

Algorithmic Authority and the Reconstitution of English Language Curriculum: A Critical Study of AI-Mediated Pedagogy

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ABSTRACT

The integration of artificial intelligence (AI) in English language education has significantly transformed pedagogical practices and raised critical questions about authority, knowledge construction, and curriculum design. This study aims to examine how algorithmic authority reshapes the English language curriculum within AI-mediated pedagogical environments. Employing a critical qualitative case study design, The research applies Norman Fairclough's Critical Discourse Analysis (CDA) model to explore power relations and knowledge production embedded in interactions among AI systems, teachers, and learners. Data were collected through curriculum document analysis using document analysis protocols, classroom observations using observation sheets, and in-depth interviews guided by semi-structured interview protocols. The findings reveal that AI-driven systems enhance personalization, efficiency, and accessibility, while simultaneously redistributing pedagogical authority from teachers to algorithmic systems. The study also identifies a paradox in which AI promotes learner autonomy but increases the risk of over-reliance and reduced critical engagement. In addition, issues of bias, inclusivity, and ethical accountability emerge due to standardized linguistic norms and opaque algorithmic processes. These findings imply that AI should be positioned not merely as a technical tool but as an epistemic agent that shapes curriculum and learning practices. Therefore, a balanced and human-centered pedagogical model is essential to ensure that technological innovation supports critical thinking, inclusivity, and meaningful learning.

Keywords: Artificial Intelligence, Algorithmic Authority, English Language Curriculum, AI-Mediated Pedagogy, Critical Discourse Analysis.



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1. INTRODUCTION

The rapid advancement of digital technologies, particularly Artificial Intelligence (AI), has significantly transformed the landscape of English language education, not only at the level of instructional practices but also within the epistemological foundations of the curriculum itself. The integration of AI into language learning has fundamentally altered how knowledge is produced, disseminated, and validated, thereby giving rise to new forms of authority that are no longer exclusively cantered on human educators. In this context, algorithm-driven systems increasingly play a strategic role in shaping learning processes through personalized content delivery, automated feedback mechanisms, and data-driven assessment systems (Holmes & Tuomi, 2022). Such developments suggest that the English language curriculum can no longer be understood as a static pedagogical document, but rather as a dynamic entity continuously reconstituted through complex interactions between human agents and technological systems.

Moreover, the presence of AI has facilitated the emergence of more adaptive learning practices while simultaneously fostering increased dependence on complex digital infrastructures (Tuomi, 2018). Within this evolving landscape, the boundaries between human and machine agency become increasingly blurred, necessitating a redefinition of the roles of both teachers and learners. Furthermore, these transformations underscore that curricular change is not merely technical but also ideological, as it involves questions of authority in determining what constitutes legitimate knowledge (Selwyn, 2019). Therefore, it is imperative to critically examine how AI integration not only enhances pedagogical practices but also reshapes the epistemological structure of English language curricula.

The concept of algorithmic authority provides a crucial analytical framework for understanding how AI-based systems gain legitimacy in shaping the direction of English language learning. This concept refers to the trust placed in algorithms to generate, organize, and validate knowledge, leading their outputs to be perceived as objective and reliable (Williamson, 2017; Gillespie, 2014). In practice, algorithmic authority operates implicitly through various mechanisms, including content recommendation systems, performance analytics, and automated assessment tools that directly or indirectly influence pedagogical decision-making. This indicates that algorithms function not merely as supportive tools but as influential actors that significantly shape learners' educational experiences (Beer, 2017; Selwyn, 2019). However, the rise of algorithmic authority also introduces critical concerns, particularly regarding issues of transparency, bias, and accountability (Kohnke et al., 2023; Zawacki-Richter et al., 2019). Many AI systems operate as "black boxes," making it difficult to trace and fully understand how decisions are generated and to what extent biases may influence outcomes. In the context of English language education, this may affect content selection, assessment standards, and the construction of what is considered ideal linguistic competence. Consequently, a critical examination of algorithmic authority is essential to uncover how technology not only facilitates learning but also shapes power relations embedded within the curriculum.

The transformation of English language curricula in the digital era is also closely linked to the emergence of AI-mediated pedagogy, in which technology is positioned as an integral component of the learning process rather than merely a supplementary tool. Within this framework, interactions between learners and instructional content are largely mediated by digital systems. As a result, the role of teachers is shifting from primary sources of knowledge to facilitators who manage interactions between learners and technological platforms (Holmes et al., 2021; Luckin, 2018). While this shift offers opportunities for enhanced efficiency and personalized learning, it also raises concerns about the potential erosion of the humanistic dimension of language education (Selwyn, 2019; Biesta, 2022). Furthermore, the use of AI in language learning may reshape how learners conceptualize language as a social practice, as interactions become increasingly individualized and algorithmically structured (Macalister & Nation, 2019; Zawacki-Richter et al., 2019). This may diminish the dialogic, interactive, and contextual elements that have traditionally been central to language learning. Therefore, it is necessary to critically evaluate the pedagogical implications of AI integration, particularly in relation to the broader goals of language education, which extend beyond linguistic competence to include communicative and intercultural capabilities.

In the context of higher education in Indonesia, the integration of technology into English language curricula continues to face complex structural and cultural challenges, including issues related to policy, infrastructure, and human resource readiness. Although various initiatives have been introduced to promote digitalization in education, their implementation often remains

fragmented and lacks a robust conceptual foundation (Rintaningrum, 2023). Many educational institutions adopt technological tools in an instrumental manner without fully considering their epistemological and pedagogical implications. In addition, varying levels of digital literacy among educators and students pose significant barriers to the effective integration of technology in learning processes (Science & Policy, 2017). This suggests that curriculum transformation requires not only technological innovation but also a paradigmatic shift in how technology is understood within educational contexts. Without a critical and reflective approach, the integration of AI risks reinforcing dependency on opaque technological systems while exacerbating inequalities in access and learning quality. Therefore, strategic efforts are needed to develop English language curricula that are not only responsive to technological advancements but also grounded in essential pedagogical values.

Based on the foregoing discussion, it can be concluded that the transformation of English language curricula in the algorithmic era represents a complex and multidimensional phenomenon involving the interplay of technology, pedagogy, and power. While a growing body of research has addressed the integration of technology in language learning, significant gaps remain in understanding how algorithmic authority fundamentally reshapes curricular structures. Most existing studies tend to focus on technical and practical dimensions, leaving critical issues related to epistemology and power relations underexplored. Therefore, this study aims to critically examine how algorithmic authority reconstructs English language curricula through AI-mediated pedagogical practices. By adopting a critical approach, this research seeks to uncover the underlying power dynamics embedded in the use of educational technologies. Furthermore, it aims to contribute to the development of a more comprehensive conceptual framework for understanding the relationship between technology and curriculum. Ultimately, the findings of this study are expected to offer both theoretical and practical contributions toward the development of English language curricula that are more critical, adaptive, and future-oriented.

2. METHODS

This study employs a critical qualitative approach using a case study design to explore in depth the role of AI-mediated pedagogy in shaping English language curriculum practices. The approach is selected to critically examine how algorithmic authority influences the construction, implementation, and transformation of curriculum structures. Critical Discourse Analysis (CDA) using Norman Fairclough's model is used as the primary analytical framework to reveal power relations, ideological constructions, and knowledge production embedded in interactions among technology, educators, and students.

Data are collected from three main sources: curriculum documents integrating artificial intelligence technologies using document analysis protocols, classroom observations of AI-supported learning environments using observation sheets, and interviews with teachers and students using semi-structured interview guidelines and in-depth interviews with 10 lecturers and 20 students selected through purposive sampling from higher education institutions implementing AI-supported learning systems as key participants in the learning process. These multiple data sources are used to provide a comprehensive understanding of how AI-mediated pedagogy operates within English language education contexts. Data collection is conducted in a naturalistic setting without manipulating the learning environment.

Data analysis follows several stages, including open coding, thematic categorization, and interpretive analysis based on CDA principles. This process is aimed at identifying patterns of algorithmic influence, shifts in pedagogical roles, and implications for curriculum design and

development. To ensure trustworthiness, the study applies triangulation of data sources, member checking, and an audit trail throughout the research process. The findings are then synthesized to construct a critical understanding of curriculum transformation in the context of AI-driven educational environments, as shown in Figure 1.

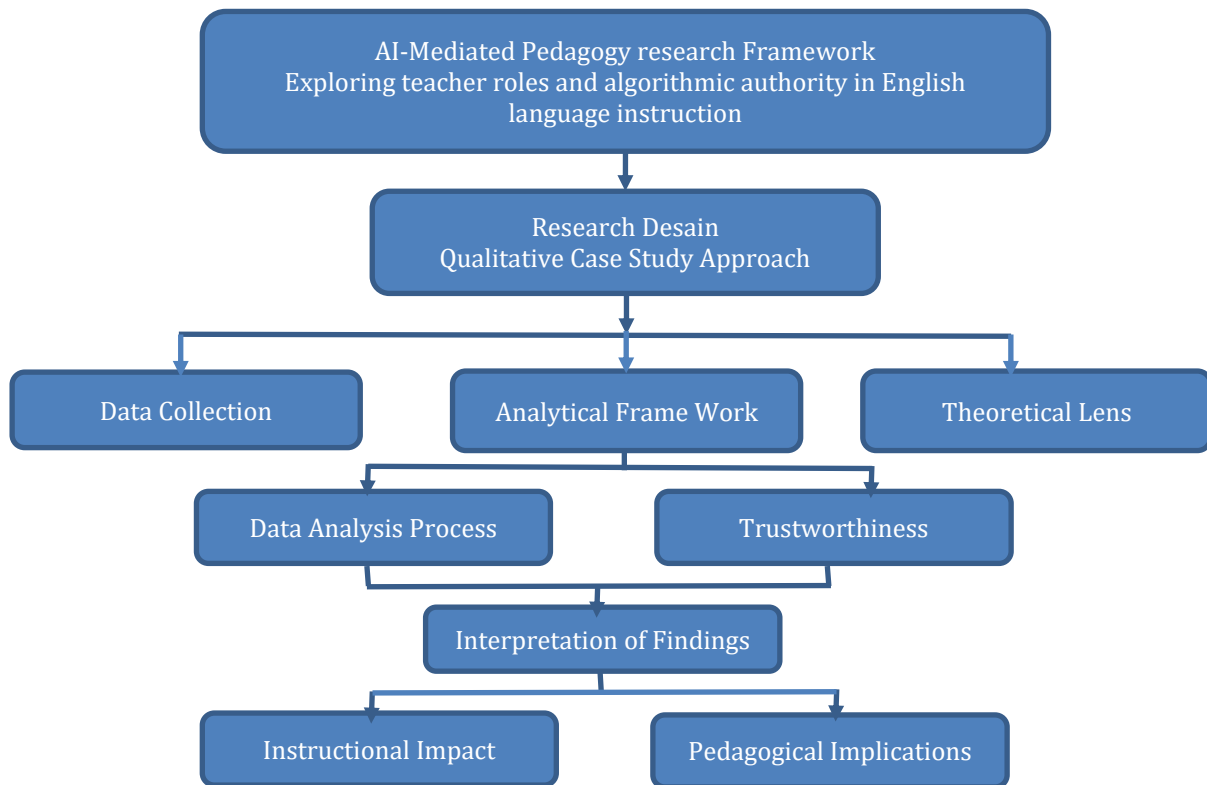


Figure 1. AI-Mediated Pedagogy Research Framework

This diagram outlines a qualitative critical case study approach to examine the impact of AI on curriculum and pedagogy. Data collection includes document analysis, classroom observations, and interviews, analysed through Critical Discourse Analysis. The process involves open coding, thematic categorization, and interpretive analysis to identify key themes. Trustworthiness is ensured through triangulation, member checks, and audit trails. Overall, the study aims to provide deep insights into how AI influences educational practices and curricula.

3. RESULT AND DISCUSSION

3.1 Reconfiguration of Pedagogical Practices through AI Integration

The findings demonstrate that artificial intelligence (AI) has significantly reconfigured pedagogical practices in English language education by enhancing efficiency, accessibility, and personalization across diverse learning contexts. AI-driven systems—such as adaptive learning platforms, automated assessment tools, and intelligent tutoring systems—facilitate real-time feedback, individualized learning trajectories, and continuous performance monitoring. These technological affordances allow learners to progress at their own pace while receiving targeted instructional support based on their specific needs and performance patterns. In this context, learning becomes more flexible and responsive to individual differences, reducing dependency on uniform instructional delivery. Furthermore, such systems contribute to increased learner engagement by providing immediate reinforcement and adaptive content adjustments (Sarwadi

et al., 2025). These developments also support the transition toward more student-centered pedagogical models that emphasize autonomy and self-regulated learning. As a result, AI integration not only enhances instructional effectiveness but also redefines how learning experiences are structured and delivered.

However, this transformation also signals a deeper structural shift toward data-driven instruction, where pedagogical processes are increasingly shaped by algorithmic systems and learning analytics. Decision-making in areas such as content selection, sequencing, and feedback provision is no longer solely determined by teacher expertise but is influenced by computational models and predictive data analysis. While this shift improves scalability and ensures consistency across large and diverse learner populations, it also introduces new forms of standardization in instructional practices. The reliance on data-driven mechanisms may limit the flexibility of teachers to adapt instruction based on contextual, cultural, and situational factors. Moreover, algorithmic systems tend to prioritize quantifiable learning outcomes, potentially overlooking more complex and nuanced aspects of language learning. This creates a tension between efficiency and pedagogical depth, particularly in contexts that require critical thinking and intercultural competence. Consequently, the integration of AI reshapes not only instructional practices but also the underlying epistemological foundations of language education, as shown in Figure 2.

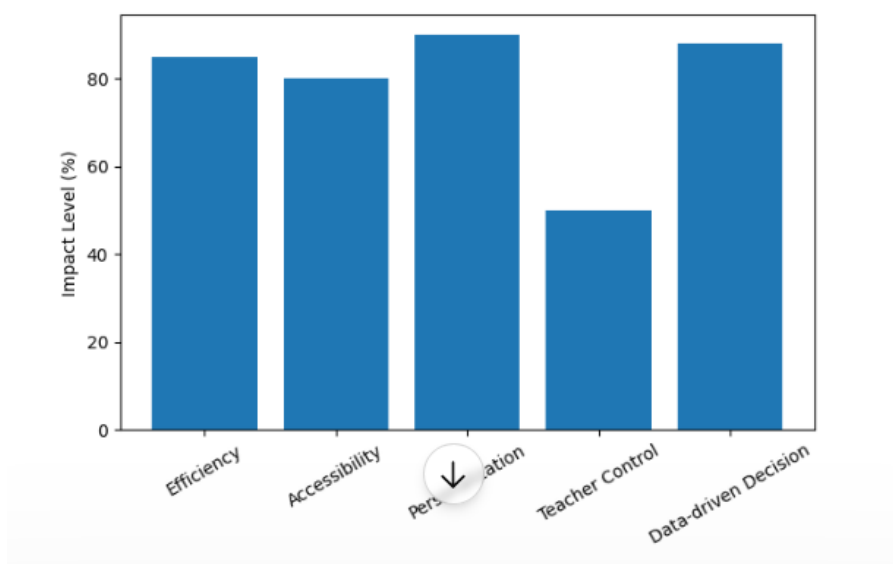


Figure 2. Impact of Ai Integration on Pedagogical Practices

As illustrated in Figure 2, AI integration demonstrates a high impact on personalization, efficiency, and data-driven decision-making, while simultaneously indicating a relative decline in teacher control. This suggests that although AI enhances instructional effectiveness, it also redistributes pedagogical authority toward algorithmic systems. The visual representation reinforces the argument that AI not only optimizes learning processes but also structurally transforms the role of educators within instructional design.

3.2 The Emergence of Algorithmic Authority

A central finding of this study is the redistribution of pedagogical authority from educators to algorithmic systems, marking a significant epistemic shift in instructional governance. Traditionally, teachers exercised professional judgment in curriculum design, instructional delivery, and assessment based on contextual knowledge and pedagogical expertise. In AI-mediated environments, however, these functions are increasingly guided by data-driven models, predictive analytics, and automated recommendations that reshape instructional priorities. This transition reflects a movement from human-centered pedagogy toward system-centered decision-making processes. Such transformations resonate with broader discussions on the rise of data-driven governance in education, where algorithms play an active role in shaping instructional practices (Yeung, 2018; Gillespie, 2018). Interview data support this transformation, as one participant noted, “The system often suggests what to teach next, and I tend to follow it because it seems more accurate.” Another respondent added, “I feel like my role is shifting from decision-maker to facilitator of what the AI recommends.” These findings suggest that authority is no longer exclusively located in the teacher but is distributed across human and non-human agents within the learning ecosystem, reflecting what has been described as the sociotechnical reconfiguration of expertise (Kitchin, 2021).

This phenomenon reflects the emergence of algorithmic authority, where decision-making is governed by computational logic rather than solely by pedagogical reasoning. While such systems enhance efficiency, scalability, and standardization, they also introduce new constraints on teacher autonomy and instructional flexibility. Teachers reported that algorithmic recommendations are often perceived as objective and reliable, even when they may not fully align with classroom realities. As one interviewee stated, “Sometimes the AI feedback does not match my students’ actual abilities, but I still consider it because it’s data-based.” Another participant highlighted, “There is a tendency to trust the system more than our own intuition.” This reliance indicates a growing epistemological trust in algorithmic outputs, which may inadvertently marginalize teacher expertise. This aligns with concerns about automation bias, where users tend to over-rely on machine-generated decisions despite potential inaccuracies (Parasuraman et al., 2018). Furthermore, algorithmic systems often operate as opaque “black boxes,” limiting teachers’ ability to critically interrogate their outputs (Pasquale, 2019). Consequently, the curriculum is no longer solely a pedagogical construct but becomes partially shaped by algorithmic infrastructures that embed specific assumptions, values, and limitations (Noble, 2018).

3.3 Algorithmic Mediation of Curriculum and Instruction

AI systems play a pivotal role in determining content selection, sequencing, and delivery within English language education. To analysing learner data, these systems generate personalized instructional pathways tailored to individual proficiency levels, learning pace, and behavioural patterns. This data-driven adaptation enables instructional materials to be dynamically adjusted in response to learner performance and progress. As a result, learners experience more targeted and adaptive learning environments that respond to their specific needs. Such systems also enhance engagement by aligning instructional content with learner readiness in real time. In addition, AI contributes to improving instructional efficiency through continuous monitoring and automated adjustment mechanisms. Consequently, the integration of AI supports the development of more flexible and responsive pedagogical practices.

This process reduces teachers' discretionary control over instructional content and pedagogical decision-making. Decisions that were previously based on contextual awareness, classroom interaction, and professional judgment are increasingly mediated by algorithmic processes. While this standardization improves consistency and scalability, it limits the ability of teachers to adapt instruction to local and cultural contexts. The reliance on automated systems may also shift the focus toward measurable outcomes at the expense of deeper pedagogical considerations. As a result, instructional practices risk becoming more uniform and less sensitive to diverse learning environments. This transformation may diminish the role of teachers as reflective practitioners who interpret and respond to complex classroom dynamics. Ultimately, learning experiences may become less responsive to contextual and cultural variations that are essential in language education, as shown in Figure 3.

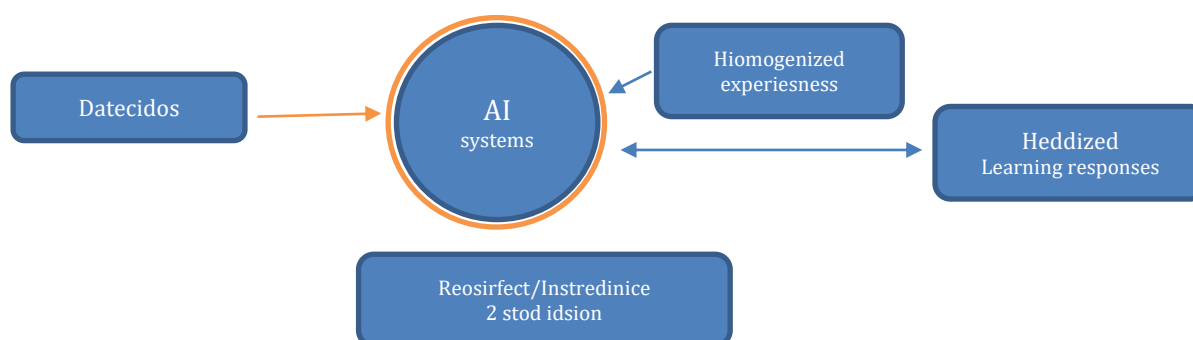


Figure 3. Algorithmic Mediation of Curriculum and Instruction

This diagram illustrates the concept of algorithmic mediation in curriculum and instruction. On the left side, there are AI systems analysing student data, such as proficiency levels and learning behaviors, to generate personalized instructional pathways. Arrows indicate the flow of customized content from these systems. On the right side, two main aspects are depicted: first, the reduction of teachers' discretion in decision-making related to content selection and sequencing, as these processes are increasingly controlled by algorithms; and second, the emergence of homogenized learning experiences with standardized content that lacks responsiveness to cultural and local contexts. The diagram highlights how algorithmic processes enhance personalization in education, but also raise concerns about diminished pedagogical control and cultural adaptability.

3.4 Transformation and Limitations of AI-Based Assessment and Feedback

The integration of AI has transformed assessment and feedback practices by enabling rapid, consistent, and scalable evaluation of linguistic competence within the observed learning context. AI-based systems were found to provide immediate feedback on students' written and spoken outputs, particularly in identifying grammatical errors, vocabulary usage, and sentence structure. This allowed learners to revise their work in real time and engage in iterative learning processes. Classroom observations showed that students frequently relied on automated feedback to correct surface-level errors before submitting assignments. One student noted that the system was "very fast in correcting mistakes," which helped improve accuracy in a short time. In addition, teachers reported that AI tools reduced their workload in checking basic language features. As a result, assessment practices became more efficient and manageable in large classes.

The findings also reveal important limitations in the depth and quality of AI-mediated assessment and feedback. Based on observations and interviews, AI systems were less effective in addressing higher-order aspects such as meaning construction, pragmatic appropriateness, and cultural context. Several students stated that the feedback “only fixes the sentence but does not explain the meaning,” indicating limited interpretive support. Teachers also emphasized that AI feedback lacks dialogic interaction, which is necessary for reflective learning and critical thinking. In classroom practice, students often accepted AI suggestions without questioning their relevance, suggesting a tendency toward passive learning behavior. Furthermore, teachers frequently intervened to provide contextual explanations that the system could not offer. This indicates that while AI enhances technical accuracy, it does not fully support deeper communicative competence and meaning negotiation.

3.5 Implications for Teacher Roles and Pedagogical Agency

The increasing reliance on AI systems has redefined the role of teachers within the instructional process observed in this study. Teachers are no longer positioned solely as primary knowledge providers but as facilitators who guide students in navigating AI-supported learning environments. Classroom observations revealed that teachers often assisted students in interpreting AI-generated feedback and clarifying misunderstandings. One teacher explained that students “tend to trust the system too quickly,” requiring guidance to think more critically about the feedback provided. This finding aligns with recent scholarship emphasizing the shifting role of teachers toward mediators of technology-enhanced learning rather than sole transmitters of knowledge (Cukurova, 2020). In practice, teachers also played a key role in contextualizing language use, especially in tasks involving cultural meaning and communication. Such human mediation remains essential, particularly in language education where meaning is socially and culturally constructed (Selwyn, 2019). This shift requires teachers to develop competencies in digital literacy and critical engagement with AI tools. Consequently, teaching practices become more hybrid, combining technological efficiency with human mediation (Luckin, 2018).

Despite these changes, the findings indicate ongoing concerns regarding teacher autonomy and pedagogical agency. Interview data showed that some teachers felt their instructional decisions were increasingly influenced by AI-generated outputs rather than their own professional judgment. One participant mentioned that “sometimes the system determines what students learn next,” which limits flexibility in adapting lessons. This concern reflects broader critiques regarding the growing influence of algorithmic systems on educational decision-making processes (Williamson, 2018; Selwyn, 2021). Observations also indicated a reduction in spontaneous classroom interaction, as activities were often structured around AI systems. However, teachers consistently emphasized the importance of maintaining human interaction to address emotional, cultural, and contextual aspects of learning. They frequently adapted AI-generated materials to better suit local contexts and student needs, reinforcing the argument that AI should augment rather than replace teacher expertise (Holmes & Porayska-Pomsta, 2022). These findings suggest that while AI reshapes teacher roles, it does not eliminate the necessity of human-centered pedagogy. Instead, it highlights the need for a balanced integration between algorithmic support and professional expertise.

3.6 Inclusivity, Bias, and Ethical Concerns

The study also highlights significant concerns regarding inclusivity and bias in AI-mediated pedagogy, particularly in relation to linguistic diversity and representation. Algorithmic systems are often trained on dominant datasets that prioritize standard varieties of English, which may marginalize non-standard dialects and local linguistic practices. This issue aligns with broader findings that AI systems can reproduce social and linguistic biases embedded in training data (Bender et al., 2021). Interview findings support this concern, as one participant stated, "Sometimes the system marks my sentence wrong even though it is acceptable in my local context." Another respondent noted, "The AI seems to prefer formal English and does not recognize our way of speaking." These responses indicate that AI systems may lack sensitivity to linguistic and cultural variation. Consequently, inclusivity in AI-mediated learning remains a critical challenge that requires more representative and diverse datasets.

The increasing role of AI in educational decision-making raises ethical challenges related to transparency, accountability, and fairness. Algorithmic processes are often perceived as objective, yet they may function as opaque systems that limit users' understanding of how decisions are made. Roll et al. (2016), state that algorithmic systems can reinforce structural inequalities while masking them under the appearance of neutrality. In addition, Sarwadi & Mujtahidin (2024) emphasize the importance of auditing and evaluating AI systems to ensure accountability and fairness. Interview data further reveal these concerns, as one teacher remarked, "We don't always know how the system evaluates students." Another added, "If the AI makes a mistake, it is unclear who is responsible." These findings suggest that without critical oversight, AI systems may reproduce systemic bias and diffuse responsibility. Therefore, there is a pressing need for ethical governance frameworks, transparency mechanisms, and participatory design processes that involve diverse stakeholders in AI development and implementation.

3.7 Learner Autonomy and the Risk of Over-Reliance

AI-driven personalization enhances learner autonomy by enabling self-paced and individualized learning trajectories that dynamically respond to students' needs. Through adaptive feedback, automated evaluation, and tailored instructional content, learners are provided with continuous support that facilitates independent study. This condition promotes greater engagement and allows students to take control of their learning process beyond the constraints of traditional classroom structures. Interview findings reinforce this dynamic, as one student stated, "I can study anytime and get feedback immediately without waiting for the teacher." Another participant noted, "The system helps me understand my weaknesses and improve step by step." These responses indicate that AI systems play a significant role in fostering perceived autonomy among learners. However, such autonomy is not entirely self-generated but is structured within algorithmically designed learning pathways.

However, excessive reliance on algorithmic systems may simultaneously constrain the development of critical thinking and independent learning strategies. When learners consistently depend on automated recommendations, they may engage less in reflective judgment and decision-making processes. Interview data reveal this tendency, as one respondent explained, "I usually follow what the system suggests without questioning it." Another student remarked, "If the AI is not there, I feel unsure about what I should learn next." These insights suggest a gradual shift from active knowledge construction toward passive dependence on technological guidance. As a result, learners may experience a reduction in metacognitive awareness and problem-solving abilities. This indicates that autonomy in AI-mediated environments is conditional and potentially

paradoxical, as increased support may lead to decreased independence over time, as shown in Figure 4.

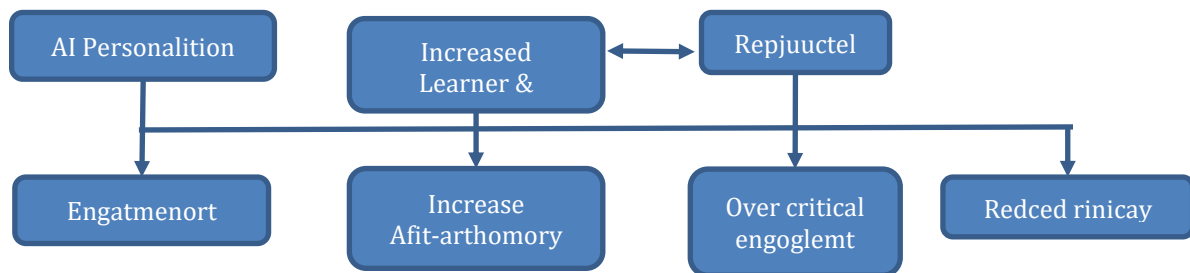


Figure 4. AI-Driven Personalization

The diagram illustrates the conceptual flow of AI-driven personalization in learning. It begins with AI personalization, which increases learner engagement and supports the development of learner autonomy through adaptive and individualized instruction. As learners rely on continuous feedback and system guidance, autonomy appears to improve. However, the process also shows a reciprocal relationship between autonomy and algorithmic control, indicating that independence is partly shaped by the system. Over time, excessive reliance on AI leads to reduced critical engagement and diminished learner agency. Overall, the diagram highlights a paradox: while AI enhances autonomy, it can also create dependency if overused.

3.8 Towards a Balanced and Human-Centered Pedagogical Model

The Findings indicate that algorithmic systems function as emerging agents of pedagogical governance, fundamentally reshaping the relationship between teacher, student, and curriculum in contemporary learning environments. These systems not only support instructional processes but also influence decision-making, assessment, and knowledge construction. While AI offers substantial pedagogical advantages such as efficiency, scalability, and personalization, its integration necessitates a critical and balanced approach to avoid over-dependence. This aligns with previous studies highlighting that AI can transform educational practices while simultaneously raising concerns about autonomy and control (Zawacki-richter et al., 2019). Interview data support this perspective, as one teacher noted, “AI is helpful, but it cannot fully understand the classroom context.” Another participant stated, “We still need human judgment to guide the learning process.” These insights highlight that AI should complement rather than dominate pedagogical practices.

A hybrid pedagogical model that combines the efficiency of AI with human-centered educational values is essential for sustainable and meaningful learning. Such an approach integrates technological innovation with critical pedagogy, ensuring that learning remains contextual, reflective, and socially grounded. It allows teachers to retain their role as facilitators, mediators, and critical agents while leveraging AI for support and enhancement. Holmes et al. (2019), state that AI should be designed to augment human intelligence rather than replace it. Similarly, Science & Policy (2017) emphasizes the importance of maintaining human oversight in AI-supported learning environments. As one respondent explained, “AI can assist, but teachers are still needed to interpret and adapt learning.” This balance ensures that educational practices do not become overly mechanistic or detached from human experience. Ultimately, maintaining this equilibrium is crucial for preserving equity, inclusivity, and the transformative potential of language education.

4. CONCLUSION

This study demonstrates that the integration of AI in English language pedagogy has fundamentally reshaped instructional practices, authority structures, and learner behavior. AI-driven systems enhance efficiency, personalization, and accessibility, enabling both teachers and students to benefit from adaptive learning environments and real-time feedback. At the same time, the findings reveal a significant shift toward algorithmic authority, where pedagogical decisions are increasingly influenced by data-driven systems rather than solely by human expertise.

AI-supported learning environments promote learner autonomy through self-paced and individualized instruction; however, this autonomy is not absolute. The study highlights a critical paradox: the same systems that empower learners can also foster over-reliance, reducing critical thinking and independent learning capacity. Interview data confirm that both teachers and students tend to trust and depend on AI recommendations, sometimes at the expense of reflective judgment. Therefore, this study concludes that AI should not be viewed merely as a tool, but as an influential agent in shaping educational practices and learning epistemologies. This study also contributes theoretically to the development of AI-mediated pedagogy and practically to the design of more critical and adaptive language curricula. To ensure balanced and meaningful integration, it is essential to maintain the role of human judgment, promote critical engagement, and design pedagogical frameworks that prevent excessive dependency on algorithmic systems. Future studies are recommended to investigate the long-term impact of AI integration on language learning practices, learner autonomy, and curriculum development across diverse educational contexts.

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