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Exploring Iranian novice EFL trainees' perceptions of ChatGPT use for lesson planning through a critical digital literacy lens

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Abstract

As AI tools like ChatGPT continue to find their way into classrooms, it is becoming increasingly important to understand how new teachers are using them. This study adopts a phenomenological approach to explore the real-life experiences of ten participants who were selected using purposive sampling, and data were collected through interviews and narrative inquiry. The research is grounded in data collected through interviews and narrative inquiry. These insights are analyzed through the lens of Critical Digital Literacy (CDL), which emphasizes the need for critical reflection, ethical awareness, and the growth of teacher agency. Data from ten Iranian novice language teachers were analyzed using reflexive thematic analysis to explore these experiences. Thematic analysis uncovered four interconnected themes: Human-centered teaching vs. machine-centered learning, professional growth and autonomy through reflective AI engagement, ethical considerations and cultural sensitivity, and technology as a tool vs. a crutch. The findings show that the participants did not see ChatGPT as just a passive tool; rather, they regarded it as a resource that needed thoughtful evaluation. They actively modified and tailored the content ChatGPT produced to meet their teaching needs. Their interaction with AI was marked by both excitement and caution, highlighting the significance of reflective practice in fostering ethically sound and context-aware teaching methods. This study adds to the existing literature by demonstrating how CDL can empower novice teachers to responsibly integrate AI tools while preserving their pedagogical voice in the ever-evolving digital landscape.

Keywords ChatGPT, EFL teacher training, Lesson planning, Critical digital literacy, Novice teachers, Reflective practice

1 Introduction

Language education has been significantly influenced over the past few decades by technology and the development of Computer-Assisted Language Learning (CALL). CALL has become more interactive and intelligent due to recent advancements in educational technology. As Luo [35] discusses, CALL can play a pivotal role in language education by offering advantages such as more learner engagement, better comprehension, and

language proficiency. Although there are limitations, the benefits of CALL can prevail, resulting in enhanced language teaching and learning outcomes [22]. Technological innovations have revolutionized language acquisition in these modern days, and their ability to provide personalized and immersive experiences can improve the learning process constantly [54].

As artificial intelligence (AI) tools become increasingly integrated into educational settings, teachers, particularly those at the beginning of their careers, have shown a tendency to encounter a mix of significant challenges and promising opportunities [28, 29]. A prominent example of these AI tools is ChatGPT, a generative AI that can produce lesson plans, teaching materials, and instructional support within seconds [27], van den [55]. However, such efficiency prompts concerns about whether the human dimensions of teaching, such as empathy, creativity, and reflective decision-making, are being compromised using generative AI. This issue is crucial to current teacher education discourse, particularly in situations where teaching English as a foreign language (EFL) necessitates careful lesson planning and cultural sensitivity [52]. AI tools offer both reassurance and ambiguity for many novice teachers. These tools can serve as a source of inspiration and simplify routine tasks. However, they raise important questions about creativity, teacher autonomy, and the broader transformation of educational practices [50]. Lesson planning is not merely a technical process in EFL teacher training, it is a reflective practice that enables teachers to shape their pedagogical identities [2].

The significance of this study lies in three main areas. First, although the use of ChatGPT and similar AI tools by early-career teachers becomes a point of negotiation for professional growth and the appeal of technological convenience [9], there remains a lack of understanding about how novice teachers perceive and navigate this technology in their everyday work. Second, much of the emerging research on AI in education focuses on technologically advanced and English-dominant settings [56]. However, in contexts like Iran, tools like ChatGPT can simultaneously offer opportunities for empowerment and sources of epistemic and cultural tension. The participants in this study are not only learning how to teach English but are doing so within a sociocultural framework. This framework may differ significantly from the assumptions embedded in AI-generated content. Thus, their experiences provide valuable insight into the way that teachers in non-Western educational environments localize and negotiate global technologies. Finally, the study contributes to the growing body of scholarship on CDL, which calls for a more reflective engagement with technology in education. Rather than viewing digital tools as neutral or universally beneficial, CDL emphasizes the importance of questioning who designs these tools, what values they encode, and how they shape knowledge and power in the classroom. The current study foregrounds the pedagogical agency and ethical decision-making of early-career educators by analyzing Iranian novice EFL teachers' interactions with ChatGPT through the lens of CDL. The study also highlights the critical competencies that the Iranian early-career EFL teachers already possess and the kinds of support they need to master the use of AI in one of the most crucial stages of instructional preparation: lesson planning and material design.

2 Literature review

2.1 AI in education

Due to advancements in technology, particularly AI tools, various fields, including education, have been greatly impacted. Generative AI is one of the outcomes of this advancement that can produce outputs using existing digital content [39]. One type of generative AI is the Generative Pre-trained Transformer (ChatGPT), developed by OpenAI in 2022. Kamali et al. [28, 29] and Pan and Wang [44] realized that ChatGPT, as an AI tool, can support educational settings. ChatGPT can also be used to generate lesson plans and develop materials, if used meticulously. It also provides educators with the opportunity to save time by generating well-organized lesson plans for various classrooms in a short period (van Den [55]). Moreover, ChatGPT helps teachers create suitable activities through its ability to generate various types of content in response to given prompts [7]. ChatGPT, as a generative AI tool, can create quizzes, tests, and other tools to evaluate students' abilities [19]. As an AI chatbot, ChatGPT can also improve students' engagement and overall learning experience. In addition, it reduces educators' instructional workload, allowing them to focus on more essential student needs [28, 29].

Although the application of AI tools such as ChatGPT offers many advantages, several concerns may be raised regarding its use in education. Since ChatGPT can generate human-like language, it may be difficult for teachers to detect AI-generated content, which can jeopardize the learning process [40]. Another challenge is users' over-reliance on ChatGPT, which may lead to the reduction of critical thinking and autonomy [38]. ChatGPT generates language based on a large database and specific algorithms; however, its potential biases may negatively affect the learning process (van Den [55]). According to Kim and Ahn [31] and Liu and Wang [34], AI tools such as ChatGPT can also provide inaccurate information. Moreover, Zhang and Wang [58] highlight the importance of teachers' emotional regulation when using AI tools like ChatGPT, which can shape how educators perceive and integrate these tools into their teaching. Additionally, Wu, Wang, and Lalli [57] present a scale for validating GenAI competence in novice teachers, helping to assess how well future educators are prepared to use AI technologies responsibly.

In summary, AI tools, especially ChatGPT, offer significant potential to enhance educational practices by supporting lesson planning, material development, and student engagement. While these tools can improve efficiency and reduce instructional workload, challenges such as over-reliance, content bias, and potential inaccuracies remain concerns that need to be addressed for their responsible use in the classroom.

2.2 Lesson planning and material development in EFL teacher training

Lesson planning is crucial for creating a well-structured, goal-oriented, and engaging learning process and provides a framework for effective teaching and learning that reflects deeper pedagogical considerations [47]. The equal importance is given to material development, as it enables EFL teachers to tailor the target language to learners' needs [52]. Lesson planning, as an important factor in fostering engaging learning environments, requires teacher agency, which is referred to as the ability of teachers to make autonomous decisions regarding various aspects of their practice, such as content, assessment, and instruction [46]. Malmberg and Hagger [36] argue that teacher training programs can foster instructional agency through classroom observation and daily experiences.

With the emergence of AI tools such as ChatGPT, teachers can use these tools to create lesson plans and develop materials for their classes. Lee and Jeon [32] suggest that by equipping trainees in teacher training programs with the knowledge and literacy to use chatbots like ChatGPT, they can generate effective lesson plans and develop appropriate materials. Amin [3] also noted that AI tools can provide real-time feedback on the effectiveness and clarity of teaching materials. It has also been investigated that AI tools can be implemented to tailor teaching content in a way that is appropriate for students, which consequently leads to a more inclusive language learning environment [4].

The integration of AI tools like ChatGPT into EFL teacher training provides new opportunities for lesson planning and material development. However, it is essential for teachers to maintain their agency and reflective practice in using these tools, ensuring that AI-generated content aligns with the pedagogical goals and learners' needs. As teacher training programs adapt to the digital age, fostering instructional agency through technology is crucial for effective teaching.

2.3 Teachers' perceptions toward AI tools

Living in an era of advanced technologies encourages and requires educators to use digital tools in their practice. However, existing literature suggests that teachers have complex perceptions toward their use. Many teachers find that the application of AI in education improves efficiency in scoring, feedback delivery, and lesson planning [24]. Kaplan-Rakowski et al. [30] surveyed teachers' perceptions of using generative AI (like ChatGPT) and found that teachers are likely to use these tools in their practice. In another study, Aghaziarati et al. [1] found that teachers believe AI tools can enhance personalized learning and foster innovative teaching methodologies, however, they have concerns regarding ethical considerations, the need for appropriate infrastructure, and the necessity of proper professional development with the goal of improving teachers' literacy in using these tools.

Novice teachers are particularly interested in using technology, which includes AI tools, as they come from a generation that has grown up in digital environments [53]. However, pre-service teachers express concerns about over-reliance on AI tools and their consequent effect on critical thinking and teacher autonomy, in addition, they may doubt the authenticity of AI-generated interactions [11]. To address these concerns, it is recommended to provide clear guidelines for the application of AI tools like ChatGPT to ensure effective teaching [25]. Furthermore, it is possible to overcome these concerns by promoting the AI literacy of trainees in professional development programs, such as teacher training programs [6].

Teachers' perceptions of AI tools are multifaceted, balancing the potential benefits of enhanced efficiency with concerns about over-reliance and loss of autonomy. Novice teachers, in particular, show interest in using AI, but they require guidance and professional development to navigate the ethical and practical challenges associated with these tools. Proper AI literacy training in teacher education programs can alleviate concerns and help teachers use AI tools effectively and ethically.

2.4 Theoretical framework: critical digital literacy

CDL is an essential concept in the field of education that highlights the creation of digital texts and the critical examination of digital tools [5]. This kind of literacy refers to

one's ability to critically assess digital information, understand the socio-cultural consequences of digital tools, and engage responsibly in a digital environment [42, 43]. CDL extends the notion of digital competence by focusing not only on how individuals access and use digital tools, but also on how they interrogate the ideologies, power relations, and socio-political implications embedded in digital texts and platforms (Luke, [26]). This critical orientation encourages learners and educators to question whose perspectives are represented or marginalized in digital spaces, how information is constructed, and what ethical considerations arise from engaging with such content. According to the literature, various conceptualizations of CDL exist because the diverse digital practices performed by individuals cannot be explained by a single concept (Pangrazio, 2016). Darvin [17] evaluates CDL by emphasizing that the representation of meaning can either maintain existing power dynamics or lead to their reproduction. Hauck [21], p. 191) refers to CDL as "the ability to exercise agency" and clarifies that it is understood differently within and outside the field of second language acquisition (SLA). Within Second Language Acquisition (SLA), CDL is conceptualized as one's ability to use available digital tools to interact with others. However, the understanding outside SLA emphasizes people's critical awareness of within and beyond educational systems.

Integrating CDL into EFL teacher training programs can make pre-service and in-service teachers literate in the use of digital tools, such as ChatGPT, that they use in their practice. They are encouraged to evaluate the content created by these tools in terms of accuracy and ethical implications. Moreover, it develops the skill that allows teachers to use AI tools in their classrooms effectively, which consequently leads to better language teaching and critical pedagogy [41], Holmes et al., 2019).

Due to the rise of artificial intelligence, specifically ChatGPT, various studies have been conducted on its application in EFL educational settings, evaluating its affordances and potential challenges [18]. In addition to in-service teachers, perceptions of novice teachers, who are mostly from the digital era generation, have been investigated regarding the implementation of ChatGPT as an assistant for lesson planning and material development [27, 51]. All these studies find ChatGPT to be a supportive tool for lesson planning, material development, and other aspects of teaching practice. Furthermore, ChatGPT's contribution to lesson planning and its impact on critical thinking and openness in teacher education have also been studied (van Den [55]). On the other hand, critical digital literacy has gained attention in the field of teacher education in recent years, and its integration has been evaluated (Pangrazio, 2016; [8]). However, limited empirical research has been conducted on how CDL can be used as a framework to analyze, critique, and evaluate the perceptions of EFL trainees in a teacher training program that integrates ChatGPT as a tool for lesson planning and material development.

The educational potential of generative AI tools like ChatGPT has been widely acknowledged. However, little is known about how novice teachers critically engage with these tools during their formative professional experiences. Existing literature has largely focused on the practical benefits of AI, but the ethical, cultural, and pedagogical implications remain underexplored, especially from the perspective of early-career educators. To guide this investigation, the following research questions are posed:

(1) How do novice EFL teachers perceive and experience the use of ChatGPT in lesson planning and material development?

(2) In what ways do these teachers demonstrate elements of Critical Digital Literacy in their engagement with AI tools?

3 Method

3.1 Context and participants

This study employs a qualitative phenomenological design to explore the experiences of novice English as a Foreign Language (EFL) teachers using ChatGPT in their teaching practices. Phenomenology seeks to understand how individuals make sense of their experiences and the meanings they attach to them [16].

The study took place at a language institute in Iran, where 40-h teacher training courses are offered every season. Recently, A 3-h AI module has been introduced to help trainees integrate ChatGPT into their lesson planning and material development during the Teaching Practice (TP) component. ChatGPT was selected as the focal tool for this study because it is among the most widely adopted generative AI tools in education to date. Its intuitive natural language interface and minimal learning curve make it especially accessible for novice teachers without advanced technical expertise [18]. ChatGPT can generate pedagogically relevant outputs, such as lesson plans, grammar explanations, student prompts, and assessments, in seconds, which aligns with common instructional needs [27]. Studies also suggest that novice teachers are increasingly exploring ChatGPT as both a planning aid and a reflective prompt, making it an appropriate subject for investigating early-career digital literacy and autonomy [51].

Over the course of three hours, trainees explored how ChatGPT could help them in crafting lesson plans and creating engaging pedagogical materials. The module was delivered in four main sections (see Appendix A for more information):

1. Introduction to AI in Education
2. ChatGPT for Writing Lesson Plans
3. Developing Teaching Materials with ChatGPT
4. Challenges, Troubleshooting, and Final Q&A

10 participants from one of the courses were selected through purposive sampling. The participants were chosen based on their successful use of ChatGPT for all their TPs (Teaching Practices), including their lesson plans and materials. The sample size was determined based on qualitative data saturation principles (Guest, Bunce, & Johnson, 2006), where rich, thematic repetition is expected within 10–12 interviews in homogeneous groups. Ten participants were thus considered sufficient to capture diverse yet converging experiences within this context. The group was made up of an equal number of male and female participants, who were between 20 and 24 and had different educational backgrounds and teaching experience (See Table 1).

This study adhered to ethical guidelines, aligned with the Declaration of Helsinki (General Assembly of the World Medical Association, 2014), to ensure the rights and privacy of the participants. The participants were fully briefed on the purpose of the study, the use of their data, and their right to withdraw at any stage. Furthermore, informed consents were obtained before the process of data collection, and to maintain confidentiality and anonymity, the participants' identities were replaced with pseudonyms. Finally, all the data were securely stored with restricted access.

Table 1 Participant Information

Participant	Gender	Age	Teaching Experience	Educational Background
Teacher 1	Female	21	3 months	BA student in TEFL
Teacher 2	Male	21	0 months	BA student in TEFL
Teacher 3	Female	22	2 months	BA student in English Literature
Teacher 4	Male	24	1 month	BA in English Translation Studies
Teacher 5	Female	22	6 months	BA student in Psychology
Teacher 6	Male	24	4 months	BA in TEFL
Teacher 7	Female	20	0 months	BA student in TEFL
Teacher 8	Male	20	5 months	BA student in English Literature
Teacher 9	Female	24	1 month	BA student in IT
Teacher 10	Male	22	2 months	BA student in TEFL

3.2 Data collection

The data were collected through two main methods: semi-structured interviews and narrative inquiry. We conducted semi-structured interviews with the participants, which lasted between 45 and 60 min. Data collection continued until thematic saturation was observed. Thematic saturation was determined when no new codes or themes emerged across multiple interviews and narrative accounts. This approach follows Braun and Clarke's [10] reflexive model of thematic analysis, where saturation is understood not as a mechanical endpoint, but as a point of conceptual density in the analysis.

As the participants were native speakers of Persian, the interviews were conducted in Persian to make sure that the participants could express their thoughts and reflections with ease and clarity. Conducting the interviews in Persian also minimized potential language barriers that could have impacted the depth and quality of the data. We audio-recorded the interviews, transcribed them verbatim, and then translated the transcriptions into English. To ensure semantic equivalence, translated transcripts were reviewed by ChatGPT, and key segments were back-translated to confirm accuracy. We designed the interview questions based on the theoretical framework of the study, critical digital literacy, to focus on the trainees' perception of using ChatGPT for lesson planning and material development throughout the training course. The questions were categorized into five main themes (see Appendix B for more information):

Understanding and Perception of ChatGPT's Capabilities (Comprehension)
Critical Engagement with AI-Generated Content (Critical Reflection)
Ethical Considerations and Concerns (Ethical Reflection)
Pedagogical Identity and Teaching Autonomy (Pedagogical Reflection)
Growth Opportunities and Professional Development (Professional Growth)

In addition to the interviews, the participants were asked to complete the narrative inquiry forms to provide deeper personal reflections on their experience with ChatGPT. The participants were instructed to reflect on various aspects of their use of ChatGPT for lesson planning and material development. This framework was also designed based on the theoretical framework of the study. These themes were informed by the four core

dimensions of CDL identified in the literature: critical reflection, ethical awareness, creative agency, and evaluation of digital content [23, 37]. These frames served as interpretive lenses throughout the thematic synthesis. All narratives were completed in English and returned to the researchers within two days after conducting the interviews.

3.3 Data analysis

The data analysis was conducted using an inductive approach. MAXQDA software was used to analyze the data collected from semi-structured interviews and narrative frames to facilitate the coding and organization of data. Following Braun and Clarke's [10] approach to thematic analysis, the process began with open coding. Significant words, phrases, and passages from the interview transcripts and narrative responses were identified and the initial codes were assigned. For example, early codes included "emotional connection", "human agency", "creative agency", and "teacher control", which emerged from the participants' reflections on their relationship with AI tools like ChatGPT in the lesson planning process. These initial codes captured participants' beliefs and concerns about the role of AI in teaching. Next, the codes were organized into broader categories. These categories helped to refine the understanding of the data by grouping similar ideas together. For instance, the codes "cultural sensitivity" and "ethical AI usage" were linked into a broader category that concerned the participants about ensuring that AI-generated content was appropriate, unbiased, and culturally relevant (Fig. 1).

After the establishment of the categories, they were further refined and synthesized into themes. These themes represented the key areas of concern and reflection from the participants in line with the theoretical framework of the study. Through multiple rounds of coding and categorization, the following themes emerged: Human-centered teaching vs. machine-centered learning, professional growth and autonomy through reflective AI engagement, ethical considerations and cultural sensitivity, and technology as a tool vs. crutch.

Data triangulation was employed to ensure the trustworthiness of the analysis. This process involved comparing the findings from both the interviews and narrative forms to verify the consistency of emerging patterns. Moreover, member checking was employed to enhance the credibility of the findings. Participants were invited to review the identified themes and provide feedback on the interpretations of their responses. Participants received a summary of the identified themes via email and were invited to confirm or challenge the accuracy of the interpretation. All participants affirmed that the themes reflected their views. In cases where clarification was needed, we followed up individually, and adjustments were made to ensure their perspectives were represented accurately and respectfully Figs. 2, 3, 4, 5

3.4 Findings

This section presents the key themes that emerged from the qualitative analysis of novice teachers' experiences of using ChatGPT in lesson planning and material development, which are interpreted through the lens of CDL (Table 2).

3.5 Human-Centered teaching vs. machine-centered learning

A dominant tension that surfaced was the fear of technology displacing the emotional and relational core of teaching. While many participants recognized ChatGPT's

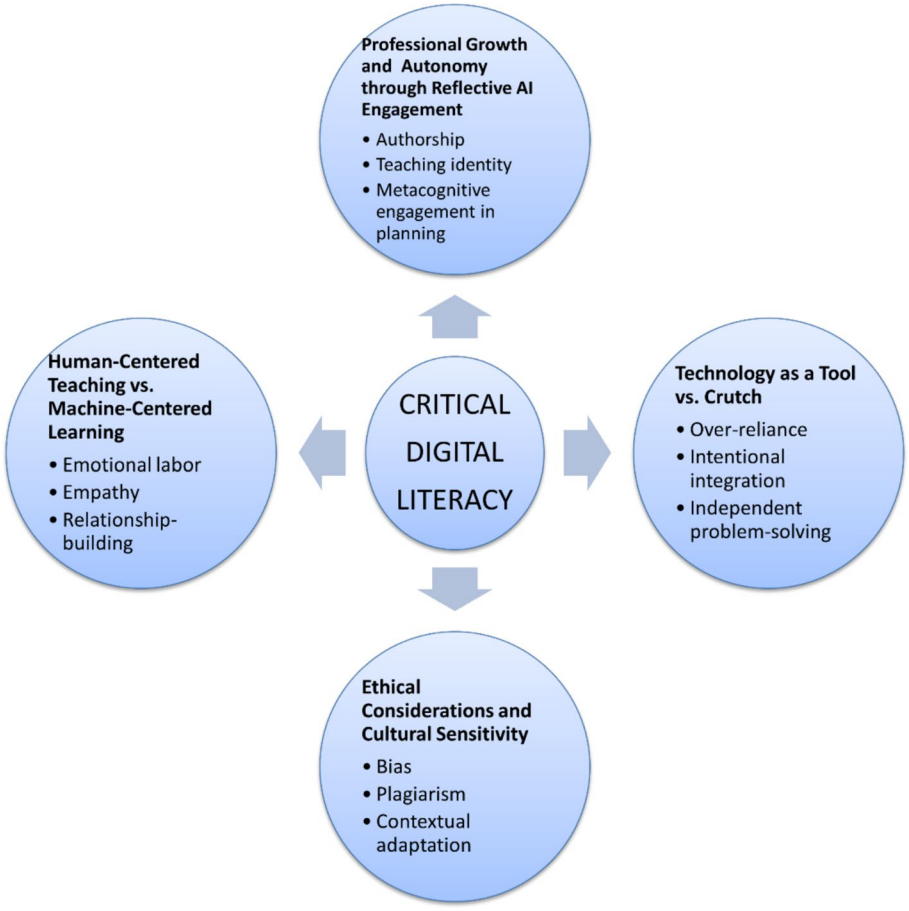

Fig. 1 Thematic map showing the relationship between participants' experiences and key components of Critical Digital Literacy

Subtheme (Code)	Definition	Supporting Quote Example	CDL Dimension(s)
Emotional labor	Emotional effort invested in teaching and student care	"I still have to show care and be emotionally present."	Critical Reflection, Ethical Awareness
Empathy	Understanding student emotions/needs	"AI can't feel what my students feel."	Situated Literacy, Critical Inquiry
Relationship-building	Forming bonds with learners	"Learning is about the bond we create."	Ethical & Relational Pedagogy

Fig. 2 Thematic map illustrating the theme "Human-Centered Teaching vs. Machine-Centered Learning."

Subtheme (Code)	Definition	Supporting Quote Example	CDL Dimension(s)
Authorship	Maintaining originality in lesson creation	"I tweak AI outputs to make them mine."	Critical Creation, Authorial Agency
Teaching identity	Development of self-perception as a teacher	"I feel like I'm becoming a better planner."	Reflective Practice, Identity Formation
Metacognitive engagement	Thinking deeply about planning and AI use	"It made me rethink how I scaffold tasks."	Critical Reflection, Metacognition

Fig. 3 Thematic map illustrating the theme "Professional Growth and Autonomy."

Subtheme (Code)	Definition	Supporting Quote Example	CDL Dimension(s)
Bias	Cultural/political misalignment in AI output	"It assumes a Western classroom setting."	Critical Inquiry, Ideological Awareness
Plagiarism	Unoriginal or copy-paste use of AI content	"I worry students will just copy."	Ethical Authorship, Academic Integrity
Contextual adaptation	Localizing AI output to fit classroom norms	"It didn't fit the Iranian context."	Situated Literacy, Critical Adaptation

Fig. 4 Thematic map illustrating the theme "Ethical Considerations and Cultural Sensitivity."

Subtheme (Code)	Definition	Supporting Quote Example	CDL Dimension(s)
Over-reliance	Excessive dependence on AI tools	"I'm scared of becoming too lazy with it."	Critical Reflection, Self-Regulation
Intentional integration	Purposeful use of AI to support—not replace—thinking	"I use it to brainstorm, not to replace my thinking."	Digital Minimalism, Strategic Use
Independent problem solving	Trying to plan without AI first	"I try to first come up with ideas myself."	Metacognitive Digital Literacy

Fig. 5 Thematic map illustrating the theme "Technology as a Tool vs. Crutch."

efficiency in generating content, they remained deeply committed to preserving teaching as a human practice centered on empathy, intuition, and authentic connection.

> *Teaching, for me, is a human activity. The emotional connection I have with my students is not something that AI can understand or replicate. (T5, Interview)*

Such views reflect the critical reflection and critical inquiry dimensions of CDL, where educators are encouraged to interrogate not just *what* technologies can do, but *what they do to pedagogical values*. Teachers displayed an acute awareness of the limits of algorithmic interaction, particularly in contexts that require emotional intelligence and tacit knowledge, which are the qualities central to student engagement and learning.

> *ChatGPT is useful, but it doesn't feel my students' moods or pick up on their struggles when designing materials. When I plan lessons, I keep every small detail into my considerations. For example, if a class starts at 4 PM, I predict that the students might be sleepy or tired so I should engage them in activities that help them cheer up. (T2, interview).*

Participants positioned AI as potentially instrumentalizing the classroom. In situations like this, efficiency might come at the cost of human presence. This aligns with concerns in CDL literature that automation may foster "instrumentalist literacy" rather than critical, ethical engagement [43].

> *There's a danger that if we rely too much on AI, we might forget that we're teaching people, not just delivering information. (T9, Interview)*

In conclusion, this theme reveals an essential conflict between technological functionality and pedagogical philosophy. Within the CDL framework, such resistance can be read as an assertion of critical agency. This agency can be a refusal to let digital tools reconfigure the emotional labor and interpersonal texture of teaching. Moreover, this theme reflects teachers' awareness of what AI tools cannot capture in lesson planning and

Table 2 Summary of Findings and Connections to Critical Digital Literacy

Theme	Key Findings	CDL Connection
Human-Centered Teaching vs. Machine-Centered Learning	Participants value the emotional connection and human aspects of teaching, expressing concerns that AI could dehumanize the learning experience.	Critical Reflection: Teachers engage in reflecting on the emotional and relational dimensions of teaching and technology's role in those.
Professional Growth and Autonomy through Reflective AI Engagement	Teachers worry that excessive reliance on AI might erode their professional autonomy and hinder the development of their personal teaching style. AI is seen as helpful for generating ideas, but teachers emphasize the importance of struggling through the planning process for professional development	Critical Creation: Teachers use ChatGPT as a tool to support, not replace, their creative agency in lesson planning. Teachers reflect on how their professional growth is rooted in the personal, critical process of lesson
Ethical Considerations and Cultural Sensitivity	Teachers critically examine AI-generated content for bias, cultural relevance, and plagiarism concerns, adapting content to meet their students' needs.	Critical Inquiry: Teachers actively evaluate the cultural and ethical appropriateness of AI-generated content, questioning its inherent biases.
Technology as a Tool vs. Crutch	Teachers recognize AI as a valuable tool for inspiration and time-saving but express concerns that over-reliance could undermine their teaching skills.	Critical Reflection: Teachers reflect on the dangers of over-reliance on AI, emphasizing the importance of maintaining intellectual independence and creativity.

material development, such as student engagement, emotional understanding, and the dynamic flow of classroom interaction. This aligns with Hinrichsen and Coombs' [23] view of critical digital literacy as situated and ethically responsive, not just functional. Rather than adopting AI without question, participants demonstrated what Mihailidis [37] terms *critical agency* – the ability to question when, how, and why digital tools should be used in pedagogical decision-making.

3.6 Professional growth and autonomy through reflective AI engagement

Another noticeable theme was the negotiation between technological assistance and teacher autonomy. While ChatGPT was often praised for its support in the planning process, many teachers voiced concerns that over-reliance could dilute their professional voice and hinder the development of a distinct teaching identity.

> *When I use ChatGPT, I still want to feel like it's me doing the work, not the machine. (T1, narrative notes)*

This concern connects directly to critical creation in CDL, which posits that digital engagement should support users in becoming active producers and not passive consumers of content.

> *Even if ChatGPT gives me a full lesson, I always rewrite it to sound like my own voice. I want my materials to be human-like, not like a robot. (T2, interview)*

Teachers described a desire to revise and recontextualize AI-generated material in ways that reflect their beliefs and teaching styles.

> *I'm still finding my style as a teacher. If I rely too much on AI now, I worry I won't develop my own way of doing things. I may lose my creativity when planning my lesson and developing materials. (T7, Interview)*

Such reflections underscore the formative nature of novice teaching and the risks posed by technological shortcuts during identity construction. CDL challenges educators to cultivate awareness of how digital tools might shape not just practice, but personhood including how teachers perceive themselves and their roles in classrooms [12].

While ChatGPT was appreciated for stimulating new ideas and offering fallback options during planning blocks, many teachers cautioned against allowing it to short-circuit the reflective struggle essential to deep learning.

> *It's useful for when I'm stuck, but I try not to let it take over my planning. That's where I really learn, by struggling and figuring things out. (T4, narrative)*

Reflection is central to both teacher identity and CDL. As Hinrichsen and Coombs [23] note, critical reflection is a core component of digital literacy. This component involves an ongoing interrogation of one's own beliefs, actions, and digital engagements. Participants emphasized that it is in the act of planning, questioning, revising, and imagining that they construct their pedagogical intentions and professional values.

> *Lesson planning isn't just a task. It's where I think about my students, my goals, my teaching. If AI does all of it, I might miss that reflection. (T1, interview)*

The tension here lies not in the use of AI, but in its potential to displace the process through which teachers learn, refine, and grow. In CDL terms, the challenge is to foster a relationship with technology that encourages critical metacognition rather than passive acceptance.

> *It helped me get started, but the real learning came when I adjusted things on my own. When planning my lessons, I don't want to feel scared when ChatGPT isn't around. (T6, interview)*

This theme highlights the critical importance of ownership and intentionality in digital pedagogies. Through a CDL lens, novice teachers' resistance to uncritical adoption reflects an emerging understanding of professional autonomy as an ethical stance in the age of AI. Additionally, participants' choice to revise and reshape ChatGPT outputs illustrates the CDL dimension of *creative production* [23], where users modify digital content rather than use it as-is. These actions reflect Cope and Kalantzis' [14] concept of *redesign*, in which educators transform digital texts to match their professional voice, purpose, and learner context. Far from undermining their identity, AI use became a site

for asserting authorship and pedagogical independence, even in the early stages of their careers.

ChatGPT served as a starting point rather than a substitute for pedagogical thinking. Participants described how it encouraged them to reflect on lesson structure, teaching goals, and their own decision-making. This illustrates the reflective and adaptive dimensions of CDL [23] and supports Mihailidis' [37] call for digital literacy to go beyond use toward transformation. Teachers were not simply learning to operate a tool, but they were learning to understand themselves as educators in relation to it.

3.7 Ethical considerations and cultural sensitivity

Participants demonstrated notable ethical and cultural awareness when engaging with AI-generated content. They frequently questioned the appropriateness, fairness, and contextual fit of materials produced by ChatGPT. They also expressed a strong sense of responsibility for adapting such content before classroom use.

> *Sometimes the examples or texts generated by ChatGPT are too Western or culturally irrelevant for my learners. I always adapt them. (T9, Interview)*
> *… for my first TP, I was designing a context to teach grammar with the help of ChatGPT. I asked it to design the context and it mentioned a holiday that no one here celebrates. I had to change that to something local. (T10, interview)*

This critical stance aligns closely with CDL's emphasis on critical inquiry and contextual critique, particularly in relation to algorithmic bias and the reproduction of dominant ideologies. As Hinrichsen and Coombs [23] argue, critical digital literacy involves asking not just what information is provided but whose voices are included, excluded, or marginalized in digital content. These participants positioned themselves as pedagogical gatekeepers who refused to outsource cultural relevance to a tool trained primarily on global and Western-centric data. Their comments also highlight the importance of local knowledge and teacher mediation in adapting AI for classroom use. What may appear as minor edits (e.g., replacing a holiday reference) actually reflect deep professional judgment and a commitment to learner inclusivity – traits often associated with more experienced practitioners. Moreover, concerns about plagiarism, originality, and professional integrity featured prominently:

> *I don't want my lessons to feel like copy-paste jobs. It's not just about ethics; it's about respect for my students and the profession." (T2, interview)*

Here, the teachers' reflections resonate with CDL's focus on ethical digital authorship and the need to foster critical judgment in an age of abundant but unfiltered information. Their caution of "ready-made" content and their insistence on responsible adaptation also demonstrate a developing sense of pedagogical ethics in the digital era.

In summary, this theme reflects novice teachers' evolving critical consciousness about cultural relevance, intellectual integrity, and power dynamics embedded in AI-generated content. These insights are crucial for a CDL-informed pedagogy that centers social justice, cultural inclusion, and ethical discernment. The participants displayed critical awareness of how AI-generated materials could reflect biased, Western-centric assumptions. Their actions, which were adjusting examples, replacing inappropriate content, align with the ethical dimension of CDL as defined by Hinrichsen and Coombs [23],

where teachers evaluate digital material through a moral and contextual lens. This also supports Mihailidis' [37] view that critical digital literacy requires educators to remain attentive to culture, power, and representation when using global technologies in local classrooms.

3.8 Technology as a tool vs. crutch

Trainees expressed ambivalence about the convenience of ChatGPT, often framing it as a double-edged sword. While they acknowledged its benefits in providing inspiration and saving time, many warned against the risk of becoming intellectually and creatively dependent on the tool.

> *It's tempting to use it all the time, especially when I'm tired. But I try not to, because I feel I learn more when I do things myself. (T8, narrative)*

This reflects CDL's emphasis on critical reflection which urges users to consider the long-term implications of digital tool use on their cognitive development and professional capabilities. Teachers recognized that frequent reliance on AI might undermine their capacity to engage in deeper instructional design, spontaneous classroom decision-making, and critical problem-solving which are considered core competencies in professional teaching. Importantly, this reflection was not imposed from outside; it emerged organically from participants' own planning struggles and personal standards. Their self-regulated restraint demonstrates a form of metacognitive digital literacy.

> *If we let AI do all the planning, we might lose our edge. Teaching isn't just about delivering pre-made content, it's about making decisions in real time. (T3, interview)*

This statement highlights an important distinction between planning and teaching and speaks to the dynamic, in-the-moment nature of classroom instruction. Such reflections suggest an emerging understanding of digital minimalism within the CDL paradigm, where educators aim to engage with technology deliberately and purposefully, rather than reactively or habitually [48, 49].

> *Sometimes I force myself to write the plan first, then check with ChatGPT, just to keep my brain active. (T5, interview)*

This kind of deliberate sequencing, where the teacher privileges original thinking before consulting AI, suggests a developing framework of digital minimalism within CDL. Rather than rejecting AI, participants sought to integrate it purposefully by maintaining professional engagement while still benefiting from the tool's affordances. This reinforces Selwyn's [48, 49] vision of educators as selective and strategic users of technology.

In conclusion, this theme highlights a central tension in CDL: how to balance the affordances of AI with the imperative to cultivate independent, reflective, and context-sensitive practitioners. These teachers are not rejecting technology, but rather seeking a principled use that enhances rather than erodes their pedagogical expertise. The participants expressed a clear concern with over-reliance on AI by emphasizing the need to remain mentally and pedagogically engaged. This demonstrates the reflective capacity that Hinrichsen and Coombs [23] identify as essential to CDL, where technology is not merely adopted, but questioned and intentionally controlled. These findings echo Mihailidis' (2018) argument that digital literacy must include awareness of one's own habits of

use, which allows users to decide when to accept support and when to take independent action.

4 Discussion

Examined through the perspective of CDL, this study investigated how EFL educators interacted with ChatGPT in the process of lesson planning and material development. The results indicated that these novice teachers did not merely utilize generative AI as a technical resource; rather, they actively deliberated its educational significance. Their involvement highlighted continuous decisions regarding authorship, instructional quality, cultural relevance, and their own professional identities.

In relation to the first theme, the participants voiced concerns that while ChatGPT might assist in material generation, it could diminish the relational and emotional aspects that are fundamental to lesson planning and material development. Furthermore, the participants underscored the necessity of crafting materials that resonate with students' feelings, needs, and local contexts. These apprehensions align with Hinrichsen and Coombs' [23] CDL framework, especially concerning the dimensions of critical inquiry and ethical engagement, where users are required to scrutinize not just the functionality but also the pedagogical consequences of digital tools. Additionally, as the participants emphasized the importance of emotional labor in teaching, the initial theme reflects Pangrazio and Selwyn's [43] critique of instrumentalist literacies that perceive technology as neutral and focused solely on efficiency. Coeckelbergh [13] suggests that the relational aspect of education cannot be reproduced by AI systems since they lack empathy and contextual understanding. The concern that human interaction might be reduced due to automation aligns with worries about impersonal instruction [48, 49] and highlights the necessity for AI integration approaches that prioritize emotional and ethical factors.

The second theme revealed that how novice teachers perceived ChatGPT as a potential threat to their emerging professional identity and autonomy. Although ChatGPT helped them become more efficient at lesson planning and material development, the participants worried about losing their voice, style, and decision-making agency as independent teachers. This concern was also raised in the literature [11, 38]. The participants' efforts to revise, adapt, and personalize AI-generated content reflect what CDL identifies as critical creation [5]. Rather than being passive consumers of AI, the participants wanted to become active designers of digital content. They wanted to confirm their professional authority in pedagogical decision-making. This insight expands prior work by emphasizing how generative AI can be either a creative partner or a shortcut that hinders teacher growth, which is based on how critically it is involved. This kind of reflection corresponds with Cope and Kalantzis' [14] concept of redesign, where educators modify and reshape multimodal content to suit the needs of learners and educational objectives. Mihailidis (2018) highlights that CDL should empower individuals to question and adapt content to align with ethical and pedagogical principles. Likewise, Carrington and Robinson [12] suggest that digital authorship plays a role in the formation of new professional identities. These viewpoints are reflected in participants' wishes to customize AI-generated materials so that they represent their voice, context, and beliefs when creating educational resources. The participants also mentioned that planning lessons is an ongoing process. In this process, challenges and reflection are crucial

for development. Their caution regarding excessive dependence on AI aligns with Selwyn's [48, 49] perspective of digital minimalism, where intentional disengagement is just as vital pedagogically as the strategic application of technology. The focus on cultivating a distinctive teaching voice through reflective practice resonates with Farrell's (2015) notion of identity as contextual, evolving, and closely linked to decisions made in the classroom.

The participants demonstrated a significant awareness of ethical considerations when modifying AI-generated content. They often scrutinized the cultural appropriateness, bias, and contextual relevance of the materials offered by ChatGPT. This aligns with the ethical aspect of CDL as outlined by Hinrichsen and Coombs [23] and corresponds to Mihailidis' [37] concept of critical agency concerning unclear algorithmic systems. The necessity to culturally adapt content, such as substituting Western holidays or modifying idiomatic expressions, illustrates what Pennycook [45] refers to as the situatedness of language, indicating that meaning is never devoid of context. These efforts also reflect Janks' [26] critical literacy framework, which emphasizes the need to question prevailing ideologies present in texts. Teachers involved in this study did not passively accept AI-generated materials, rather, they actively adjusted them to resonate with their learners' values and experiences. This form of adaptation is in line with the criticisms of data colonialism articulated by Couldry and Mejias [15], who caution against the unexamined adoption of globally produced content within local educational environments.

Concerns surrounding plagiarism, authorship, and professional integrity emerged as significant issues. Educators expressed unease about the prospect of presenting AI-generated material as their own, reflecting the views of Pangrazio (2016), who contends that critical digital literacy should encompass a moral understanding of digital authorship. This ethical perspective is crucial for building trust and transparency within the classroom. The final theme examines how teachers navigated the benefits of ChatGPT while retaining their own pedagogical authority. Although the tool was perceived as beneficial for generating preliminary ideas, educators articulated a need to retain control over lesson design and decision-making. This conflict illustrates the critical reflection aspect of CDL [23], where users evaluate not only the outcomes but also the impact of technology on their thought processes. This theme further highlights Williamson et al.'s (2020) concern that an excessive dependency on AI may diminish teacher autonomy by transferring authority from the educator to the platform. Participants in this research actively resisted such shifts, reaffirming their professional role as instructional designers and decision-makers. Their careful approach indicates a mature comprehension of the limitations of automation, even among inexperienced educators. Teachers' deliberate strategies, such as drafting plans before engaging with AI, align with Selwyn's [48, 49] argument that intentionality should steer digital interactions. These insights also corroborate Fawns' [20] concept of postdigital pedagogy, which regards educational technology as integrated into human practices rather than as a separate entity. Instead of replacing teaching tasks, ChatGPT acted as an assistant in the cognitive process by encouraging reflection without dictating results.

All in all, this study supports the idea that CDL is not merely a theoretical concept but a practical reality developed through the everyday choices teachers make when planning their lessons. The participants analyzed the cultural beliefs, teaching implications, and knowledge foundations associated with AI-generated material. This analysis reflects

the viewpoints of Cope and Kalantzis [14], Mihailidis [37], and Pangrazio and Selwyn [42, 43]. Their approaches align with the recommendations from Littlejohn et al. [33] to integrate critical digital literacies into teacher education programs to ensure that emerging teachers are equipped not just to utilize technology but also to critically evaluate, modify, and apply it ethically.

The findings of the study highlight the pressing necessity for teacher education programs to integrate CDL as an essential element, not merely as a separate skill, but as a perspective that is nurtured throughout coursework and practical experiences. Novice teachers need to gain the ability not just to utilize generative AI tools like ChatGPT, but also to analyze, modify, and contextualize them for various classroom settings. Educational institutions should develop modules that clearly connect the use of these tools to ethical considerations, identity formation, and cultural significance. On a policy level, frameworks for digital competency should broaden to incorporate aspects of agency, authorship, and awareness of bias by shifting the focus from merely operational skills. Finally, AI developers must recognize teachers as active mediators, not passive end-users, and create tools that are transparent, editable, and culturally adaptable.

5 Conclusion

This study set out to explore how novice EFL teachers navigate the use of ChatGPT in lesson planning and material development through the lens of CDL. The findings revealed the existence of a complex but thoughtful relationship between new teachers and AI. The participants did not simply adopt ChatGPT as a shortcut for efficiency, however, they engaged with the tool critically. They questioned its implications for their professional identities, ethical responsibilities, and pedagogical values.

This research has several limitations that indicate potential paths for future study and application. Firstly, the sample size was limited and specific to a certain context. The sample size consisted of just ten novice teachers from a single teacher training program in Iran. To overcome this, future research should incorporate larger and more varied samples from diverse regions, programs, and cultural settings to gain a better understanding of how novice EFL/ESL teachers globally interact with AI tools like ChatGPT. Secondly, since the results may not accurately reflect experiences beyond this context, comparative studies in different sociocultural and educational landscapes are necessary to examine the local adaptations and interpretations of AI utilization in teaching practices. Thirdly, the focus of the study was on the short-term use of AI during a training course. Longitudinal studies that monitor novice teachers' changing reflections and critical digital literacy over extended periods would harvest richer insights into the continuing effects of AI on teacher development. By addressing these limitations through ongoing empirical investigation and reflective practices, the field can enhance its ability to leverage AI's potential in fostering effective and culturally responsive teacher education.

Appendix

Appendix A: Teacher training AI component

5. Introduction to AI in Education (30 min): In the introductory session, we aimed to provide an overview of AI technologies in education. We also included a brief

discussion on ethical considerations, such as responsible and transparent use of AI in educational settings.

6. ChatGPT for Writing Lesson Plans (1 h): During this session, trainees were shown how to prompt ChatGPT to create lesson plans. We demonstrated how to generate key components such as lesson objectives and phases of the lessons when generating lesson plans.
7. Developing Teaching Materials with ChatGPT (1 h): in this session, we explored how ChatGPT could help generate various types of teaching materials, such as quizzes, worksheets, reading passages, and discussion prompts.
8. Challenges, Troubleshooting, and Final Q&A (30 min)

Appendix B: Interview questions categories

Understanding and Perception of ChatGPT's Capabilities (Comprehension**):** For example, participants were asked, *"What was your initial reaction when you first heard about using ChatGPT for lesson planning?"*

Critical Engagement with AI-Generated Content (Critical Reflection)**:** Participants reflected on their use of ChatGPT, with questions like *"How do you evaluate the lesson plans or materials generated by ChatGPT?"*

Ethical Considerations and Concerns (Ethical Reflection): An example question included *"What concerns, if any, do you have about using ChatGPT for lesson planning, especially regarding bias or plagiarism?"*

Pedagogical Identity and Teaching Autonomy (Pedagogical Reflection): For example, participants were asked, *"How has using ChatGPT in lesson planning affected your confidence in your teaching abilities?"*

Growth Opportunities and Professional Development (Professional Growth): One of the questions was, *"Do you think using ChatGPT for lesson planning has helped you grow professionally? If so, how?"*

Author contribution
Pourya Javahery: conceptualization (Lead); data curation (lead); formal analysis (lead); methodology (equal); writing – original draft (equal); writing – review and editing (equal). Muhammet Furkan Alpat: conceptualization (supporting); data curation (supporting); formal analysis (supporting); methodology (supporting); writing – original draft (supporting); writing – review and editing (equal). Jaber Kamali: conceptualization (supporting); data curation (supporting); formal analysis (supporting); methodology (equal); supervision (lead); writing – original draft (equal); writing – review and editing (equal).

Funding
This research received no external funding.

Data availability
The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
All experimental protocols were approved by the Ibn Haldun University review ethics committee. This study adhered to ethical guidelines, aligned with the Declaration of Helsinki (General Assembly of the World Medical Association, 2014). All participants in this study provided informed consent to take part. Participation was entirely voluntary, and individuals had the right to withdraw at any stage without any consequences. Confidentiality and anonymity of the participants were maintained throughout the research process.

Consent for publication
All authors consent to the submission of this manuscript to the *Discover Computing* journal for consideration. We confirm that the work is original, has not been published elsewhere, and is not under review in any other journal. If accepted, we agree to its publication in accordance with the journal's policies.

Competing interest
The authors declare no competing interests.

Received: 29 May 2025 / Accepted: 5 September 2025
Published online: 12 September 2025

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