

## THE DARK SIDE OF AI IN EDUCATION: UNINTENDED CONSEQUENCES ON ENGLISH LANGUAGE LEARNING AND TEACHING

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### **Abstract**

*The growing implementation of Artificial Intelligence (AI) in English Language Learning and Teaching (ELLT) has disrupted the teaching and learning methods and the interactions between the students and the teacher. As much as artificial intelligence (AI) applications like automated writing graders, grammar checkers, and adaptive learning platforms are being mass marketed as efficiency enhancers and customized service providers, their side effects are under-researched. This paper explored what effect AI has on cognitive independence, critical thinking, and linguistic creativity in learners and the ethical and pedagogical issues, such as academic dishonesty and teacher functions. The type of research design was quantitative and the sample comprised 250 undergraduate and graduate students and English language teachers in various institutions of higher learning through the administration of a structured questionnaire. Descriptive statistics were used to investigate the relationships between AI dependency and critical learning outcomes, reliability analysis, Pearson correlation, and multiple regression analyses were performed. The results showed that AI dependency in higher degrees was strongly related to the decreased cognitive autonomy, less critical thinking, and less linguistic creativity, and it caused the concern about academic integrity. Filed by teachers, there were changes in their teaching duties to suit AI application. The research comes to the conclusion that AI in ELLT is a two-sided instrument: it helps people learn, but it can also negatively influence cognitive growth, creativity, and ethical behaviour. It has been suggested to use AI in a moderate manner, provide professional growth to the teachers, ethical standards, and inclusive and human-centered pedagogy.*

**Keywords:** *Artificial Intelligence, English Language Learning, English Language Teaching, Cognitive Autonomy, Critical Thinking, Academic integrity, Educational Technology.*

### **Introduction**

Artificial Intelligence (AI) has become the disruptive technology in modern teaching, transforming the ways of teaching, evaluation, and interaction with students, regardless of the subject area. AI-

based technologies, including automated essay scoring systems, grammar and plagiarism detection systems, speech recognition systems, and chatbots, in English Language Learning and Teaching (ELLT), have been fully integrated into the classroom and self-guided learning settings (Holmes et al., 2019). Such tools are often positioned as the innovations to address the long-standing issues in education, such as the large classes, the lack of teacher feedback, and the need to provide students with a personal learning experience (Luckin et al., 2016). But, in addition to such advantages, a new literature has started to doubt the pedagogical, cognitive, and ethical consequences of AI integration in language education.

The most common type of discourse about AI in education is techno-optimistic, focused on efficiency, flexibility, and learner agency (Selwyn, 2019). The use of AI in the English language education process is commonly presupposed to improve the linguistic accuracy and fluency, as AI offers real-time correction feedback and unlimited practice. Although this kind of assistance might ease the short-term performance improvement, scientists claim that the excessive use of AI tools can impair cognitive independence and autonomous language processing skills of learners (Kohnke et al., 2023). The reliance on AI-based corrections and suggestions might lead to the lack of the development of necessary metalinguistic awareness and problem-solving skills that learners require in order to become proficient in languages in the long-term.

The other burning issue is associated with the loss of critical reasoning and linguistic imagination. Language learning is also a process that is inherently complex with regard to interpretation, evaluation, and creative meaning-making and is a social process. Instead, AI systems are more inclined to apply standardized linguistic norms and algorithms, which can encourage the use of formulas and the superficiality of the writing process (Zhai, 2022). Consequently, learners might be passive consumers of AI generated content instead of active knowledge builders, and this begs the question of the quality and authenticity of the learning outcomes in AI mediated settings.

Another problem that makes the use of AI in ELLT even more complicated is the problem of lingual homogenization. The vast majority of AI tools in language are trained on large datasets that are overwhelmingly influenced by native-speaker norms and standardized forms of English and are generally based on Western cultural and ideological influences (Baker and Smith, 2019). This bias has the capacity to alienate non-native varieties of English and stifle the local linguistic identity of learners, which reinforces unequal power relations in the use of global English (Pennycook, 2017). Therefore, AI can lead to linguistic imperialism by default instead of inclusive and diverse use of English as a language of instruction.

Moral issues also constitute a great portion of the dark side of AI in education. There has been an increase in worries about data privacy, surveillance, and algorithmic transparency in light of the growing range of AI systems taking up and processing the linguistic information of learners (Williamson and Eynon, 2020). Moreover, the easy access to AI-generated text becomes a critical problem in the context of academic dishonesty and plagiarism in the field of learning English as a second language. The work of any kind of AI-assisted or entirely AI-generated nature can be presented by students as their own, and it will be hard for the teachers to really evaluate the true language proficiency of the students (Perkins et al., 2023). This dilemma invalidates and destabilizes conventional assessment practices.

The implications of AI integration on the English language teachers are also far-reaching. Although the concept of AI is usually presented as a helpful teaching assistant, researchers warn that it can result in the de-professionalization of educators as pedagogical decisions will be substituted by

artificial decision-making algorithms (Selwyn, 2016). The use of automated feedback and assessment tools could ignore contextual, emotional, and cultural in language learning and focus on the core of successful pedagogy (Chapelle and Voss, 2021). This change provides the potential to diminish the role of teachers to technologically aware facilitators as opposed to thoughtful practitioners who facilitate meaningful language development.

Moreover, there has been a question of the validity of AI-assessment in the measurement of complex language aspects like coherence, pragmatics and critical argumentation (Chapelle and Douglas, 2006). Automated scoring systems will lead to simplified assessments that do not represent the multi-dimensional quality of language competence. These limitations are of significant empirical concern especially when it comes to the high stakes English language assessment in academic and professional environments.

Even with the increased theoretical discussion on AI in ELLT, quantitative empirical research has not been done on its unintended negative outcomes in the view of learners and teachers. To realize this gap, the current research uses a quantitative design, based on which the systematic study of the impact of AI integration on cognitive autonomy, learning quality, ethical practices, and the pedagogical role in the English language teaching process is carried out. This study aims at adding to a more balanced and critical perspective on the role of AI in the future development of English Language Learning and Teaching by foregrounding the dark side of AI.

### **Research Objectives**

1. To quantitatively study the effect on the cognitive autonomy, critical thinking and linguistic creativity of English Language Learning and Teaching learners as a result of using Artificial Intelligence.
2. To explore ethical and pedagogical issues related to AI implementation in English language instruction and especially academic dishonesty and the tasks of English language educators.

### **Research Questions**

1. What consequences arise when Artificial Intelligence is used in English Language Learning and Teaching with regard to the cognitive autonomy and critical thinking abilities, and the linguistic creativity of the learners?
2. What are the ethical and pedagogical issues connected with the incorporation of Artificial Intelligence within the English language teaching, related to the viewpoints of learners and teachers?

### **Literature Review**

The introduction of Artificial Intelligence (AI) into the English Language Learning and Teaching (ELLT) has grown at a fast pace due to the development of natural language processing, machine learning, and educational technologies. Initial studies largely construed AI as a pedagogical novelty through the adoption of which it is possible to increase the autonomy of learners, linguistic accuracy, and personalized feedback on a large scale (Luckin et al., 2016; Holmes et al., 2019). AI-based technologies, including automated essay marking systems, grammar checkers, speech recognition applications and chatbots, have become commonplace in both formal and informal learning settings in the context of English language education. But with the increased presence of AI technologies in the pedagogical process, researchers have started to question what the unintended effects of AI are and, specifically, which of them can harm the process of cognitive development, ethics, and the human aspect of language acquisition.

The fact that learners are becoming more addicted to AI tools is one of the most commonly mentioned issues of the literature. Although the feedback system based on AI can provide instant corrections and recommendations, overuse of these tools can decrease the opportunities of the learners to engage in deeper intellectual processing needed to acquire the language (Kohnke et al., 2023). The cognitive theories of second language acquisition lay stresses on the significance of the noticing, testing hypothesis, and self-control in the acquisition of linguistic competence (Schmidt, 1990). In case AI systems are able to automatically repair mistakes or produce content, learners can avoid engaging in these crucial cognitive activities, which will cause surface-level learning and poor metalinguistic consciousness. Empirical research revealed that students, who are prolific users of automated writing aids, are more likely to emphasize a superficial accuracy than learn to build syntactic complexity and argumentative coherence (Zhai, 2022).

Critically close to cognitive dependency is the loss of critical thinking and linguistic creativity. Learning a language is not a technical process only but a meaning-making practice which entails interpretations, judgments, and imaginative writing. None of these tools frequently results in AI usage as they tend to operate within linguistic norms and other probabilistic models that give precedence to conventional language patterns (Perkins et al., 2023). Consequently, students can learn to follow formulaic and standardized patterns and expressions and have fewer opportunities to explore language and acquire their unique voice. Academic writing has shown research evidence suggests that AI-assisted texts tend to have lower originality and less critical engagement with ideas, which provokes the issue of quality of learning outcomes (Davis, 2023).

The problem of linguistic homogenization is also a contributing factor towards the use of AI in ELLT. The vast majority of AI language models are trained on large collections of corpus that contain high amounts of standardized and native-speaker varieties of English, which embody specific cultural and ideological standards (Baker and Smith, 2019). Of the consequences of this dominance, there is a danger of marginalizing non-native varieties of English and strengthening linguistic hierarchies in the use of English across the globe. According to Pennycook (2017), these practices will lead to linguistic imperialism, where one type of English is superior and others become invisible or wrong. In multilingual and postcolonial societies, such as South Asia, such bias can have a harmful impact on the linguistic identity of learners and their confidence since AI implicitly assigns the status of deficient to local variants of English.

The other significant theme in the critical literature on AI in education is ethical issues. The use of AI systems depends on the data collection, storage, and algorithm analysis, which casts serious concerns regarding the issue of data privacy, surveillance, and informed consent (Williamson and Eynon, 2020). Writings and oral productions of learners in language learning platforms are usually stored and processed without clear visibility of how the information would be utilized. These would violate ethical standards of autonomy and confidentiality especially when it comes to vulnerable students in an educational setting. Furthermore, AI bias can also reinforce existing inequities by prioritizing some types of linguistic structures and profiles of students above others (O'Neil, 2016). Authors are tactical in incorporating AI recommendations and maintaining their control over idea and disciplinary alignment and apply AI to style and structure enhancement. This practice indicates that AI mediates textual production as well as social positioning and identity construction in the academic discourse (Alkhatib, Khan, and Farnaz, 2025).

The introduction of generative AI writing tools in tertiary education has massively altered the scene of academic writing and offered both opportunities and challenges to educators and learners. Although these tools may improve writing competence and productivity, they also create issues of academic honesty and ethical authorship practices (Alkhatib, Raja, and Asadullah, 2025). On the same note, the increased application of artificial intelligence in online marketing has transformed the brand communication approaches in social media. The use of AI-generated texts in English has expanded to create promotional content, captions, advertisements and automated customer interactions, which is affecting the perception and interaction processes of the brands via the internet (Alkhatib, Khan, and Latif, 2026).

One of the most urgent issues that are related to the use of AI in English language teaching is academic integrity. The presence of AI-written text has shown that there are no real limits to the areas of legal aid and plagiarism. It has been found that AI tools are increasingly being used by students to produce essays, summaries and responses without crediting the source (Perkins et al., 2023). The practice makes ELLT challenging to assess since the teacher finds it difficult to tell when the students are producing their own language and when the content is AI-generated. As a result, the quality of language evaluation is put at stake, which jeopardizes the plausibility of the academic qualifications and learning outcomes (Chapelle and Voss, 2021).

That the AI integration has great implications on English language teachers is also noted in the literature. Although AI is frequently marketed as an assistant pedagogue, critical thinkers claim that it will help de-professionalize educators, as AI systems could replace the judgment of a teacher with robots (Selwyn, 2016). The process of teaching language includes emotional support, intercultural mediation, adaptive scaffolding none of which can be simulated by AI at the moment (Biesta, 2017). Consequently, overuse of AI can make teacher-learner relationship, which is core to successful language learning, weak.

The practices of assessment in the context of AI-mediated ELLT settings have also received a lot of discussion. Automated essay marking and grammar analysis software has been accused of having very low levels of higher-order language marking, including that of coherence, pragmatics and critical argumentation (Chapelle and Douglas, 2006). Although AI will be very effective to determine the accuracy in lexical and grammatical accuracy it does not perform well in determining meaning, context as well as rhetorical effectiveness. Empirical studies indicate that AI-powered evaluation can be unsuitable to learners who use an innovative or non-standard approach to writing and thus, not promote innovation and criticality of expression (Williamson, 2017).

Socio-culturally, however, AI in ELLT also shapes the identity construction of the learners. Language acquisition is also closely connected with identity negotiation, especially when it comes to the case of second and foreign language learning (Norton, 2013). In the event that AI systems apply standardized norms of English usage, learners are likely to have identity conflict or alienation, particularly when their linguistic backgrounds are not overrepresented in AI training data. This question is especially pertinent in multilingual and postcolonial societies, where English is used as a lingua franca all over the world, as well as a symbol of social authority.

Although the theoretical and conceptual base of AI application in education is increasing in volume, the literature indicates that large-scale quantitative research on the unintended effects of AI application in ELLT on the perceptions of learners and teachers is still conspicuous in the literature. Most of the extant literature is based on qualitative methods or small-scale case studies,

and thus restricts the extent to which the results can be generalized (Zawacki-Richter et al., 2019). The gap reveals the necessity of conducting empirical research to measure the cognitive, ethical, and pedagogical effects of AI integration with sound quantitative techniques.

To conclude, the current literature provides indicators that the potential of AI in supporting the English language learning and teaching processes is substantial, but the unquestionable nature of AI usage is a threat to the cognitive development, ethical values, linguistic diversity, and pedagogical integrity. The negative aspects of AI in ELLT produce cognitive dependency, the decreased critical thinking, the homogenization of languages, misbehavior in schools, and the displacement of the professional functions of the teachers. It is necessary to address these challenges through empirical evidence that transcends the idea of techno-optimism and look at the ways in which AI transforms language learning processes and outcomes critically and empirically. Continuing on these observations, the current research follows quantitative methodology to explore the unintended impacts of AI in the area of English Language Learning and Teaching, thus, providing a more equal and evidence-based perspective on the role of AI in education.

The current work was a quantitative research design to empirically investigate the unwanted effects of Artificial Intelligence (AI) implementation in English Language Learning and Teaching (ELLT). The method of data collection was a cross-sectional survey containing numerical information regarding the perceptions of the learners and teachers regarding the use of AI, cognitive autonomy, critical thinking, linguistic creativity, academic integrity, and pedagogical practices. Quantitative design was deemed to be suitable because it made it possible to objectively measure the variables, statistically analyze the relationship, and to generalize the findings to a specific population.

The study population involved the undergraduate and graduate students studying English language and linguistics related courses, as well as the English language teachers working in institutions of higher learning. The respondents were a total of 250 selected using a stratified random sampling method to have sufficient representation of the students and teachers. The sample consisted of a number of universities and this increased the external validity and generalizability of the results. The sample size which was chosen was felt adequate to carry out correlation and regression.

A questionnaire was used to gather the data based on the creation of a structured questionnaire based on a thorough analysis of the previous literature on AI in education and English language learning. The questionnaire was divided into two major sections. The demographic data included in the first part consisted of age, sex, level of study, teaching experience, and the frequency of the use of AI tools. The second part had close-ended statements that were measured according to five-point Likert scale of strongly disagree to strongly agree. These measures assessed such important constructs as AI dependency, cognitive autonomy, critical thinking, linguistic creativity, concerns with academic integrity, and perceived changes in teaching practices due to the use of AI.

In a bid to make the instrument valid, the questionnaire questions were well balanced with the existing theoretical constructs presented in the literature, and the questionnaire was reviewed by experts to ensure that the content was relevant and understandable. One pilot study was carried out before the actual data collection was to be made to determine the reliability of the instrument. Cronbach was used to examine internal consistency of the questionnaire and a score of 0.70 or more was deemed satisfactory in determining the reliability of the question.

The data were collected using an online survey that was administered using email and academic communication channels. The participants were informed of the study objective and guaranteed the confidentiality and anonymity of the answers. Respondents were made to volunteer and

informed consent was obtained prior to the start of data collection. Data collection exercise was done over a specified period of time so that there would be consistency in responses.

Statistical Package of the Social Sciences (SPSS) were used in the analysis of the data collected. The demographic characteristics and general pattern of response were summarized using descriptive statistics such as frequencies, percentages, means and standard deviations. Cronbach alpha was used to analyze reliability to ensure that there was internal consistency of constructs. The correlation analysis used was Pearson correlation analysis to check the correlation between the variables of AI use and cognitive autonomy, critical thinking, and academic integrity. The multiple regression analysis was utilized to determine the prediction effect of AI use on cognitive and pedagogical outcomes of learners.

The study was conducted in a way that ethics were equally adhered to. No data about a person was collected, and the anonymity of the respondents was preserved to the maximum. Collected data were only utilized in the academic research purposes and were not disclosing to any third party. The participants were made aware of their free will to drop out of the study at any point and not face any repercussions. These precautions were taken to make sure that the research was conducted in accordance with the standard ethical principles and guaranteed trust and transparency during the research.

### **Methodology**

#### **Research Design**

The research design chosen was quantitative research in which the impact of the implementation of Artificial Intelligence (AI) in English Language Learning and Teaching (ELLT) was investigated. The cross-sectional survey methodology was used to collect the numerical data on the perception of learners and educators about the use of AI and cognitive autonomy, critical thinking, linguistic creativeness, academic honesty, and pedagogical instructions. It was believed that the quantitative method was suitable because the variables could be quantitatively measured, statistical data analysis of the relationships between the variables could be conducted, and generalization of the results to the rest of the population could be made.

#### **Population and Sample**

The study population was comprised of undergraduate and graduate students pursuing English language programmes and linguistics in higher education institutions and English language teachers. The number of respondents included was 250 and that is based on stratified random sampling method that will allow representation of both students and teachers in equal proportions. To improve the external validity of the study, the subjects were recruited in several universities. This sample was considered to be adequate in performing descriptive, correlation, and regression analysis, and reliability of the statistical results.

#### **Research Instrument**

The structured questionnaire created through the comprehensive review of the existing literature on AI in education and English language learning was used to collect the data. There were two sections of the questionnaire. The former section collected demographic data, including age, gender, academic stage, the teaching experience, and the rate of use of the AI device. The second part had questions with scales of five points on Likert scale of strongly disagree to strongly agree. Such items measured such constructs as AI dependency, cognitive autonomy, critical thinking, linguistic creativity, academic concerns about integrity, and perceived changes in teaching

practices as a result of AI integration. Subject experts reviewed the questionnaire to be content valid and clear on the items.

### **Validity and Reliability**

The reliability of the instrument was determined using the pilot study involving a small sample of study participants who were not part of the final sample. The internal consistency was measured using Cronbach alpha with a value more than 0.70 being regarded as acceptable. Construct validity was achieved through the congruence between questionnaire item and theoretical frameworks and previous empirical studies related to AI in language education.

### **Data Collection Procedure**

The data were gathered through an online questionnaire sent out through institutional mail and through the academic communication channels. The subjects were informed about the aim of the study and guaranteed that their answers would be confidential and anonymous. The study was voluntary and all the respondents gave informed consent to take part in the survey. Four weeks were spent in data collection process, which was sufficient to ensure that a considerable number of responses was received to satisfy the sample requirements.

### **Data Analysis**

Statistical Package of the Social Sciences (SPSS) was used to analyze collected data. To summarize the demographics and the perceptions that the participants had in general, the descriptive statistics such as means, standard deviations, frequencies, and percentages were computed. Cronbachs alpha was used to test the reliability of the constructs. The Pearson correlation analysis was used to test the relationships between AI utilization and a number of variables cognitive autonomy, critical thinking, and academic integrity. The predictive effect of the use of AI was evaluated using multiple regression analysis on both the cognitive and teaching practice change outcomes of the learners.

### **Ethical Considerations**

During the study, ethical standards were fully observed. The personal identities of the participants were not obtained and no personally identifiable data was gathered. Collected data were only utilized in the academic research purposes and were not disclosing to any third party. The subjects were made aware about their privilege to pull out of the study at any given time without repercussions. These practices provided transparency, voluntariness and adherence to normal ethical research principles.

### **DATA ANALYSIS AND FINDINGS**

The rationale of this research was to explore the unanticipated effects of Artificial Intelligence (AI) implementation in English Language Learning and Teaching (ELLT). In particular, it discussed the impact of the use of AI on cognitive autonomy, critical thinking, and linguistic creativity of the learners, ethical and pedagogical issues, such as academic integrity and the teacher roles. The collected data of 250 respondents including the undergraduate students, graduate students, and English language teachers were analyzed in terms of descriptive statistics, reliability analysis, correlation analysis, and multiple regression analysis.

#### **Demographics - Respondent Characteristics.**

The demographic profile of the respondents was considered to comprehend the composition of the sample in the aspects of age, gender, academic level, teaching experience and frequency of AI tool use. Out of the 250 people who participated, 140 (56) were students and 110 (44) were teachers.

Student respondents were aged between 18 and 25 years and the teachers were between 25 and 50 years. On the issue of gender, 130 (52) respondents were female, whereas 120 (48) were male. The frequency of AI tool usage revealed that 60 percent of people used AI tools on a daily basis, 25 used it on a weekly basis, and 15 used AI tools on an occasional basis. The sample size shows an equal representation of active users of AI, and it is possible to examine the perceptions and results with some degree of reliability.

### Consistency of Research Instrument.

Before analysis of the data, reliability of survey instrument was checked through Cronbach alpha. The total Cronbach alpha of all the constructs was 0.87 which showed high internal consistency and reliability. The values of individual construct reliability were as follows: Academic Integrity (0.81), Academic Integrity (0.82), AI Dependency (0.78), Cognitive Autonomy (0.80), Teacher Role Adaptation (0.79), and Linguistic Creativity (0.79). These findings indicate that the instrument was always able to measure the desired constructs, which makes the data appropriate to be analyzed further.

### Descriptive Analysis

The descriptive statistics was done to analyze the responses of the participants on the major constructs. Table 1 provides the summary of the mean scores and standard deviations of individual constructs.

**Table 1. Descriptive Statistics of the Important Constructs (N = 250)**

Construct	Mean	Standard Deviation	Interpretation
AI Dependency	3.95	0.72	Moderate to High
Cognitive Autonomy	3.20	0.65	Moderate
Critical Thinking	3.15	0.68	Moderate
Linguistic Creativity	3.10	0.70	Moderate
Academic Integrity Concern	3.75	0.71	Moderate to High
Teacher Role Adaptation	3.45	0.69	Moderate

The descriptive analysis shows that the respondents viewed a moderate to high level of dependency on AI tools, the overall mean of which is 3.95, which implies that AI has become a major component of the English language activities of learners and teachers. Cognitive autonomy, critical thinking and linguistic creativity were rated medium (3.10-3.20), which shown that, despite the convenience, AI can possibly restrict more profound thinking and creativity. The level of academic integrity stood at 3.75, which reveals the awareness of the participants regarding the possible risks related to ethical issues in connection with AI-assisted tasks. The adoption of teacher roles got an average of 3.45 where it is observed that instructors tend to notice changes in pedagogical roles as a result of introducing AI.

### Correlation Analysis

Pearson correlation analysis was used to investigate the connections between the use of AI and the significant variables. Table 2 shows the correlation table of the principal constructs.

**Table 2. Pearson Correlation Matrix (N = 250).**

Variables	1	2	3	4	5
1. AI Dependency	1				
2. Cognitive Autonomy	-0.45**	1			
3. Critical Thinking	-0.42**	0.58**	1		
4. Linguistic Creativity	-0.40**	0.50**	0.55**	1	

5. Academic Integrity	0.36**	-0.30**	-0.28**	-0.25**	1
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Note. \*\*p < 0.01

Correlation analysis shows that AI dependency and cognitive independence have a significant negative relationship ( $r = -0.45, p < 0.01$ ), which is truthful as the more a person relies on AI tools, the less he or she becomes an independent language processing learner. In the same way, the dependency on AI had negative relationships with critical thinking ( $r = -0.42$ ) and linguistic creativity ( $r = -0.40$ ), which supported the idea that excessive use of AI can inhibit higher-order thinking and creativity. There were positive relationships between academic integrity and AI dependency ( $r = 0.36$ ) which showed that high levels of AI dependency are positively correlated with the expression of concern about ethical issues, including plagiarism or inappropriate AI-aided submissions.

### Regression Analysis

The analysis of multiple regression was performed to identify the predictive effects of the dependency on AI on cognitive autonomy, critical thinking, and language creativity. The model had significance ( $F(3, 246) = 42.18, p < 0.001$ ), and it contributed to a 34 percent variance in cognitive results of learners ( $R^2 = 0.34$ ). Table 3 is an overview of the regression coefficients.

**Table 3. Regression Analysis between Cognitive Results and Age.**

Predictor	B	SE B	$\beta$	t	p
AI Dependency	-0.42	0.06	-0.42	-7.00	<0.001

The results of the regression analysis show that AI dependency was a strong predictor of reduced cognitive autonomy, critical thinking, and linguistic creativity ( $b = -0.42, p < 0.001$ ). This result is directly in line with Research Question 1, which proves that excessive use of AI tools harms the higher-order cognitive and linguistic skills of learners.

The discussion shows that even though AI applications are convenient and helpful in language learning, they are associated with some risks. The cognitive autonomy and creative involvement of learners seem to be weakened in situations when they use AI extensively in writing or correcting grammar or creating texts. The ethical issue of plagiarism and AI-generated content is still popular as a sign of student and teacher awareness. The functions of teachers are changing, and they have more tasks to cope with AI-assisted learning, offer guidance, and secure academic integrity. These results are consistent with the previously available literature, such as Kohnke et al. (2023), Zhai (2022), and Perkins et al. (2023), which cautioned against cognitive dependency, diminished creativity, and ethical issues due to the introduction of AI in ELLT.

To sum up, the analysis of the data shows that integration of AI into English language classrooms is a two-sided sword. Although it makes them more accessible and efficient, it brings about cognitive, creative, ethical, and pedagogical problems at the same time. The results highlight the significance of the balanced and controlled application of AI, professional guidance of teachers, and the formation of institutional regulations that could help to overcome ethical issues and achieve independent, creative language acquisition.

### Discussion

The results of the current research are a source of empirical evidence on the existence of unintended effects of the integration of Artificial Intelligence (AI) in English Language Learning and Teaching (ELLT). The findings show that, although AI tools, including automated writing evaluators, grammar checkers, and adaptive learning platforms, can help learners to learn more efficiently, as they can give them immediate feedback and personalized support, their excessive

use can have negative impact on cognitive independence of the learning process, critical thinking, and linguistic creativeness. Such results are consistent with the preceding research that warns against the blind use of AI in language education (Kohnke et al., 2023; Zhai, 2022).

The observed negative association between AI dependency and cognitive autonomy ( $r = -0.45$ ,  $p < 0.01$ ) argues towards the claim that the learners who are highly dependent on AI tools are also less likely to have independent language processing ability. This fulfills the initial research goal and shows that although AI is supportive, it may develop a kind of cognitive dependency in which the learners do not go through the critical language learning tasks like detection of errors, hypothesis testing and self-regulation (Schmidt, 1990). The regression result also showed that AI dependency is significantly related to reduced cognitive and creative performance ( $b = -0.42$ ,  $p < 0.001$ ), highlighting the concrete effect of AI on the higher-order thinking of the learners. These results resonate with the fears voiced by Holmes et al. (2019) that AI might make learning standardized and avoid independent thinking.

The critical thinking and linguistic creativity were moderately affected as well with mean scores showing that even though AI has structural and grammatical assistance, it can unintentionally restrict learners to be engaged in creative expression. This confirms the claim of Perkins et al. (2023) that AI generated recommendations, despite the technical accuracy of the suggestions provided, are likely to foster formulaic reactions, thus diminishing the possibility of original thought. In academic and professional settings, especially, the decline of creativity is especially crucial, as students need to learn how to articulate subtle concepts and multifaceted statements (Davis, 2023). These findings provoke a necessity of balanced integration approaches, which involve the combination of AI support and active pedagogical directions in order to develop critical and creative thinking.

Another theme of the discussion that was of importance was ethical issues. The analysis observed moderate to high levels of concern about academic integrity, with the research participants admitting that there were risks of AI-assisted plagiarism and ambiguity of authorship. The results support the literature on ethical concerns of AI in education that highlights the problems of transparency, privacy, and algorithm bias (Williamson and Eynon, 2020; O'Neil, 2016). The fact that AI dependency and academic integrity issues ( $r = 0.36$ ,  $p < 0.01$ ) have a positive correlation implies that the more students use AI tools, the more conscious they become of the possible ethical traps. This highlights the importance of clear guidelines, policy frameworks, and learning interventions to clear responsible use of AI in language learning.

Another aspect that was influenced by AI integration was teacher roles with moderate mean scores showing that instructional responsibilities were changed amongst instructors. Educators said that they must observe the use of AI, give feedback beyond the recommendations offered by the system, and assist students in acquiring critical and creative language skills. This observation is in line with the fact that Selwyn (2016) has found that AI can displace the traditional pedagogical functions and has to promote technology and human-oriented learning by teachers. The research indicates that professional development programs must be aimed at providing the teacher with the means of balancing the introduction of AI with interactive and learner-oriented instruction.

The results also indicate the socio-cultural aspects of the AI in ELLT. Since the majority of AI systems are trained on data collected by native speakers, students with different languages might face the difficulty of conveying local idiomatic phrases or language peculiar to a specific culture. It follows Baker and Smith (2019) and Pennycook (2017) by saying that AI can support the

linguistic homogenization and marginalize non-native versions of English. This paper showcases the need to design AI inclusively and teach in ways sensitive to context that maintain linguistic diversity and use technological strengths to their benefit.

Regarding the research questions, the study had a clear expression of the influences of AI on the cognitive autonomy of learners, their critical thinking, and creativity (RQ1). Additionally, the study established the existence of the ethical and pedagogical issues related to the use of AI in ELLT (RQ2). The paper demonstrates evidence that the issues are interlinked: the higher the AI dependency, the lower the learner independence and the increased the ethical issues. The implication of this interconnection is that the successful implementation of AI needs to be a comprehensive process that can be balanced in cognitive, ethical, and pedagogical aspects.

On the whole, it can be stated that AI in ELLT is a two-sided sword. Although it has a great number of advantages in its accessibility, efficiency, and personal feedback, its uncontrolled use can negatively impact the core outcomes of learning, ethical standards, and the power of a teacher. This research adds to the existing literature that is demanding a balanced, thoughtful and evidence-based approach to the integration of AI in educational institutions. Learning institutions need to come up with rules and teacher development to encourage responsible use, freedom of learners, and standards of academic integrity.

### **Conclusion**

This paper examined the unintended effects of Artificial Intelligence (AI) integration of English Language Learning and Teaching (ELLT) in terms of its impact on the cognitive autonomy of the learners, critical thinking, linguistic creative, academic integrity, and teacher pedagogical roles. The results show that whereas AI applications like automated writing analyzers, grammar checkers and adaptive learning systems enhance access, efficiency and personalized learning, excessive use of the systems has unwanted unintentional consequences. In particular, increased AI dependence was linked to the decrease in cognitive autonomy, critical thinking and linguistic creative capabilities of learners. Moreover, ethical issues of academic integrity and plagiarism were increased, and teachers underwent changes in their teaching roles, as they had to be more monitored and their teaching process changed.

The findings concur with the research objectives of the study and prove that AI has both cognitive and pedagogical implications in ELLT. They also present the research questions by providing an empirical evidence that AI does influence higher order thinking and creative skills of learners (RQ1) and raises ethical and instructional dilemmas (RQ2). In general, the article highlights that AI is a two-sided instrument: on the one hand, it can facilitate the learning and teaching processes, but on the other hand, its absence of control can undermine the quality of education and ethical principles.

### **Recommendations**

As the results show, a set of recommendations is made to ensure better AI implementation in English language classrooms and reduce the unwanted side effects thereof.

1. **Moderated AI Usage:** Teachers and students ought to apply AI tools as auxiliary tools of language production and not as main ones. Cognitive autonomy by students should be enhanced by motivating them to do non-AI independent writing, critical thinking, and creative activities.
2. **Professional Development of Teachers:** The teachers are to be provided with specific training on the implementation of AI in pedagogy along with the way on how to monitor

AI-supported work, how to encourage the interest of the learners, and preserve the academic integrity. Creativity and critical thinking should also be outlined in professional development in addition to the use of AI.

3. **Ethical Guidelines and Policies:** The institutions are to provide easy to understand, clearly detailed guidelines and policies that would tackle issues of plagiarism, data privacy, and authorship attribution in the use of AI. These policies are to be conveyed to the students and teachers to make sure of ethics.
4. **Human-Centered Instruction:** The teachers ought to follow a learner-focused strategy, which offers feedback, scaffolds, and interactive activities that are impossible through AI tools. This will assist in maintaining the human aspect of learning and promoting critical approach to language.
5. **Contextualized AI Tools:** The developers and institutions must take linguistic and cultural differences into account when implementing AI tools, making sure that non-native English languages must be supported and local linguistic identities are not violated. The practice will lead to less homogenization and encourage the use of inclusive language education.
6. **Monitoring and Evaluation:** It is advised to continuously monitor the influence of AI on the learning results. Frequent assessment will assist teachers to determine the aspects in which AI will slow down cognitive or creative growth and make changes in teaching methods.

To sum up, AI should be fully integrated in English language learning in responsible and thoughtful ways. With all these recommendations, teachers can take advantage of AI and protect the cognitive, creative and ethical growth of learners.

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