“How do you use AI or digital applications when preparing learning materials?”*, *“What do you do with AI-generated information before providing it to students?”*, *“How do you regulate students’ use of AI during learning?”*, and *“What changes, if any, have you observed in students’ learning behaviour, language use, or cultural interests?”*

The student interview guide explored students’ experiences of receiving AI-supported learning materials, their own use of AI applications, the guidance provided by teachers, independent learning practices, academic honesty, and language or cultural practices. The parent/guardian interview guide focused on students’ technology use at home, parental

supervision, learning independence, communication practices, and the maintenance of local language and cultural values.

The interview guides were derived from the conceptual dimensions used in the study and were reviewed before data collection to ensure that the questions were understandable and aligned with the research questions. Follow-up and probing questions were used when clarification or deeper explanations were necessary.

Interview accounts constituted the principal empirical evidence. Documentation sheets were used to organize information concerning applications, instructional practices, and technology-supported learning materials reported by participants. Field notes were used to record contextual information, researcher reflections, notable statements, and issues requiring clarification during the interview process. Classroom observation was not employed as a primary data collection method. Consequently, descriptions of classroom practices presented in the findings were interpreted as participant-reported practices rather than direct observational evidence.

Participant quotations were retained as closely as possible to their intended meaning when presented in English. The translation focused on semantic equivalence rather than literal word-for-word translation so that the original meaning and context of participants' statements were maintained.

Data Analysis

Data were analyzed using the interactive qualitative analysis model proposed by Miles, et al. (2014), comprising data condensation, data display, and conclusion drawing/verification. Analysis was conducted iteratively alongside the organization and interpretation of the interview data.

The first stage involved repeated examination of the interview material and identification of meaningful statements related to AI and digital media use, teacher mediation, student character, learning behaviour, academic honesty, critical thinking, communication practices, and cultural identity. Initial open codes were then grouped into categories reflecting recurring patterns across participants. These categories were subsequently organized according to the study's three major analytical areas: teachers' technology mediation practices, implications for students' character development, and implications for students' cultural identity.

Cross-informant analysis was conducted by comparing teachers' statements with information provided by students and parents/guardians. Agreement among different informant groups was treated as convergent evidence, whereas contradictory accounts were retained as divergent or negative cases. Such differences were not eliminated because they provided important information regarding variations in how AI use was perceived across learning and home contexts.

The themes were then interpreted using five complementary theoretical perspectives. Artificial Intelligence in Education was used to understand the pedagogical logic of technology integration; McLuhan's perspective supported analysis of the influence of technological media; Lickona's framework guided interpretation of character-related dimensions; Collier and Thomas's perspective informed the analysis of cultural identity; and Holt's perspective was used to interpret the findings within the homeschooling context. These theoretical perspectives functioned as interpretive lenses rather than predetermined coding categories, allowing themes emerging from participants' accounts to remain central to the analysis.

Trustworthiness

Research trustworthiness was addressed using criteria of credibility, transferability, dependability, and confirmability. Credibility was strengthened through source triangulation involving teachers, students, and parents/guardians. Accounts from supporting informants were compared with teachers' accounts to identify convergent and divergent perspectives. Member

checking was also used to ensure that interpretations remained consistent with the meanings conveyed by participants.

Transferability was supported through a detailed description of the research context, participants' roles, learning setting, and patterns of technology use. Dependability was maintained through systematic documentation of data collection, coding, thematic development, and analytical decisions. Peer debriefing with the academic supervisor was used to examine the consistency of the interpretation. Confirmability was strengthened through researcher reflexivity and field notes, allowing interpretations to remain traceable to the empirical data rather than being based solely on researcher assumptions.

Research Ethics

Ethical principles were applied throughout the research process. All adult participants received information concerning the purpose of the research and participated voluntarily. Teachers and parents/guardians provided informed consent before participating in the interviews. Because the student participants were minors, their involvement required parental or guardian consent as well as the students' willingness to participate. Participants were informed that they had the right to discontinue their participation at any stage. Personal identities were protected by replacing participants' names with codes: G1–G3 for teachers/tutors, S1–S3 for students, and O1–O3 for parents/guardians. Identifying personal information was excluded from the reporting of the findings, and all information collected was used solely for academic purposes. Confidentiality was maintained throughout data analysis and publication.

RESULTS AND DISCUSSION

The research data were obtained through in-depth interviews with three teachers/tutors as the primary informants (G1, G2, G3), as well as three students (S1–S3) and three parents/guardians (O1–O3) as supporting informants for triangulation, involving junior high school students at Homeschooling Smart Makassar. This section is presented within a single-case study framework (Yin, 2018), with cross-informant analysis in each subsection. It is important to clarify the distinction between the two concepts used: the Three-Stage AI Curation Flow refers to the operational process undertaken by teachers each time they use AI, as discussed in Section 1; meanwhile, the Three-Layer Teacher Mediation Model constitutes the conceptual contribution of this study, explaining the overall dimensions of teachers' mediation roles, as discussed in Section 4.

Teachers' Curation Practices in AI Use

The three teachers demonstrated a similar basic pattern: AI was not used to directly answer students' questions but as a tool to help teachers prepare teaching materials. G1 (English/Indonesian) and G2 (Science/Mathematics/Natural Sciences) used a combination of text-based generative applications (Gemini and ChatGPT), while G3 used only Canva as a visual medium. The Three-Stage AI Curation Flow appeared consistent: G1 explained,

"I usually determine the topic and learning objectives first, then ask AI to help create a draft of the material..., after that I edit and adjust it again before giving it to the students" (G1, interview).

G2 described a similar process: developing the context independently, expanding it with AI, and then revising the output. G3 stated,

"First, I determine the learning theme, then enter the learning content into Canva, and edit it according to the needs" (G3, interview).

The challenges encountered varied according to the length of experience: G1 reported limitations in accessing paid applications; G2 reported difficulties in constructing prompts; and G3 reported the demand for teachers' own creativity in using Canva. No negative case was found in this curation pattern.

The consistency of these three stages can be understood as a concrete manifestation of the principles of Artificial Intelligence in Education (Luckin, Holmes, Griffiths, & Forcier, 2016), according to which the success of AI use depends on how teachers interpret and integrate it, rather than solely on the sophistication of the system indicating the augmentation of teachers' roles rather than automation because the pedagogical authority to determine objectives and edit the final output remains in the hands of teachers. Viewed through McLuhan's thesis, the variation in the media selected by teachers textual-generative media for G1/G2 compared with visual media for G3 can be understood as differences in the potential "messages" conveyed to students, as reflected in the impacts on character (Section 2) and culture (Section 3). This finding is consistent with Rachbini et al. (2023) and Ashshiddiqi et al. (2024), who reported teachers' adoption of AI for preparing teaching materials, but it adds something that has not been widely highlighted: teachers' explicit curatorial process as a form of pedagogical mediation rather than merely a technical skill one response to the third research gap presented in Table 1.

AI Use, Character Development, and Teacher Supervision

Regarding the dimension of independence, G1 and G3 assessed students' independence through their ability to re-explain the material, while G2 reported a more explicit challenge:

"Students are not yet willing to make their own effort to find answers; the way to address this is by imposing limitations" (G2, interview).

Interestingly, the reports from students and parents were more positive: all three students reported a pattern of trying independently first before asking AI for assistance, which was confirmed by the parents. O2 stated,

"He/she can search for information independently..., but in my opinion, guidance is still needed so that the availability of AI does not lead him/her to ask AI directly without trying independently first" (O2, interview)

a divergence that may reflect differences in perspective between the moments observed by teachers and the daily patterns reported by students and parents.

Regarding academic honesty, clear variations in policy strictness were identified: G1 allowed AI use on the condition that the information was re-verified; G2 assessed honesty through the students' choice of words in their answers; and G3 implemented the strictest policy, stating,

"I do not allow students to use AI to answer questions" (G3, interview),

as confirmed by S3:

"It is not allowed because Miss does not permit me to use AI independently; I must use it together with Miss" (S3, interview).

Regarding critical thinking, a gradation was identified: G1 reported that some students had

"Started to have the courage to ask questions in response,"

while G3 reported a lower level, stating that "most of them still believe it immediately." Regarding learning attitudes, all three teachers convergently reported increased student engagement the most consistent theme across all findings although conceptually, this engagement is understood as a motivational indicator underlying character rather than a core component of Lickona's framework itself (see the following discussion).

The three dimensions of Lickona moral knowing, moral action, and moral feeling were present in the data, although not evenly. Critical thinking is interpreted here as an indicator of moral knowing the students' ability to consciously consider when and how AI should appropriately be used, rather than merely as a general cognitive skill and this dimension was found to be the weakest, particularly in G3's class. Meanwhile, the increase in

engagement/learning attitudes reported by the three teachers is understood as an antecedent condition that creates space for moral action (the habit of trying independently) to develop, rather than as a core component of character within Lickona's framework itself. This finding adds nuance to Nguyen and Goto (2024) and Balalle and Pannilage (2025), who found that AI facilitated misconduct in the absence of strict mediation: in this study, all three teachers actively implemented mitigation measures (prohibition, verification, and requests to re-explain), making the potential for misconduct appear more controlled. Concerns regarding dependency, as indicated by Hadid et al. (2024) and Supriyadi (2024), remain relevant, as reflected in the explicit concerns expressed by G2 and O2. This means that the direction of the impact on academic honesty and critical thinking varies according to the strictness of each teacher's policy rather than solely according to the characteristics of AI a complete prohibition policy such as that implemented by G3 may be safer in the short term but could potentially limit opportunities for students to develop critical literacy, a consideration relevant to the mediation model in Section 4.

AI Use and Students' Cultural Identity

Regarding communication ethics and linguistic politeness, divergence among teachers was identified. G1 reported a tendency toward the enrichment of formal language:

"AI often uses standard language, so students have references to a broader vocabulary" (G1, interview)

accompanied by increased student confidence. G2 reported the opposite tendency:

"Students use many slang terms, but the teacher does not consider it a problem as long as they understand the boundaries" (G2, interview).

G3 reported that the impact was "not yet very visible because the use of AI in my class is still limited and directly supervised" explicitly linking the intensity of AI exposure to the magnitude of its impact. Regarding regional languages, G1 and G3 reported that they were still used outside lesson hours, while G2 reported an important negative case:

"Students never used regional languages before or after AI" (G2, interview).

Triangulation with O1–O3 reinforced this description: the children continued to use everyday/regional languages at home, regardless of their use of AI at school.

Regarding the integration of local content and wisdom, all three teachers had connected AI-based materials with local culture, although student responses were not always positive G2 reported that students were "less responsive..., preferring themes from foreign countries." Triangulation with S2 presented a different picture: the student knew Bugis-Makassar culture "from family, from the environment, and also from lessons," with AI only being used "occasionally when searched for" and not serving as the primary source, and the student admitted feeling "proud" of the regional culture. S3 confirmed the integration of local culture through Canva. Regarding changes in social behaviour, G2 reported a prominent finding: shy students became "able to speak and courageous" after interacting with AI, while G3 again reported minimal changes.

The comparison between G1 (formal language enrichment) and G2 (a shift toward slang) constitutes an important negative case: two opposing directions of impact resulting from AI mediation in different subjects, indicating that the direction of the medium's influence on students' language registers is related to the type of AI and the teacher's guidance style rather than being an inherent characteristic of AI. Viewed through McLuhan's thesis, this finding can be understood as soft determinism: the medium has the potential to exert influence, but its direction and degree are mediated by the context of teachers' use. The finding that the family remains the primary environment for maintaining regional languages/local culture as confirmed by O1–O3 and S2 supports Anita and Hadrizal's (2025) finding that local wisdom persists when AI is used proportionally. However, G2's indication that students were less responsive to local themes is consistent with Setiawan's (2018) concerns regarding the reconfiguration of cultural identity

toward a global orientation, although in this study, it was evident only at the level of interest rather than in everyday language use.

Three-Layer Teacher Mediation Model

Regarding guidance strategies, the three teachers demonstrated different levels of strictness: G1 directed students according to the learning objectives so that “students’ critical thinking analysis is also trained”; G2 implemented an explicit time restriction of “a maximum of 10 minutes during learning”; and G3 implemented the strictest guidance, stating,

“I always provide direct guidance when using AI in the classroom” (G1, G2, G3, interviews).

Considered collectively, the data in Sections 1–3 demonstrate a pattern that extends beyond the operational stages of AI curation and instead reflects three interrelated dimensions of teachers’ mediation roles. Based on this pattern, this study formulates the Three-Layer Teacher Mediation Model as its conceptual contribution: (1) Technical curation, the technical dimension reflected in the Three-Stage AI Curation Flow in Section 1: determining learning objectives, using AI to generate a draft, and editing the output before presenting it to students; (2) Character safeguarding, the character-protection dimension reflected in academic honesty policies and restrictions on the time/manner of AI use in Section 2, ranging from verification (G1) to complete prohibition with direct guidance (G3); (3) Cultural strengthening, the cultural identity-strengthening dimension reflected in the practice of incorporating local terms/examples and inviting students to discuss regional culture in Section 3. These three layers differ from the Three-Stage AI Curation Flow: the three stages explain how the curation process occurs during a single instance of AI use, whereas the three layers explain the dimensions of teachers’ mediation roles that repeatedly appear across various moments technical, character, and cultural operating simultaneously rather than sequentially (Figure 1).

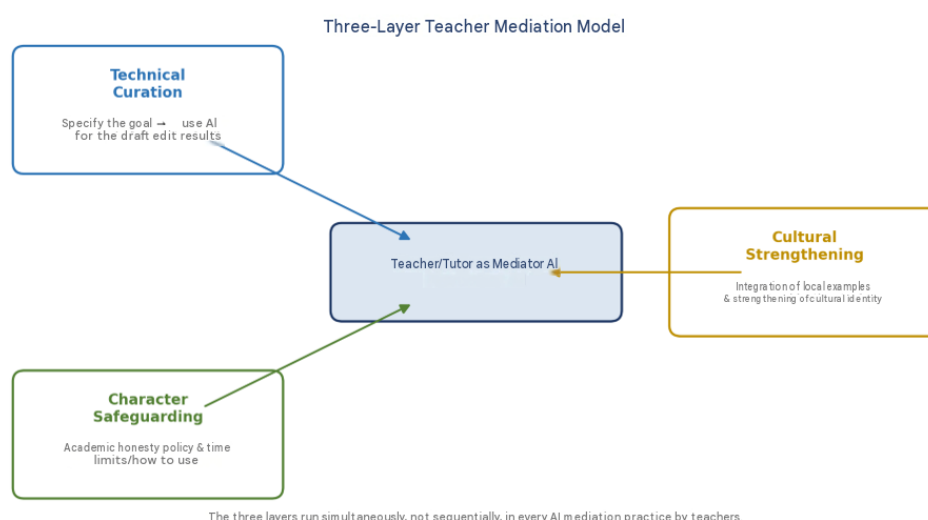


Figure 1. Three-Layer Teacher Mediation Model

Viewed through the five theoretical frameworks, AIED (Luckin et al., 2016) explains the logic underlying technical curation; maps character safeguarding; map cultural strengthening; McLuhan (1964) explains why the three layers influence the “message” received by students in different ways; why homeschooling becomes a setting in which these three layers can vary considerably among teachers without uniform institutional policies. The pattern in which the teacher with the strictest supervision (G3) also reported the least impact on character and culture suggests that the three layers may influence one another. Strengthening character safeguarding appears to be associated with reduced opportunities for effects on cultural strengthening to emerge. It must be emphasized that this pattern is derived from one case (G3) among the three primary informants. Therefore, it remains indicative rather than a causal conclusion that can be

generalized. Testing with a larger sample of teachers is required to establish the relationship among these layers more convincingly. Compared with previous studies that highlighted teachers' roles solely at the technical level (Rachbini et al., 2023; Ashshiddiqi et al., 2024) or focused solely on preventing academic misconduct (Nguyen & Goto, 2024; Balalle & Pannilage, 2025), this model connects the three dimensions within a single conceptual framework that has rarely been identified in the context of junior high school homeschooling. This model is conceptual, originates from a single case study with a limited number of informants, has not been widely validated, and is intended as an initial framework that can be further examined in similar contexts.

Implications for Homeschooling Learning Management

The findings presented in Sections 1 to 4 relate to several issues concerning learning quality management that are relevant to the perspective of Islamic Education Management (MPI). Viewed through Sallis's (2002) principle of total quality management in education, which states that educational quality is determined by process consistency rather than merely by the availability of resources, the variation in the strictness of policies among teachers in Sections 1 to 4 can be understood as an indication that no institutionalized quality assurance standards for AI use have yet been established, although each teacher has individually implemented responsible curation and guidance practices. First, regarding the supervision of technology use, variations in policy strictness (Section 2) and guidance strategies (Section 4) indicate that the management of AI based learning in homeschooling institutions is currently conducted individually by each teacher without uniform institutional guidelines. Second, regarding the role of teachers or tutors, the findings in Sections 1 and 4 confirm that the quality of teacher mediation, rather than merely the availability of technology, is a determining factor. Therefore, strengthening teachers' capacity through training and support for application access is relevant as an area for quality improvement. Third, regarding parental involvement, the findings in Sections 2 and 3, including the role of O1 to O3 in observing and guiding AI use at home and the role of families in maintaining local languages and cultures, demonstrate that managing AI use among homeschooling students cannot be separated from coordination between teachers and parents or guardians.

Overall, the findings in Section 3 address the four dimensions of the research gap presented in Table 1. The data consistently focus on teachers as mediators, examine the impact on both character and cultural identity, provide an empirical account of teachers' mediation roles through the Three Layer Teacher Mediation Model, and investigate these issues within the context of junior high school homeschooling, which has received limited attention in previous studies. Theoretically, this study demonstrates the importance of pedagogical context and teacher mediation in understanding the relationship between AI use and students' character and cultural identity. It also moderates McLuhan's technological determinism thesis into a softer form of determinism, referred to as soft determinism, as an interpretation of these findings (Lauwaert & Chomanski, 2025). Practically, the Three Layer Teacher Mediation Model, comprising technical curation, character safeguarding, and cultural strengthening, can be understood as an initial conceptual framework for homeschooling administrators in developing AI use policies that simultaneously consider technical, character, and cultural dimensions, although its application in other contexts requires further examination.

CONCLUSION

This study concludes that homeschooling teachers/tutors utilize AI through a consistent pattern termed the "Three-Stage AI Curation Flow" comprising the determination of learning objectives, the use of AI to generate drafts, and the editing of outputs before delivery to students which indicates an augmentation of the teacher's role rather than automation, thereby addressing the first research question. Regarding character development among junior high school students, AI utilization is associated with increased learning engagement the study's most consistent finding whereas its impact on academic honesty and critical thinking varies according to the strictness of individual teachers' policies rather than the inherent characteristics of AI,

addressing the second research question. Concerning students' cultural identities, a divergence in outcomes was observed, addressing the third research question: one class exhibited an enrichment of formal vocabulary while another showed increased use of slang, whereas the family sphere remained the primary space for maintaining the students' local language and culture. Theoretically, this study contributes by formulating the "Three-Layer Teacher Mediation Model" encompassing technical curation, character safeguarding, and cultural strengthening which simultaneously links three dimensions of the teacher's mediating role; it also moderates McLuhan's technological determinism thesis into a form of "soft determinism," wherein the direction and degree of AI's influence are determined by teacher mediation strategies rather than the technology itself. Practically, this model can serve as a preliminary framework for homeschooling administrators to formulate AI usage policies that simultaneously consider technical, character, and cultural dimensions, alongside strengthening teacher capacity and establishing more structured coordination with parents or guardians.

SUGGESTION

Given that this model derives from a single case study with a limited number of informants and has not yet been widely validated, further research is recommended to test it within more diverse homeschooling contexts to enhance the generalizability and depth of the findings.

ACKNOWLEDGMENT

The author extends gratitude to the leadership of Homeschooling Smart Makassar for their permission and full support throughout the research process. Thanks are also due to the three teachers/tutors (G1, G2, G3), three students (S1–S3), and three parents/guardians (O1–O3) who kindly served as informants and openly shared their experiences. Appreciation is also expressed to the academic supervisor for their input during the article's preparation, as well as to all parties who assisted in the execution of this research.

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