

Teacher Authority and AI Disruption in School: A Phenomenological Study of Subject-Matter Teachers

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Abstract

The use of Artificial Intelligence (AI) has produced significant impacts on educational practices, particularly in relation to shifts in teachers' authority in classroom instruction. This study aims to explore the transformation of teacher authority and the strategies employed by teachers to assert their authority amid the increasingly widespread use of AI. The research employed a qualitative phenomenological design, involving three subject-matter teachers representing Religious Studies, Language, and Science. The findings reveal two major themes: (1) learning disruption in the era of automation, including the end of the teacher as the primary source of knowledge, the erosion of the value of learning processes, and the widening cognitive development gap among students; and (2) pedagogical authority as a form of teacher authority in learning, including teachers as ethical and substantive verification authorities, as well as teachers as determinants of the scope of students' thinking processes. Strengthening value- and character-based approaches in teacher professional development may serve as a strategic priority to ensure the relevance of the teaching profession amid the declining traditional role of teachers as the sole source of information and knowledge.

Keywords: Artificial Intelligence, Technology, Disruption, Authority, Teacher

INTRODUCTION

Information and communication technology has had a significant impact in education. The internet has become an emerging element in the massive growth of this technology, which has led to the availability of learning resources in the classroom (Gashoot & Mohamed, 2022). Teaching models and methods have also followed suit, with the learning paradigm shifting from teacher-centered learning to student-centered learning (Kennedy, 2006; Scheurs & Dumbraveanu, 2014). This has led to changes in classroom management, which have the potential to reform the authority of teachers during the learning process.

Education itself has experienced significant developments over the last 2-3 years, largely driven by advancements

in information technology. The massive use of the internet as a driver of accessibility to learning resources has now been accelerated more with the emergence of artificial intelligence-based instant messaging technology. In 2022, a technology company from the United States, OpenAI, launched ChatGPT. This is an mobile phone application and website-based technology that allows users to obtain the information they want through a message dialogue column, similar to online messaging applications. Following them, other companies tried to launch similar programs with additional features that support more complex tasks, such as Gemini by Google, CoPilot by Microsoft, and Grok by X (Twitter), Claude by Anthropic and many more.

AI-based technology in the form of dialogue, as mentioned earlier, is

making it increasingly easier for users to obtain information. Students, for example, can type in a question they want answered, and within seconds, the desired answer appears with a high degree of accuracy. Gradually, this is affecting the individual learning process, in this case, that of students due to the minimal effort required to obtain information, which also impacts the cognitive processes involved. A study by Gerlich (2025) found that overreliance on conversational AI systems can reduce students' learning autonomy and critical thinking skills.

In the learning outcomes, the issue mentioned above also arises, as a specific achievement does not necessarily reflect deep understanding or critical-analytical thinking skills. In the evaluation of learning programs, process assessment cannot be separated from outcome assessment. The learning process students undergo supports the outcomes, and conversely, the quality of learning outcomes is also supported by the learning process itself. Teachers are now expected to assess students' authentic cognitive processes to ensure that their abilities are evaluated accurately and reflect their actual level of competence.

Teachers' authority has shifted alongside the transformation of learning. Authority can be defined as the responsibilities or roles inherent to the teaching profession (Keiler, 2018). Teachers have full control over learning programs, starting from the curriculum planning stage, through classroom instruction, to the assessment of learning outcomes. Lu & Hu (2021) view teacher authority as a form of 'non-coercive power' a condition where the teacher is not an imposed authority but rather a symbolic power that is respected and

accepted as part of a dynamic teacher-student relationship. This dynamic illustrates that the relationship between teachers and students, particularly regarding the teacher's authority, generally varies across generations and cultures.

In the early modern era (the nineteenth to the twentieth centuries), teachers' authority was constructed on a hierarchical foundation, with national or local curricula reinforcing the teacher's role as the central authority in the learning process (Bowles & Gintis, 1976; Luke et al., 1983). However, entering the twenty-first century, the meaning of authority has undergone a significant transformation. Teacher authority is no longer primarily grounded in institutional hierarchy but increasingly derives from professional credibility, ethical responsibility, and pedagogical legitimacy. Consequently, the role of the teacher has shifted from being a controller of knowledge and instructional content to functioning more as a facilitator who supports students' learning processes (Biesta, 2022).

The dynamics of teacher authority also manifest across cultural contexts. In Western societies characterized by individualistic cultural values, students tend to value intellectual autonomy, freedom of expression, and creativity. Consequently, teachers are required to construct their authority through dialogue, clarity of reasoning, and professional competence rather than relying solely on formal hierarchical power (Hofstede, 2001). In contrast, within religion-based educational systems, teacher authority may derive not only from pedagogical competence but also from spiritual, cognitive, affective, social, and even physical dimensions. In such contexts, professional or academic

competence related to classroom instruction is not the sole determinant of authority; rather, spiritual integrity and personal charisma also play significant roles in shaping the teacher's authority (Heid & Kelehear, 2007; Palmer, 2017).

With the emergence of the internet and various technologies that support educational and learning processes, the purpose and prospects of teacher authority have undergone significant transformation and even disruption. In this context, disruption refers to a condition in which rapid and radical changes occur in relation to the position and role of teachers within the educational system. In particular, these changes affect how teacher authority is perceived, enacted, and accepted by students as well as by the broader society.

This study aims to explore in depth the significance of teachers' experiences in navigating the transformation of authority in the era of digital technology and artificial intelligence (AI). Specifically, it examines how teachers interpret and negotiate their roles amid the increasing accessibility of information and technological resources. By placing teachers' subjective experiences at the center of analysis, this study seeks to understand the relational and professional changes they encounter, as well as how teachers interpret technological disruption as both a challenge and an opportunity in exercising their pedagogical authority.

This study was conducted within the context of a modern Islamic boarding school (pesantren) in Malang, Indonesia. Unlike traditional salaf-oriented pesantren, which primarily emphasize classical, text-based religious instruction within a relatively insular institutional structure, the research site represents a

modern-contemporary model of Islamic boarding school education. Its curriculum integrates general and globally oriented subjects, such as science and languages, alongside religious education, while fostering greater openness to global perspectives, contemporary knowledge, and technological advancement.

Within this educational environment, teacher authority is shaped not only by pedagogical competence but also by the moral and spiritual legitimacy embedded in Islamic educational traditions. At the same time, the institution's dual commitment to religious values and global engagement provides an important interpretive lens for understanding how teachers across disciplinary backgrounds negotiate, rather than simply resist, the challenges to their authority posed by AI. This situates the present findings at the intersection of Western conceptions of pedagogical authority and the religiously grounded, collectivist values that characterize Islamic boarding school education.

RESEARCH METHODS

This study was conducted using a qualitative approach with a phenomenological design through thematic analysis. The study was conducted to answer research questions related to the use of artificial intelligence (AI) in learning across various subjects. These research questions include:

1. What are teachers' experiences in responding to the widespread use of artificial intelligence (AI) as a source of learning information?
2. How do teachers negotiate and assert their authority in the classroom amid

increasingly easy access to information enabled by artificial intelligence (AI)?

A phenomenological design is a qualitative research approach that aims to understand the meaning of individuals' lived experiences regarding a particular phenomenon. The primary focus of phenomenology is not on generalization but on how individuals interpret and give meaning to their experiences within specific contexts. This approach originates from the philosophical tradition of phenomenology, which emphasizes the subjectivity of human experience as a legitimate source of knowledge in scientific inquiry (Smith et al., 2009). In phenomenological research, the researcher seeks to capture the essence of experience through deep reflection on participants' narratives.

One of the key principles in phenomenological research is bracketing or *epoché*, which refers to the researcher's effort to suspend prior assumptions, pre-existing knowledge, and personal biases in order to understand participants' experiences more authentically. This process enables the researcher to focus on experiences as they are lived by the participants, rather than as they are interpreted through the researcher's own perspective (Moustakas, 1994).

The phenomenological approach is widely used in educational research because it allows for an in-depth exploration of the subjective experiences of teachers and students within learning contexts, including efforts to understand changes in educational practices resulting from technological developments. In this study, bracketing was operationalized through the researcher's reflective journaling prior to and during data

collection, in which personal assumptions about AI and teacher authority were explicitly documented and set aside. Additionally, member checking was conducted by sharing a summary of themes with participants to verify the accuracy of the interpretations.

The data in this study were analyzed using thematic analysis. Thematic analysis is a qualitative data analysis method that aims to identify, analyze, and interpret patterns of meaning (themes) within the data. This method is considered flexible because it can be applied does not merely focus on the frequency of data occurrence but also emphasizes the conceptual meanings embedded in participants' experiences (Braun & Clarke, 2006). Braun and Clarke propose six main phases of thematic analysis: (1) familiarization with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report.

Thematic analysis is employed in phenomenological research to organize units of meaning into thematic structures that represent the essence of participants' experiences. This form of analysis emphasizes the relationship between emerging themes and the lived experiences of participants, thereby maintaining the phenomenological orientation of the study. Research that combines phenomenology with thematic analysis enables researchers to obtain both a deep and systematic understanding of the phenomenon under investigation (Sundler et al., 2019). Furthermore, thematic analysis within the phenomenological tradition does not merely involve identifying patterns in the data but also aims to capture the essence of human experience. Therefore, the interpretative process is conducted

reflectively while considering the participants' experiences within their broader contextual and holistic dimensions.

Data were collected through a face-to-face in-depth interviews. In-depth interviews were subsequently conducted to explore participants' experiences more comprehensively and to allow for clarification of responses. All interviews were recorded and transcribed verbatim for analysis.

To ensure the trustworthiness of the findings, several strategies were applied following Lincoln & Guba's (1985) criteria. Credibility was established through prolonged engagement with participants and the use of verbatim quotations to ground interpretations in participants' own words. Transferability is supported through thick description of the research context and participant profiles. Dependability and confirmability were addressed through audit trail documentation, including interview transcripts and reflexive notes maintained throughout the research process.

The selection of participants in this study was conducted using purposive sampling, based on considerations of the relevance between participants' characteristics and the objectives of the phenomenological research in order to obtain meaningful and relevant experiences. A brief profile of the participants is presented in the following table (Table 1).

Table 1. Informan Profile

Name (Initial)	Teaching Experience	Course Taught
AF	16 year	Religious Studies (Islamic Subject)

		Tauhid, Tafsir)
UM	14 year	Language (English)
YH	7 year	Science

Although the sample size is small, this is consistent with the epistemological orientation of phenomenological inquiry, which prioritizes depth over breadth. In phenomenological research, data saturation is reached when no new themes or meaning units emerge from the participants' narratives (Creswell & Poth, 2018). The three participants in this study represent distinct subject domains (Religious Studies, Language, and Science) which allowed for a sufficiently varied yet focused exploration of the phenomenon under investigation.

RESULTS AND DICUSSION

Results

The findings of the study, derived from thematic analysis, identified two main themes that describe teacher's experiences regarding the transformation of authority in response to the development of Artificial Intelligence (AI). These themes include: (1) learning disruption in the era of automation and (2) pedagogical authority as a form of teacher's professional authority. Each theme also comprises several sub-themes that provide more specific explanations of the identified themes. The themes and sub-themes generated from the data analysis are presented in the following table (Table 2).

Table 2. Research Theme Findings

Theme	Sub-Theme
Disruption in education	The end of the teacher's role as a source learning

in the age of automation	The ‘process’ value in learning has begun to erode
	The cognitive development gap among students
“Pedagogical Authority” as a Form of Teacher Authority	Teachers as ‘ethical’ and ‘substantive’ verifying authorities
	Teachers determine the scope of “thinking processes”

Disruption of Learning in the Age of Automation

This theme illustrates a fundamental transformation in learning processes, particularly in relation to how knowledge is produced, accessed, and utilized within classroom practices. The theme is further elaborated through several sub-themes, including: the diminishing role of teachers as primary sources of knowledge, the erosion of the value of the learning process, and the widening gap in students’ cognitive development.

- The End of Teacher’s Role as a Source of Learning

The role of teachers as primary sources of knowledge has effectively come to an end. This statement may sound pessimistic; however, considering the rapid advancement of technology that increasingly replaces the informational function traditionally performed by teachers, it accurately reflects the pedagogical experiences of many educators today. Informan “YH” explicitly expressed this perspective regarding the shift in teachers roles, particularly in relation to the aspect of knowledge transmission.

‘...actually, we as a tutor, we already lost our job. We are already replaced by the AI. We as

the source of the information, that’s already gone. The game is gone..’ The informan continued to describe the students’ experiences with using AI in their learning...

‘AI is not only source of information. Can serve as a tool, providing detailed instructions on how to solve problems using various approaches... step by step’. For example in biology, they can ask, what is the name of enzyme to digest biological molecul, they (AI) will give us a complete explanation.. AI is beyond calculator (everything)’

Informan YH explicitly stated the traditional role of teachers as a sources of information has come to an end. Artificial intelligence is now capable of providing comprehensive explanations of learning materials that students can access independently. According to the informan, the role of teachers is therefore undergoing a transformation from merely delivering content to acting as learning facilitators who assist students in organizing and interpreting information in ways that make it more meaningful.

- The ‘Process’ Value in Learning has Begun to Erode

Students are increasingly trapped in an instant learning culture and tend to be reluctant to engage deeply with the scientific learning process. Although tools such as AI are now available and can be used to explore vast amounts of information, many students show limited motivation to investigate a field of knowledge in depth. Informan AF interprets this situation as a phenomenon that is closely associated with the current generation, namely Generation Alpha,

‘...mereka (generasi alpha), tuh senang hal-hal yang instan. Jadi ketika ada hal-hal yang sedikit agak mendalam, mereka pelampiasannya ke instan lagi... karena instan, instan, instant tadi, instan dapat instan hilang. Kata

ulama dulu juga gitu. Anda dapat nya cepat, hilang nya juga cepat...'

Translate: "...They (Generation Alpha) tend to prefer things that are instant. Therefore, when they encounter matters that require deeper engagement, they often resort again to instant solutions. Because of this instant-oriented tendency what is obtained instantly is also easily lost. As religious scholars have long suggested, what is gained quickly may also disappear quickly."

Informan AF continued,

'..feel nya akan terasa berbeda.. antara anak-anak yang hafal Al-Quran yang dia pakai sanad sama anak-anak yang mungkin mohon maaf ya, belajar nya nggak 'gua nggak perlu guru, gua nggak perlu tahu sanad-sanad gua belajar... kalau ini berjalan (menuntut ilmu dengan sanad yang jelas) anak-anak itu bener-bener niatnya untuk mencari ilmu. Dia akan menghormati guru nya, dia akan menghormati buku yang ia pakai, teks yang ia pakai. Dia akan kembali kesana, even dia pakai berbagai macam teknologi. Cuman, ini kan udah hilang...'

Translate: '...The experience will feel different... between children who have memorized the Quran using a chain of transmission and children who please forgive me learn in a way that says, "I don't need a teacher; I don't need to know the chains of transmission; I'm just learning..." If this approach seeking knowledge with a clear chain of transmission is followed, those children will truly be intent on seeking knowledge. They will respect their teacher; they will respect the book they use, the text they use. They will return to it, even if they use various kinds of technology. But, this has already been lost...'

The shift in focus from a "process-oriented" approach to a "results-oriented" one is not always viewed negatively. Informan YH noted that the use of AI as a learning tool has led to an improvement in the quality of the final

product, which is now taken into account in the final assessment.

'if i ask them to make a PowerPoint, they will actually give you the exact aspect that you want to see. But the first generation here (tells the story of students from previous years), if i ask them to give specific or particular information, they cannot do it'

Informan YH stated that students' learning outcomes have been improving and viewed this as a positive development in terms of "quality." However, when asked about the impact on the thinking process, the informan expressed pessimism.

'..from the final product, i'm satisfied. Satisfied. But how to develop a critical thinking... no. There would be a problem in term of the way they deliver critical thinking. Because they tend to just copy and paste the text literally... without givin any elaboration'

- The Cognitive Development Gap among Students

Student learning outcomes demonstrated in the classroom represent a response to the instructional stimuli provided during class. In this context, the widespread use of AI in education risks generating false responses in other words, learning outcomes that do not reflect students' actual abilities. This is certainly a problem, particularly in relation to efforts to ensure valid educational assessment. According to informan YH, students' thinking processes have slowed down and even stopped, because they rely too heavily on instant outputs from AI,

'They just taking the answer literally, without any processing in their brain'

The processing of answers referred to by informan YH refers to the lack of

elaboration, where students tend to simply “copy-paste” answers from the AI without providing any elaboration on the answers provided by the AI, because, according to him, the children (students) believe that the AI has already provided both the answer and its elaboration.

Based on their experience with AI which began when AI platforms (such as ChatGPT) became widely used in education the informants observed that the language AI uses to provide answers tends to be classified as sophisticated. The informants use this as a standard to determine whether the answers students provide during assessments are generated by AI or the result of their own thinking.

‘sophisticated tuh mewah bahasanya, nggak mungkin bahasa anak tuh kayak gitu. It’s not about the complicated, it’s sophisticated’.

Translate: *“sophisticated” is such a fancy word, there’s no way a kid would use language like that. It’s not about the complicated, it’s sophisticated’.* – Informant YH stated.

The UM informant also shared a similar experience regarding the use of AI in language learning.

‘Mereka (AI) dibuat untuk selalu membuat yang paling bagus produk nya. Sesempurna mungkin. Sedangkan sempurna cara mereka dengan sempurna cara anak-anak itu kejauhan lompatan nya... memahami jenjang anak-anak dalam berkomunikasi itu by logic, biologically speaking nggak akan bisa sampai sejauh itu... kompleksitas kata-kata nya, idiom-idiom nya, kayak gitu-gitu udah nggak mungkin’

Translate: *‘They (AI) are designed to always produce the best possible products. As perfect as possible. But the way they achieve perfection is worlds apart from how children do it... understanding the stages of children’s communication logically speaking, biologically speaking they simply can’t reach*

that level... the complexity of their words, their idioms things like that are just impossible’

‘Pedagogical Authority’ as a Form of Teacher Authority in the Learning Process

- Teachers as a Ethical and Substantive verifying Authorities

Ethics, as a theme identified in this study, refers to student learning outcomes that are closely linked to student behavior or attitudes. Behavior and attitudes remain a crucial component of learning outcomes in the era of educational technology disruption, particularly as they relate to classroom learning.

In this context, ethics represents a dimension that artificial intelligence (AI) cannot fully transmit, even though its capabilities may effectively replace the teacher’s traditional role as a “source of information.” Students’ ethical attitudes toward teachers may manifest in various forms. However, as knowledge becomes increasingly accessible through digital technologies, the erosion of teachers’ traditional authority as sources of knowledge may give rise to attitudes that are inconsistent with ethical values, particularly in relation to student–teacher interactions and respect toward teachers within the school environment. Informant AF shared the following perspective on this issue,

‘sok-sokan nya ada, arogan nya ada.. ah saya pun sudah hafal Al-Qur’an, saya udah setiap hari makanan saya gitu loh, ngapain diajarin saya itu’

Translate: *‘He’s full of himself, he’s arrogant... Ah, I’ve already memorized the Quran it’s like my daily bread, you know? Why bother teaching me that?’*

Teachers determine the ethical boundaries of student behavior what is considered ethical or unethical. Informan AF stated that he has never felt that AI would replace his role as a teacher, because, in his view, AI cannot teach students about “ethics,” which is deeply rooted in social and religious teachings.

Furthermore, on a substantive level, even before the rise of AI, teachers have played a key role in verifying the accuracy of educational content available online. Although AI has emerged as a faster information search tool that psychologically “satisfies” users’ desires, teachers still feel it is necessary to verify every answer provided by AI

‘AI itu oke buat grammar atau struktur. Tapi bahasa itu kan sangat kulturistik ya... bagaimana cara kita mengekspresikan sesuatu di konteks, budaya, atau situasi yang sesuai. AI itu sering nya flat aja... makanya bimbingan atau guidance dari kita sebagai guru tetap perlu buat memahami konteks dunia nyata itu tadi.’

Translate: *‘AI is great for grammar and structure. But language is so culture-specific, isn’t it? It’s about how we express ourselves in the right context, culture, or situation. AI often comes across as flat... which is why guidance from us as teachers is still necessary to understand that real-world context.’*

In language learning (English), the UM informan exercises their authority for substantive verification by ensuring that the language expressions produced align with local cultural norms and contexts. According to them, “contextuality” in language learning remains an issue that AI technology has yet to address. Students must not only learn through text but also learn how to communicate within a cultural context.

- Teachers determine the Scope of ‘Thinking Processes’

Teachers play a role as architects of learning, responsible for designing instructional processes in accordance with the intended learning objectives. This includes determining the scope and level of students’ thinking processes that are expected to develop during learning activities. In this sense, students’ cognitive learning outcomes are largely shaped by the instructional design constructed by teachers in their role as learning architects. Informan YH expressed this perspective as follows,

‘...so if there are questions labeled C2, C3, or related to their cognitive, they are not allowed to use AI... Like critical thinkin, i... i dont.. accept anyting that comes out from AI. Because they don’t actually thinking... I will allow my student to use AI but for brainstorming only...’

Informan YH emphasized opposition to the use of AI for tasks or questions that require intermediate to higher-order thinking. Tasks and questions whether used to assess learning outcomes or the learning process are closely tied to levels of cognitive thinking, as outlined in various cognitive taxonomies proposed by experts, such as Bloom’s Taxonomy. The teacher’s role in determining the scope of these thinking processes can be viewed as a means of authenticating the learning process, ensuring that students’ abilities can be measured validity.

Discussion

Disruption of Learning in the Automation Era

Technology has brought significant changes to the landscape of learning. Beyond providing easier access to knowledge, technological

developments have reshaped the relationships between teachers, students, and learning resources. Teachers are no longer the sole source of knowledge in the learning process. As expressed by informan YH, the role of teachers as information providers has gradually diminished since the emergence of the internet and its widespread use in educational contexts. This situation raises concerns that if teachers do not possess distinctive attributes, such as professional competence, values, or a strong professional identity that differentiate them from merely providing information, the physical presence of teachers in traditional classroom settings may eventually lose its significance.

Teachers's identity and professional character therefore need to be strengthened. As the exclusive role of teachers as primary sources of knowledge has diminished, professional development should be directed toward reinforcing teachers' character, including integrity and exemplary conduct aligned with the values and principles embedded in educational curricula. Such orientations have long been emphasized in religious educational traditions. In Islamic educational practices, for instance, teachers are expected to serve as role models in adab and ethical conduct. Teachers are regarded as moral and ethical figures who influence students' perceptions, the internalization of values, and their long-term moral decision-making (Icka & Kochoska, 2024; Sumo & Koryataini, 2023). Therefore, despite the inherent limitations of teachers as human beings, there remain important dimensions that position teachers as key references for students in guiding their actions and ethical considerations.

If character building is what sets teachers apart in the digital age, then this

concept is by no means a new idea in the tradition of Indonesian education. Rather than being completely disrupted by technology, education must instead return to its fundamental principle: that teaching is the act of instilling values through setting a good example. Returning to the classical philosophy of education according to Ki Hajar Dewantara with his motto 'Ing Ngarsa Sung Tuladha,' which means 'lead by example.' This motto appears to remain relevant and will continue to be relevant amidst the educational disruption that is significantly shifting the role of teachers due to the excessive injection of technology into learning.

Informan AF's account of the sanad (chain of transmission) further illustrates this concern: the current generation's culture of learning things instantly, without tracing their sources, risks creating a generation that values results more than the process. Ultimately, this can give rise to certain negative attitudes, namely a lack of appreciation for the clarity of scholarly sources (sanad).

The "process" stage in learning is a crucial aspect in developing "critical thinking" as one of the learning outcomes. Learning outcomes are not merely understood as tangible products, such as PowerPoint presentations, posters, written assignments, and so on. They also encompass intangible cognitive abilities, such as critical thinking, reflection, and reasoning. The use of AI risks reducing attention to these aspects, not only in students but also in how teachers interpret learning comprehensively. This includes how teachers assess, prioritize, and define what learning outcomes are considered important to develop in daily teaching practice.

Findings regarding the negative impacts of AI in education remain limited, while most studies emphasize its benefits in improving teacher efficiency. Research by Kamalov et al. (2023) shows that AI can reduce grading time by up to 40%. Additionally, AI enables the automation of administrative and instructional tasks, including planning, material development, and analysis of student learning progress, thereby allowing teachers more time for high-level pedagogical activities (Holstein et al., 2019; Wang et al., 2024; Yusuf et al., 2025). Nevertheless, the consistency of findings regarding the impact of AI on student learning outcomes within the curriculum framework remains weak.

The presence of AI causes students to face issues related to the instant gratification of learning, as previously described. The learning process is no longer the primary focus, as learning outcomes are often directed toward tangible products. This risk arises when AI is used merely as a tool to generate quick answers without a clear pedagogical design, thereby potentially reducing students' cognitive engagement (Ogunleye et al., 2024; Khlaif et al., 2025; Hooda et al., 2022). The learning process is a crucial component; by taking this into account, teachers can observe the cognitive processes at work through the final products produced by students. Therefore, the assessment system should focus not only on the accuracy and neatness of the output but also consider factors such as students' thought processes, the stages of their work, and their reflective abilities, which are expected to provide a more comprehensive picture of students' cognitive development.

Responses to learning stimuli that reflect learning outcomes should ideally

align with students' cognitive development. Students' use of AI to generate answers may risk leading to an overestimation of learning outcomes, a situation in which teachers assess students' learning outcomes as higher than they actually are. This, of course, poses a challenge to conducting valid assessments that align with students' developmental characteristics.

'Pedagogical Authority' as a Form of Teacher Authority

Teachers, as learning facilitators, play a crucial role in regulating the use of AI in education. It is undeniable that technological advancements have brought about significant changes in how students learn and utilize these tools. Students at certain stages of cognitive development naturally lack the ability to verify all forms of information obtained from their learning sources (Koenig & Harris, 2007; Lunn Brownlee et al., 2017; Platz, 2021). Learning outcomes that rely heavily on AI carry the risk of creating a disconnect between the final product and students' actual conceptual understanding. In other words, high apparent performance does not necessarily reflect actual knowledge. Therefore, teachers need to design pedagogical interventions that encourage dialogue, clarification, and reflection, so that AI, as a tool, serves to enhance the learning process rather than replace it.

Teachers need to reaffirm their authority in a constructive and professional manner. Technological advancements, such as the use of AI, have eroded the authority of teachers, who were once viewed as the sole source of learning. Teachers' authority has waned in the classroom when authority is defined solely as the possession of information. Therefore, it is necessary to

reaffirm teachers' authority to ensure that the teaching profession remains relevant amid the ongoing digital transformation.

The role of teachers as both verificative and ethical authorities requires renewed emphasis within their professional responsibilities amid the disruption brought about by educational technologies. Verificative authority refers to the teacher's function as a guardian of knowledge validity, ensuring that the information circulated and utilized in learning processes meets standards of scientific accuracy and substantive relevance within the curriculum (Lu & Hu, 2021; Platz, 2021; Desatnik et al., 2025).

The issue of using artificial intelligence (AI) as a tool to support learning is no longer limited to the availability of information sources; rather, it increasingly concerns issues of accuracy, bias, and the phenomenon of AI-generated hallucinations (Bender et al., 2021; Kasneci et al., 2023). In this context, the role of teachers as verifiers becomes increasingly significant. Teachers function as critical reviewers who assess and validate AI-generated responses in accordance with curriculum objectives and the specific context of learning.

At the same time, teacher authority also operates within an ethical dimension. Education is no longer solely concerned with the transmission of knowledge but also with fostering moral awareness and a sense of responsibility in how students engage with knowledge. As a computational system, artificial intelligence (AI) functions based on patterns derived from data and therefore lacks contextual moral awareness and ethical judgment. In this regard, teachers play a crucial role as moral agents who define the boundaries of appropriateness,

uphold academic integrity, and guide responsible uses of technology in learning contexts (Biesta, 2015).

Educational practices are always embedded within value systems shaped by social, cultural, and religious norms. Consequently, teacher authority can be understood as a pedagogical strategy that not only functions as a form of regulatory control but also serves to preserve the meaning and ethical orientation of the learning process (Esmacili et al., 2015; Nelson & Yang, 2023).

The role of teachers in guiding the thinking process based on instructional design can be linked to the revised Bloom's Taxonomy, where learning objectives generally aim at specific levels of thinking (Anderson & Krathwohl, 2001). If technology is used without clear boundaries, the performance gains experienced by individual students will not reflect a commensurate internalization of knowledge. Teachers, as architects of learning, can determine when AI should be used to ensure authentic cognitive development in individual students. This aligns with the concept of learning from a constructivist perspective, where learning is not merely about producing answers but actively constructing meaning (Vygotsky, 1978).

The validity of an assessment depends heavily on the alignment between performance evidence and the ability construct being measured. If students use AI without clear limits on higher-order thinking tasks, for example, the assessment's validity will lose its authenticity. The integration of AI into learning requires adjustments to assessment strategies, where assessments should emphasize performance-based assessment, metacognitive reflection, and dialogue-based evaluation to ensure the accuracy of interpreting students'

abilities (Zhai et al., 2021; Holmes & Tuomi, 2022). This reaffirms that the role of educational authorities also includes ensuring the validity and reliability of learning evaluations in the era of artificial intelligence.

CONCLUSION

This study concludes that teachers experience the widespread use of AI not solely as a loss of informational function, but as a disruption to the value of the learning process and the emergence of a cognitive development gap. Both of which risk producing superficial learning outcomes that do not authentically reflect students' critical thinking. In response, teacher authority is not eliminated but renegotiated through two interrelated roles, as ethical and substantive verifying authorities who safeguard the moral and factual validity of information amid the potential for AI-generated 'hallucinations', and as learning architects who determine the scope and depth of students' cognitive engagement. These findings indicate that in the age of AI, teacher authority is sustained less by the possession of information than by teachers' capacity to verify, contextualize, and ethically guide how information is used and how thinking is developed.

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