



AI-Supported Education and Teachers' Perspectives: Pedagogical Transformation or Loss of Control?

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ABSTRACT

This study aims to examine the views of teachers working at various educational levels in Turkiye regarding AI-supported education, employing a qualitative approach. The study seeks to determine whether teachers perceive artificial intelligence as a tool for pedagogical transformation or as a potential risk leading to a loss of pedagogical control. Conducted within a phenomenological research design, data were collected through semi-structured interviews with 35 teachers working at primary, lower secondary, and upper secondary school levels. The data were analyzed using thematic analysis. The analysis showed that teachers' views clustered around four main themes: perceived pedagogical opportunities and transformation, concerns about pedagogical control and professional autonomy, ethical and responsibility-related issues, and expectations regarding conditions of use and limitations. The findings indicate that teachers do not view AI-supported education as a one-dimensional technological innovation; rather, they conceptualize it as a multilayered phenomenon encompassing pedagogical, professional, and ethical dimensions. While teachers emphasized the potential of artificial intelligence to support personalized learning and instructional processes, they also expressed significant concerns related to algorithmic guidance, professional autonomy, and ethical responsibility. The results suggest that AI-supported education should be addressed within a framework that is teacher-centered, ethically sensitive, and grounded in pedagogical values.

Keywords: AI-supported education, teacher autonomy, pedagogical control, ethical issues, phenomenological research

INTRODUCTION

The rapid advancement of artificial intelligence (AI) technologies in recent years has been transforming education systems not only technically but also across pedagogical and ethical dimensions. In particular, the integration of generative AI applications into learning processes has created new opportunities in instructional design, learning analytics, assessment and evaluation, and guidance practices (Holmes et al., 2022; Luckin et al., 2022; OECD, 2023). While these developments strengthen discourses of personalization and efficiency in

education, they also have significant implications for teachers' roles in the classroom and their pedagogical decision-making processes (Selwyn, 2021).

AI-supported applications in education are considered pedagogical innovations because of their potential to offer personalized learning pathways tailored to learners' individual needs, provide real-time feedback, and enable data-driven monitoring of instructional processes (Kampylis et al., 2015; Zawacki-Richter et al., 2019). International studies indicate that AI-supported systems may have positive effects on learning outcomes (Holmes et al., 2022). However, realizing these effects depends largely on how the technology is pedagogically integrated and how teachers manage and mediate this process (Howard et al., 2015).

At this point, teachers are central actors in AI-supported education. It has long been emphasized that teachers' beliefs, attitudes, and pedagogical assumptions about technology directly influence its classroom use (Ertmer & Ottenbreit-Leftwich, 2010). In the context of artificial intelligence, teachers are not only users of a new tool but must also filter and interpret recommendations from algorithmic systems through a pedagogical lens (Williamson & Eynon, 2020).

Findings in the literature on the impact of AI on teacher autonomy are mixed. Kampylis et al. (2015) report that teachers tend to view AI as a tool that supports decision-making, while critical scholars such as Selwyn (2019) argue that algorithmic guidance may weaken teachers' pedagogical control. These studies suggest that although AI promises pedagogical transformation in education, it also creates new power relations that redefine the teacher's role. Such debates align with critical perspectives that reject the idea of technology as a pedagogically neutral tool. Facer and Selwyn (2021) argue that educational technologies reproduce specific values and priorities. Within this framework, teachers' perceptions of AI reflect not only individual attitudes but also broader pedagogical and ethical positions.

An examination of studies conducted in the Turkish context on the relationship between AI and education shows that research has largely used quantitative designs. For example, discussions of artificial intelligence in education are frequently framed through a technological innovation perspective. This policy-oriented framing may influence how teachers interpret AI technologies within educational contexts. In contrast, qualitative studies based on teachers' perspectives are more common in the international literature. Selwyn (2019), through qualitative research with teachers, demonstrated how AI reshapes pedagogical decision-making processes. However, since these studies were conducted in different educational systems and policy contexts, they do not directly reflect the experiences of teachers in Türkiye. Moreover, the literature highlights the need for comparative studies of teachers' perceptions of AI across different educational levels. As instructional goals and teacher roles differ in primary, lower secondary, and upper secondary education, the meanings attributed to AI-supported applications may also vary (OECD, 2023; Selwyn, 2021). This underscores the importance of qualitative research with heterogeneous samples.

The purpose of this study is to use a qualitative approach to examine the views of teachers working at different educational levels in Türkiye regarding AI-supported education. The study aims to explore whether teachers see AI as a tool for pedagogical transformation or as a risk that could lead to the loss of professional and pedagogical control. In this context, the study seeks to provide a teacher-centered perspective and contribute a contextualized and critical viewpoint to ongoing debates on artificial intelligence in education. In conclusion, the pedagogical impact of AI-supported education is shaped less by the technological affordances themselves than by the experiences and meaning-making processes of teachers who use these technologies in the classroom. Qualitative findings grounded in teachers' perspectives provide a strong analytical basis for understanding whether AI in education represents a pedagogical transformation or a loss of control (Holmes et al., 2022; Williamson & Eynon, 2020). This study aims to further deepen this analytical foundation.

CONCEPTUAL FRAMEWORK

Artificial Intelligence and Pedagogical Transformation in Education

AI-supported applications in education are frequently discussed in the literature within the framework of pedagogical transformation, based on the claim that they make learning processes more adaptive, data-driven, and individualized (Holmes et al., 2022; Luckin et al., 2022). This discourse of transformation assumes that learning is not merely the transmission of content but a process dynamically structured according to learners' needs. Adaptive learning systems, learning analytics, and automated feedback mechanisms create a strong narrative suggesting that instruction can transcend traditional constraints of time, space, and pace (Kampylis et al., 2015). However, the realization of pedagogical transformation depends on integrating technology for pedagogical purposes. The educational technology literature emphasizes that technology does not directly affect learning outcomes; rather, its influence is mediated by teachers (Ertmer & Ottenbreit-Leftwich, 2010). In this respect, artificial intelligence should be seen not as the transformation itself, but as a tool that may enable such a transformation. How teachers interpret AI applications, the contexts in which they use them, and the boundaries they set play a decisive role in shaping the direction of this transformation (Howard et al., 2015).

Teacher Autonomy and Pedagogical Control

Critical approaches to AI-supported education focus on teacher autonomy and pedagogical control. Teacher autonomy is typically defined as the professional capacity of teachers to make decisions about instructional goals, methods, and assessment processes (Selwyn, 2021). The ability of AI systems to generate recommendations, provide guidance, and offer decision-support mechanisms has renewed debates about the limits of this autonomy (Williamson & Eynon, 2020). From this perspective, teachers risk shifting from being pedagogical decision-makers to actors who merely implement outputs produced by algorithms. Selwyn (2019) similarly views this shift as a transformation of teachers' professional identity and classroom authority.

However, the literature also offers more balanced perspectives. Kampylis et al. (2015) argue that AI does not necessarily eliminate teacher autonomy; rather, when appropriately designed and implemented, it can support teachers' decision-making processes. This view is based on the idea of redistributing or sharing pedagogical control, rather than its complete loss. How teachers perceive and experience this redistribution, however, remains a critical empirical question.

A Critical Educational Technology Perspective

A critical educational technology perspective offers a valuable theoretical lens for understanding AI-supported education. This approach views technology not as a neutral tool, but as a construct embedded with specific ideological, economic, and political assumptions (Facer & Selwyn, 2021). The data used to train AI systems, the performance indicators they prioritize, and the learning outcomes they emphasize directly shape the pedagogical process. From a critical standpoint, AI-supported educational practices are often justified through discourses of efficiency, measurability, and standardization. These discourses risk marginalizing the complex, contextual, and human aspects of learning (Selwyn, 2021). Teachers' levels of critical awareness toward these systems are, therefore, a key factor in determining whether AI presents pedagogical risks or opportunities. Within this framework, teachers' perspectives reveal not only how AI-supported education is implemented, but also how it is interpreted and made meaningful. Teachers' experiences are essential for understanding how discourses of pedagogical transformation are translated into classroom practices and how perceptions of control and autonomy are constructed (Holmes et al., 2022; Howard et al., 2015).

Accordingly, this study examines AI-supported education through the intersecting perspectives of pedagogical transformation, teacher autonomy, and critical educational technology. Teachers' positioning of artificial intelligence is analyzed at the intersection of these three theoretical strands. The study is based on the assumption that AI is not an automatic driver of educational progress; rather, it takes on different meanings depending on teachers' perceptions, experiences, and pedagogical values. This theoretical background guided the development of the interview questions used in data collection and informed the interpretation of the themes that emerged during data analysis. Thus, the study aims not only to describe teachers' views but also to interpret them within a robust theoretical framework.

METHOD

Research Design

This study was designed as a qualitative inquiry to examine in depth teachers' experiences with AI-supported education and the meanings they attribute to these experiences. A phenomenological research design was adopted. Phenomenology is a qualitative research approach that explores how individuals experience a particular phenomenon and how they make sense of these experiences (Creswell & Poth, 2018; Moustakas, 1994). This design focuses on describing the essence of participants' shared lived experiences related to a common phenomenon. The rationale for selecting a phenomenological design is that AI-supported education represents not merely a technical application for teachers, but a complex experiential domain encompassing pedagogical, professional, and ethical dimensions. In this study, whether teachers perceive artificial intelligence as an opportunity for pedagogical transformation or as a risk of losing pedagogical control was examined directly through their own experiences and interpretations. From this perspective, the phenomenological approach provides an appropriate framework for making teachers' subjective experiences and meaning-making processes visible (Van Manen, 2016).

Study Group

The study group included 35 teachers working at primary, lower secondary, and upper secondary school levels in Türkiye. Participants were selected using purposive sampling, specifically maximum variation sampling. Purposive sampling involves the deliberate selection of information-rich cases most relevant to the study's purpose (Patton, 2015). Maximum variation sampling aims to capture how a phenomenon is experienced across diverse contexts. The use of maximum variation sampling in this study was intended to reveal similarities and differences in teachers' perceptions of AI-supported education across different educational levels. Since instructional goals, pedagogical roles, and assessment practices vary by educational level, this diversity contributed to a more comprehensive examination of teachers' views. Accordingly, the study group reflects how teachers with diverse professional profiles interpret AI-supported education.

Of the participating teachers, 12 worked at the primary level, 11 at the lower secondary level, and 12 at the upper secondary level. This distribution enabled comparative analysis of teachers' perspectives across educational stages. The participants represented a range of subject areas, including primary education, mathematics, science, Turkish language, social studies, and foreign languages. The participants' professional experience ranged from 3–5 years, 6–10 years, 11–15 years, to 16 years or more. This variation ensured the study captured perspectives from both early-career teachers and those with extensive professional experience regarding AI-supported education. Regarding ethical principles, I strictly followed throughout the research process. Participants were informed of the study's purpose, participation was voluntary, and informed consent was obtained. Participants' identities were kept confidential, data were anonymized, and all data were used exclusively for scientific purposes. **Table 1** shows detailed information on the participants' demographic characteristics.

Table 1. Demographic Characteristics of the Participants

Variable	Category	n
Educational Level	Primary School	12
	Lower Secondary School	11
	Upper Secondary School	12
Professional Experience	3–5 years	8
	6–10 years	10
	11–15 years	9
	16 years and above	8
Subject Area	Primary School Teaching	9
	Mathematics	7
	Science	6
	Turkish Language	6
	Social Studies	4
	Foreign Language	3
Total		35

Note. *n* indicates the number of participants

Data Collection Instrument

A semi-structured interview form (**Appendix 1**) was used as the data collection instrument in this study. Semi-structured interviews allow participants to describe their experiences in detail while providing the researcher with flexibility to probe further according to predetermined themes (Creswell & Poth, 2018). The interview questions were developed by the researcher based on the theoretical framework of the study and the relevant literature on artificial intelligence in education. Previous studies examining pedagogical transformation, teacher autonomy, and ethical implications of artificial intelligence in educational contexts informed the development of the interview protocol (Holmes et al., 2022; Selwyn, 2021). The questions were designed to explore teachers' perceptions of artificial intelligence-supported education in terms of pedagogical opportunities, pedagogical control, professional autonomy, and ethical concerns. Prior to the main data collection, the interview protocol was reviewed and refined to ensure clarity and relevance.

During the development of the interview form, the relevant literature was reviewed, and a set of draft questions was created. To ensure content validity, expert opinions were obtained, and the wording of the questions was refined based on the feedback received to improve clarity and alignment with the research purpose.

Data Collection Process

Data were collected between March and May 2025 through individual semi-structured interviews conducted on a voluntary basis. Depending on participants' preferences and availability, the interviews were carried out either face-to-face or online. Each interview lasted approximately 30–45 minutes. All interviews were

conducted by the researcher and audio-recorded with participants' consent to ensure accuracy in data transcription and analysis. Each interview lasted approximately 30–45 minutes and was audio-recorded with participants' consent. During the interviews, a non-directive approach was used to allow participants to express their views freely, and clarifying or probing questions were asked when necessary to deepen the discussion. After data collection, all interview recordings were transcribed verbatim. A total of 35 teachers working at different educational levels in Türkiye participated in the study. Participants' demographic characteristics were described by educational level, subject area, and length of professional experience. This diversity was intended to capture how teachers' views on AI-supported education are shaped across different contexts.

Data Analysis

The data obtained in the study were analyzed using thematic analysis. Thematic analysis systematically identifies recurring patterns, meaningful codes, and themes within qualitative data (Braun & Clarke, 2006). The analysis process included several stages: careful reading of the data, generation of initial open codes, and organization of similar codes into subthemes and overarching themes. To ensure the reliability and trustworthiness of the analysis, the coding process was conducted systematically and reviewed multiple times by the researcher. The consistency of codes and themes was carefully examined during the analysis process. In addition, direct quotations from participants were included in the findings section to enhance transparency and allow readers to evaluate the connection between the data and the interpretations. During coding, teachers' statements were coded with attention to their meaning and contextual coherence, and the relationships between codes and themes were continuously reviewed. MAXQDA qualitative data analysis software was used to systematize the coding process and enhance the traceability of relationships among themes.

Trustworthiness

In this study, trustworthiness was ensured by following the qualitative research criteria of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). To enhance credibility, sufficient time was spent with participants during interviews, and teachers were encouraged to describe their experiences in detail. During data analysis, the alignment between emergent themes and participants' statements was continuously examined. In the findings section, direct quotations were included to ground interpretations in the data (Creswell & Poth, 2018). Transferability was strengthened by providing detailed descriptions of the study group, sampling strategy, data collection procedures, and stages of analysis. This thick description enables researchers and practitioners in similar contexts to assess the applicability of the findings (Lincoln & Guba, 1985). To ensure dependability, the research process was conducted systematically, and data collection and analysis were guided by the predefined theoretical framework. Decisions made during coding and theme development were documented through research memos, enhancing the auditability of the process (Miles, Huberman, & Saldaña, 2014). Confirmability was addressed by ensuring that the findings were grounded in the data rather than the researcher's subjective interpretations. The coding process and thematic structure were documented in MaxQDA, and direct quotations were included to allow readers to compare interpretations with the original data (Lincoln & Guba, 1985).

FINDINGS

This section presents the findings from interviews with teachers working at different educational levels in Türkiye. Thematic analysis identified four main themes regarding teachers' views on AI-supported education. **Table 2** shows these themes and the distribution of participants expressing views within each theme.

Table 2. Themes and Distribution of Participants Expressing Views

Theme No.	Theme	Participants Expressing Views	n
1	Perceived pedagogical opportunities and transformation	T1, T3, T5, T7, T9, T12, T14, T17, T21, T24, T27, T30, T33	13
2	Concerns regarding pedagogical control and professional autonomy	T2, T6, T8, T10, T13, T15, T18, T19, T23, T26, T29, T31, T34	13
3	Ethical and responsibility-related issues	T4, T8, T11, T16, T20, T25, T28, T31	8
4	Expectations regarding conditions of use and limitations	T1, T6, T9, T15, T18, T22, T27, T32, T35	9

Note. n indicates the number of participants. Participant codes (e.g., T1, T2) were used to ensure anonymity.

Theme 1: Perceived Pedagogical Opportunities and Transformation

A substantial proportion of teachers evaluated AI-supported applications as tools that support instructional processes and possess transformative pedagogical potential. Within this theme, teachers' views clustered around three subthemes: support for personalized learning, contribution to instructional planning, and enhancement of assessment and evaluation processes.

Support for Personalized Learning

Teachers emphasized that AI-supported systems are capable of offering differentiated learning opportunities aligned with students' learning pace and individual needs. This potential was considered a significant pedagogical opportunity, particularly in heterogeneous classroom contexts where teachers experience difficulty addressing all students simultaneously. Selected excerpts illustrating this subtheme are presented below:

"Not everyone in the classroom is at the same level. AI-supported applications can offer alternative pathways for students who struggle." (T12)

"While some students progress very quickly, others fall behind. With AI, I can see these differences more clearly." (T33)

These statements indicate that teachers position artificial intelligence as a tool that makes individual differences more visible and supports instruction accordingly.

Contribution to Instructional Planning

Some teachers stated that AI-supported systems provide guidance in planning instructional processes and organizing lesson content. In particular, the analytical feedback generated from student performance data was reported to contribute to the continuous updating of instructional plans. Examples of teachers' views related to this subtheme are provided below:

"I can clearly see which topics students struggle with and where I need to slow down. This helps me adjust my lesson plans accordingly." (T5)

"Things we used to do based on intuition can now be done by looking at data. This is a significant convenience for me." (T21)

These views suggest that AI is perceived as a planning tool that supports teachers' pedagogical decision-making processes. For example, several participants indicated that AI could assist teachers in preparing lesson

plans, generating instructional materials, or designing assessment activities. One teacher stated that AI could “help organize lesson content and provide different activity ideas for students.” However, not all participants viewed this role in the same way. While some teachers considered AI a useful support tool for instructional planning, others emphasized that such tools should remain advisory and should not replace teachers’ professional judgment during the planning process.

Enhancement of Assessment and Evaluation Processes

Some teachers highlighted that AI plays a time-saving and analytical role in assessment and evaluation processes. The rapid analysis of exam results and the provision of learning-outcome-based feedback were considered pedagogically valuable. Selected excerpts illustrating this subtheme are presented below:

“After an exam, it becomes immediately clear which learning outcomes are problematic. This used to take a lot of time.” (T27)

“Assessment becomes more concrete. I can show students what they need to revise and why.” (T14)

These findings indicate that teachers regard AI as a tool that supports assessment and evaluation processes and contributes to instructional improvement. For instance, participants noted that AI could help generate quizzes and exam questions, analyze student responses, detect common misconceptions, and provide rapid feedback on assignments. Some teachers also suggested that AI-based systems could monitor students’ progress over time and identify learning gaps. Such applications were perceived as useful for informing instructional planning and enabling teachers to adjust their teaching strategies according to students’ needs.

Theme 2: Concerns Regarding Pedagogical Control and Professional Autonomy

A significant number of teachers expressed concerns that AI-supported applications may entail risks related to the transfer of pedagogical control and the erosion of professional autonomy. Within this theme, teachers’ views clustered around three subthemes: dependency on algorithmic guidance, the narrowing of teachers’ decision-making roles, and concerns related to professional identity and the meaning of teaching.

Dependency on Algorithmic Guidance

Some teachers voiced concerns that recommendations offered by AI systems may gradually turn into compulsory directives that shape pedagogical preferences. This concern was articulated through the risk of increasing dependency on algorithmic outputs in instructional processes. Selected excerpts are presented below:

“At first it is presented as a recommendation, but over time we may be forced to do whatever the system suggests.” (T8)

“I worry that after a while we will rely more on the system’s recommendations than on our own decisions.” (T10)

These statements point to the possibility that teachers may perceive AI-supported systems as an authoritative force rather than as pedagogical support. Some participants expressed concern that AI-generated recommendations might gradually influence teachers’ instructional decisions. For instance, one teacher stated,

“If the system constantly suggests what to do, teachers might feel pressured to follow those suggestions.” (T12).

Another participant emphasized that excessive reliance on AI could undermine teachers' professional judgment, noting that

"AI should guide us, but it should not dictate how we teach." (T7).

Such views suggest that while teachers recognize the potential benefits of AI, they remain cautious about its possible influence on pedagogical autonomy.

Narrowing of the Teacher's Decision-Making Role

Teachers noted that the increasing automation of instructional decisions through AI-supported applications may restrict teachers' pedagogical initiative. In particular, concerns were raised regarding decisions about how lessons are conducted, which instructional methods are selected, and which students need what kind of support. Examples of teachers' views are presented below:

"If the system decides how the lesson should be taught, the teacher's role becomes reduced." (T13)

"If teachers are pushed into the background in decision-making, teaching turns into mere implementation." (T19)

These views suggest that some teachers may perceive AI not only as a support mechanism but also as a factor that could constrain pedagogical decision-making. As one participant stated,

"If the system constantly suggests certain methods, teachers may feel compelled to follow them." (T9).

Another teacher expressed a similar concern, noting that

"AI can be useful, but it should not determine how we teach." (T14).

Such statements indicate that while teachers recognize the potential benefits of AI, they remain cautious about its possible influence on their professional autonomy.

Concerns About Professional Identity and the Meaning of Teaching

Some teachers expressed that a reduction in pedagogical control could undermine the professional identity and meaning of teaching. Teaching was described not merely as a set of technical practices, but as a profession grounded in intuition, experience, and classroom interaction. Selected excerpts are provided below:

"Teaching is not just about applying outputs. Intuition and experience are very important." (T29)

"If everything is left to algorithms, the soul of teaching disappears." (T6)

These statements indicate that teachers frame the impact of AI-supported applications not only as a functional issue, but also as a professional and value-laden concern.

Theme 3: Ethical and Responsibility-Related Issues

Another prominent theme in teachers' views concerned ethical concerns and uncertainties regarding responsibility in the use of AI-supported education. Teachers emphasized that, alongside pedagogical benefits, AI applications involve risks that require careful consideration, particularly in relation to student rights and professional responsibility. This theme comprised three subthemes: data security and privacy, algorithmic errors and responsibility sharing, and concerns about justice and equity.

Data Security and Privacy

A considerable number of teachers raised concerns about data security and privacy due to the extensive processing of students' personal and academic data by AI-supported systems. These concerns were particularly related to uncertainties about who can access the data and for what purposes it is used. Selected excerpts are presented below:

"Students' grades, behaviors, and even learning speeds are entered into the system, but we do not know where this data is stored." (T4)

"The possibility that so much information about children could be used elsewhere makes me uncomfortable." (T20)

These statements indicate that teachers regard student privacy as a fundamental ethical principle alongside pedagogical utility.

Algorithmic Errors and Responsibility Sharing

Some teachers pointed to ambiguities regarding responsibility in cases where AI-generated recommendations are incorrect or incomplete. Teachers expressed concern that they may ultimately be held accountable for pedagogical consequences stemming from system-related errors. Examples are provided below:

"If the system gives incorrect guidance, who will be held accountable?" (T31)

"In the end, the teacher is in the classroom, but if decisions come from the system, responsibility is not shared fairly." (T16)

These views suggest that teachers perceive ethical responsibility boundaries in AI-supported education as insufficiently defined.

Concerns About Justice and Equity

Some teachers expressed concerns about whether AI systems provide equal opportunities for all students. In particular, concerns were raised that data-driven systems may make certain student profiles more visible while marginalizing others. Selected excerpts are presented below:

"The system mostly focuses on what can be measured, but not every student's situation is the same." (T11)

"Some students become more visible in the system, while others fall behind." (T28)

These statements highlight that teachers consider justice and equity to be central ethical dimensions when evaluating AI-supported applications.

Theme 4: Expectations Regarding Conditions of Use and Limitations

Most teachers stated that they are not categorically opposed to AI-supported educational applications; however, they emphasized that such applications should be used within clearly defined principles, conditions, and boundaries. Within this theme, teachers' views clustered around three subthemes: the teacher as the final decision-maker, the need for clear guidance and policy, and limitations to pedagogical purposes.

The Teacher as the Final Decision-Maker

Teachers emphasized that AI-supported systems may be used as supportive tools in instructional processes, but that ultimate responsibility for pedagogical decisions should remain with teachers. This view reflects the positioning of AI as a tool that supports, rather than replaces, teachers. Selected excerpts are presented below:

“AI can make suggestions, but the final decision should always belong to the teacher.” (T15)

“As long as control remains with the teacher, AI can be useful.” (T22)

These statements demonstrate that teachers view maintaining pedagogical control as a fundamental principle.

Need for Clear Guidance and Policy

Some teachers stated that there is a lack of clear guidance regarding how, when, and for what purposes AI-supported applications should be used. This absence was perceived as leading to inconsistent practices among teachers. Selected excerpts are provided below:

“There is no clear framework for how it should be used. Everyone uses it differently.” (T32)

“If there are no rules, bigger problems will arise in the future.” (T35)

These views indicate teachers’ expectations for institutional and policy-level guidance on AI use.

Limitation to Pedagogical Purposes

Teachers emphasized that AI-supported applications should be limited strictly to pedagogical purposes. In particular, administrative, supervisory, or teacher-evaluative uses were considered problematic. Selected excerpts are presented below:

“It makes sense if it is used to support students, but using it to monitor teachers is not appropriate.” (T6)

“The purpose should be to support learning, not to control.” (T18)

These statements suggest that teachers position AI-supported education within an instrumental and clearly bounded pedagogical framework.

DISCUSSION

This study examined in depth the views of teachers working at different educational levels in Türkiye regarding AI-supported education. The findings show that teachers do not conceptualize artificial intelligence as either a one-dimensional vehicle for pedagogical progress or an absolute threat. Instead, they interpret it in a multilayered way along the axes of pedagogical transformation, control, ethics, and professional identity. This demonstrates how the frequently cited “opportunity–risk dichotomy” in the AI and education literature becomes concrete through teachers’ lived experiences (Holmes et al., 2022; Selwyn, 2021). Similarly, recent research exploring teachers’ perspectives on AI indicates that educators tend to approach AI technologies with both optimism about pedagogical opportunities and caution about their implications for teaching practices (Nogaibayeva & Yersultanova, 2025; Su & Yang, 2024).

The findings indicate that a considerable proportion of teachers view AI-supported applications as a pedagogical opportunity, particularly for supporting personalized learning, facilitating instructional planning, and enhancing assessment and evaluation processes. This closely aligns with international literature suggesting that AI can make learning more adaptive and data-driven (Holmes et al., 2022; OECD, 2023; Zawacki-Richter et al., 2019). Teachers in the present study emphasized that AI can assist in generating instructional materials, organizing lesson plans, and providing feedback on student learning. Similar findings have been reported by Su and Yang (2024), who found that teachers perceived generative AI tools such as ChatGPT as useful for producing instructional ideas and supporting classroom activities. Likewise,

Nogaibayeva and Yersultanova (2025) reported that language teachers viewed AI-supported tools as valuable resources for instructional preparation and material development.

Teachers' positioning of AI as a supportive tool in heterogeneous classroom contexts further suggests that pedagogical transformation is not simply a technological promise detached from classroom realities. This supports studies emphasizing that the pedagogical impact of technology arises not directly from the tool itself, but from its use in alignment with teachers' pedagogical purposes (Ertmer & Ottenbreit-Leftwich, 2010; Howard et al., 2015). Accordingly, the present study indicates that AI does not automatically generate pedagogical transformation; rather, transformation is shaped by teachers' professional judgments (Luckin et al., 2022). Similar conclusions were reached by Açıkyıldız and Şahin (2025), who found that preservice mathematics teachers also viewed AI primarily as a supportive pedagogical tool rather than as a substitute for teachers' instructional roles.

These findings also suggest that AI is welcomed when it is perceived not as a substitute for teachers, but as a resource that expands teachers' pedagogical capacity. In this sense, optimistic narratives about AI in education become meaningful only within a teacher-centered framework (Kampylis et al., 2015; OECD, 2023). At the same time, previous research highlights that teachers' acceptance of AI is closely related to the availability of professional support and training opportunities (Aravantinos et al., 2026). Their systematic review indicates that teachers often require structured professional development in order to integrate AI tools meaningfully into pedagogical practices.

Pedagogical Control and Teacher Autonomy: The Limits of Algorithmic Power

One of the most important findings of the study concerns teachers' apprehensions that AI-supported applications may weaken pedagogical control. Teachers expressed concerns that recommendations generated by algorithmic systems could gradually become compulsory directives shaping pedagogical decisions. This finding closely aligns with critical scholarship that conceptualizes AI in education as "algorithmic governance" and "data-driven control" (Knox, 2020; Williamson & Eynon, 2020).

Teachers' focus on the question of "who holds the final decision" indicates that AI is seen not only as a technical tool but also as a mechanism that redistributes power within pedagogical processes. This supports Selwyn's (2021) argument that AI does not necessarily eliminate teacher autonomy, but rather reconfigures its boundaries. Similar concerns were also identified in studies examining teachers' experiences with AI-supported tools. For instance, Nogaibayeva and Yersultanova (2025) found that teachers emphasized the importance of maintaining professional judgment when using AI-generated suggestions in instructional contexts. Likewise, the qualitative study comparing educational administrators' and teachers' perspectives on AI use in language learning reported that teachers were more cautious than administrators about potential impacts on pedagogical autonomy (Dao et al., 2025).

At the same time, the absence of a wholly oppositional stance among teachers suggests that their concerns are not rooted in technophobia but in a sense of pedagogical responsibility. As Kampylis et al. (2015) note, AI can function as a tool to support teacher decision-making; however, when this support begins to replace teachers' pedagogical judgment, perceptions of loss of control emerge. The present study is significant in demonstrating that teachers recognize this boundary with notable clarity.

Professional Identity and the Ontological Dimension of Teaching

A distinctive contribution of this study is its deepening of the discussion on AI through the lens of professional identity and the meaning of teaching. Teachers described teaching not simply as the implementation of data-driven decisions, but as a profession involving intuition, experience, relationships, and contextual knowledge.

This finding aligns with phenomenological and critical educational approaches that emphasize the human and relational dimensions of teaching (Biesta, 2022; Van Manen, 2016).

Within this framework, teachers view AI not only as a tool that supports pedagogical processes but also as a factor that may redefine the ontological boundaries of teaching. Teachers' emphasis on the "soul of teaching" indicates that AI-supported education involves not only technical change, but also cultural and professional transformation. This is a significant contribution to the professional identity dimension, which is often underemphasized in the AI and education literature (Biesta, 2022; Selwyn, 2021).

Ethics, Responsibility, and Accountability: The Shadow Zones of AI

Teachers' significant ethical concerns highlight that the pedagogical effects of AI-supported education are unlikely to be sustainable without ethical governance mechanisms. Data security, student privacy protection, and uncertainty about responsibility in cases of algorithmic error emerged as major concerns. These findings support scholarship emphasizing the ethical dimension of AI (Floridi et al., 2018; UNESCO, 2023). Similar ethical concerns have also been reported in empirical research examining teachers' interactions with AI tools in classroom contexts (Nogaibayeva & Yersultanova, 2025; Su & Yang, 2024). In particular, teachers' concerns about responsibility sharing suggest that AI-supported systems may intensify accountability issues in education. The possibility of teachers being held responsible for the pedagogical consequences of system-generated decisions is seen as unfair. This underscores the need for clearly defined roles and responsibilities in AI-supported educational practices (OECD, 2023; UNESCO, 2023).

Conditional Acceptance and Limitation: Toward a Teacher-Centered Conception of AI

One key finding is that teachers' attitudes toward AI are shaped by a framework of conditional acceptance. Teachers stated that AI-supported applications can be used when they serve pedagogical purposes, when teachers remain the final decision-makers, and when use is guided by clear policies. This indicates that teachers take a critical and informed stance rather than a technologically deterministic one (Biesta, 2022; Facer & Selwyn, 2021). This perspective implies that the future of AI-supported education should be shaped by teacher-centered models grounded in pedagogical values, rather than by designs that marginalize teachers. Teachers' calls for policy and guidance reflect a strong awareness that leaving AI use to individual initiative may create pedagogical and ethical problems in the long term. Moreover, recent research suggests that the educational impact of AI tools ultimately depends on how teachers integrate them into pedagogical contexts and how students engage with these technologies (Chukwu et al., 2026). Therefore, teachers' professional agency and pedagogical judgment remain central in shaping the role of AI in education.

CONCLUSION

This study examined the views of teachers working at different educational levels in Türkiye regarding AI-supported education using a qualitative approach. The findings revealed four main themes in teachers' perspectives: pedagogical opportunities and perceptions of transformation, concerns about pedagogical control and professional autonomy, ethical and responsibility-related issues, and expectations regarding conditions and limitations of AI use in education. Teachers emphasized that AI could support instructional planning, assessment practices, and individualized learning processes. However, they also expressed concerns about excessive reliance on algorithmic recommendations, potential constraints on professional autonomy, and ethical issues such as data privacy and responsibility. From the teachers' perspective, artificial intelligence is therefore neither an unconditional pedagogical solution nor an absolute threat.

The findings indicate that teachers view AI-supported applications as pedagogical opportunities, particularly for supporting personalized learning, facilitating instructional planning, and enhancing assessment and evaluation processes. These results show that the pedagogical value of AI is shaped by classroom needs and teachers' professional judgments. When positioned as a tool that supports pedagogical processes, AI is evaluated more positively by teachers. At the same time, the study reveals strong concerns among teachers about pedagogical control and professional autonomy. Teachers expressed apprehension that recommendations generated by algorithmic systems may gradually become mandatory directives shaping pedagogical decisions. These concerns suggest that AI is seen not merely as a technical innovation, but as a force that could potentially redefine teacher autonomy and professional roles in education.

One of the most salient findings of the study is that teachers frame discussions about AI in relation to professional identity and the meaning of teaching. Teaching was described not as the implementation of data-driven decisions alone, but as a fundamentally human profession shaped by intuition, experience, and classroom interaction. This underscores the need to consider the pedagogical implications of AI-supported education in relation to the ontological dimensions of teaching. Ethical and responsibility-related issues also occupy a central place in teachers' perspectives. Data security, protection of student privacy, and ambiguities regarding responsibility in cases of algorithmic error emerged as key concerns. These findings indicate that the pedagogical benefits of AI-supported education can be sustained only through robust ethical frameworks and clearly defined accountability structures.

Overall, the results show that teachers' attitudes toward AI are shaped by conditional acceptance. Teachers stated that AI-supported applications may be used when they serve pedagogical purposes, when teachers remain the final decision-makers, and when their use is guided by clear policies and frameworks. This stance reflects not resistance to technology, but a critical, cautious, and pedagogically value-sensitive approach. By examining teachers' views on AI-supported education in depth within the Turkish context, this study makes a significant contribution to the literature. The findings reveal, from a teacher-centered perspective, the gap between the optimistic rhetoric often emphasized in AI-related policy documents and the realities of classroom practice. In this respect, the study underscores the importance of addressing AI and education debates within a teacher-centered, ethically sensitive, and contextually grounded framework. In conclusion, the future of AI-supported education will be shaped more by the experiences, pedagogical values, and professional judgments of teachers who use these technologies in classrooms than by the technical capacities of the technology itself. This teacher-centered qualitative study shows that the question of whether AI in education represents a pedagogical transformation or a risk of losing control can only be meaningfully addressed within an educational paradigm where teachers remain active agents.

RECOMMENDATIONS

The findings show that teachers assess AI-supported education not only in terms of pedagogical opportunities but also through the interconnected dimensions of control, ethics, and professional identity. Given this multidimensional structure, recommendations for AI-supported education should go beyond technical arrangements and instead adopt a holistic approach at the levels of policy, practice, and research.

Recommendations for Educational Policy

The findings indicate that teachers need clear, binding, and pedagogically grounded policies for AI-supported educational practices. Educational policies should position AI as a tool that supports teachers, not as a system that replaces them. Policy documents that explicitly affirm teachers' ultimate responsibility for pedagogical decisions may help alleviate concerns about professional autonomy. Additionally, ethical frameworks for AI-supported education should be clarified at the policy level. The purposes for which student data are collected, how they are stored, and who has access to them should be explicitly defined. Regulations should also address

how responsibility is shared in cases of algorithmic error, thereby reducing teachers' concerns about ethical and legal uncertainty. In countries with centralized education systems, preparing guidance documents is also important to prevent inconsistent and divergent uses of AI-supported applications among teachers. Such guidance should not impose prescriptive "do's and don'ts," but instead provide orienting frameworks grounded in pedagogical principles.

Recommendations for Educational Practice

The results indicate that teachers want to use AI-supported applications for pedagogical purposes and to address classroom needs. Therefore, classroom use of AI should be designed as a support mechanism that reinforces teachers' pedagogical judgments. Flexible systems that enable teachers to critically evaluate algorithmic outputs may improve perceptions of pedagogical control. Teacher education should not treat AI only as a technical skill domain. Both pre-service and in-service teacher education should address the pedagogical, ethical, and professional dimensions of AI-supported applications in an integrated way. It is especially important to develop teachers' abilities to question algorithmic recommendations, adapt them to the classroom context, and reject them when necessary. Moreover, supporting collective decision-making mechanisms at the school level may reduce individual uncertainties related to AI use. Professional learning communities can provide spaces for teachers to share experiences, contributing to more informed and consistent pedagogical use of AI-supported applications.

Recommendations for Future Research

As a qualitative study based on teachers' perspectives, this research examined the pedagogical and professional dimensions of AI-supported education in depth. Future studies should extend these findings using different research designs. In particular, mixed-methods research may provide a more comprehensive understanding of the relationship between teachers' perspectives and classroom practices. Comparative studies that include the perspectives of multiple stakeholders – school leaders, students, parents, and policymakers – could provide a more polyvocal view of AI-supported education. Research examining how teachers' perceptions align with students' learning experiences may further clarify the pedagogical effects of AI. There is also a need for longitudinal research to examine the long-term effects of AI-supported education. Studies tracking how teacher autonomy, professional identity, and pedagogical decision-making processes change over time would offer valuable insights into whether AI represents a lasting transformation or a temporary innovation in education.

Limitations

This study explored teachers' views on AI-supported education in Türkiye through a qualitative approach. Although the findings provide valuable insights into the pedagogical, professional, and ethical dimensions of AI-supported education, several limitations should be acknowledged. First, the study group consisted of 35 teachers, and therefore, the findings cannot be generalized to the entire teacher population. Second, the data were based solely on teachers' perspectives, excluding the views of other stakeholders such as students, school leaders, and policymakers. Finally, the study relied exclusively on interview data, which reflect participants' perceptions rather than direct observations of classroom practices. Future research may address these limitations by including multiple stakeholders and employing mixed-methods designs to explore both the depth and prevalence of teachers' views. Longitudinal studies could also examine how teachers' perceptions of AI evolve as technological developments continue. Additionally, comparative studies across different national contexts may help identify how cultural and institutional factors shape teachers' perceptions of AI-supported education.

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AI statement: The authors used the ChatGPT for language check and text polishing. After using this AI tool, I reviewed and verified the final version of our work. I take full responsibility for the content of my published work.

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