



Integration of Digital Literacy and Critical Thinking Culture in 21st Century Curriculum Design: A Conceptual Article in the EFL Environment

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Abstrak

Transformasi pedagogis di abad ke-21 menuntut pembelajaran Bahasa Inggris sebagai Bahasa Asing (EFL) beradaptasi dengan perkembangan literasi digital dan kebutuhan berpikir kritis yang semakin kompleks. Kurikulum tidak lagi hanya berorientasi pada penguasaan tata bahasa dan keterampilan berbahasa dasar; kurikulum juga harus menanamkan literasi digital, berpikir kritis, dan kemampuan untuk berpartisipasi secara etis dalam ekosistem digital global. Artikel konseptual ini mengembangkan model integratif yang menghubungkan literasi digital dan budaya berpikir kritis ke dalam desain kurikulum EFL modern. Melalui sintesis komprehensif teori multiliterasi, konstruktivisme, pendekatan pedagogi digital, dan studi empiris terkini, artikel ini menyajikan kerangka kerja konseptual yang memposisikan literasi digital (akses, evaluasi, kreasi, dan komunikasi digital) dan budaya berpikir kritis (analisis, evaluasi, refleksi, argumentasi) sebagai inti kurikulum EFL yang responsif terhadap tantangan abad ke-21. Temuan konseptual ini menyoroti kesenjangan penelitian dalam kurangnya integrasi sistemik kedua kompetensi ini ke dalam kurikulum EFL di banyak konteks negara berkembang, termasuk Indonesia. Integrasi budaya berpikir kritis ke dalam kurikulum EFL dan strategi pedagogis abad ke-21 merupakan dasar fundamental untuk menumbuhkan pembelajar yang reflektif, argumentatif, dan adaptif yang siap menghadapi tantangan global. Artikel ini merumuskan model konseptual, proposisi teoretis, implikasi pedagogis, dan arahan penelitian lebih lanjut yang dapat menjadi referensi bagi para pengembang kurikulum, peneliti ELT, dan praktisi pendidikan tinggi.

Kata Kunci: Berpikir Kritis, Budaya Konseptual, Literasi Digital, Lingkungan Pembelajaran Bahasa Inggris

Abstract

The pedagogical transformation in the 21st century demands that English as a Foreign Language (EFL) learning adapt to the development of digital literacy and the increasingly complex needs of critical thinking. Curricula are no longer simply oriented toward mastery of grammar and basic language skills; they must also instill digital literacy, critical thinking, and the ability to participate ethically in the global digital ecosystem. This conceptual article develops an integrative model that connects digital literacy and a culture of critical thinking into modern EFL curriculum design. Through a comprehensive synthesis of multiliteracies theory, constructivism, digital pedagogy approaches, and recent empirical studies. This article presents a conceptual framework that positions digital literacy (access, evaluation, creation, and digital communication) and a culture of critical thinking (analysis, evaluation, reflection, argumentation) as the core of an EFL curriculum that is responsive to 21st-century challenges. These conceptual findings highlight a research gap in the lack of systemic integration of these two competencies into EFL curricula in many developing country contexts, including Indonesia. The integration of critical thinking culture into the EFL curriculum and pedagogical strategies of the 21st century is a fundamental basis for cultivating reflective, argumentative, adaptive learners prepared to confront global challenges. This article formulates a conceptual model, theoretical propositions, pedagogical implications, and further research directions that can serve as a reference for curriculum developers, ELT researchers, and higher education practitioners.

Keywords: Conceptual, Critical Thinking, Culture, Digital Literacy, EFL Environment

Introduction

Developments in 21st-century education demand a curriculum framework that focuses not only on mastering linguistic competencies but also encompasses technological mastery and higher-order thinking skills (Jordan et al., 2025). Learning English as a Foreign Language (EFL) is facing fundamental changes due to digitalization, globalization, and the development of artificial intelligence (Çinar, 2012). Although linguistic proficiency is essential, contemporary learners must also acquire skills such as digital literacy, information evaluation, and critical thinking to effectively manage the intricacies of cross-cultural communication (Saleh, 2019). These changes require a curriculum that is more adaptive, multimodal, and responsive to the needs of the times.

Notwithstanding the escalating demands of 21st-century education, EFL curriculum practices in numerous countries, including those in Southeast Asia, continue to predominantly favor traditional methodologies that prioritize memorization, the practice of language structures, and teacher-centered instruction (Rahimi & Tafazoli, 2022). Such methodologies constrain the prospects for digital literacy advancement, as students are not allowed to freely access, assess, or generate digital content (Lawitta, 2025). Moreover, a culture of critical thinking has not yet been fully integrated into ordinary learning activities, hindering students' ability to study texts, assess arguments, or engage in thoughtful and analytical conversations (Knochel, 2013).

On the other hand, recent research shows that digital literacy and critical thinking are strongly correlated with global communication skills, multimodal text comprehension, and more complex language production skills. Digital literacy empowers students to engage with native language resources extensively and authentically, whereas critical thinking skills facilitate the evaluation of information credibility and the construction of profound understanding (Prior et al., 2016). Nevertheless, the majority of

research continues to treat these two competencies as distinct, without a cohesive model that elucidates their integration within EFL curriculum design. The absence of a comprehensive paradigm has resulted in the erratic and unsystematic use of 21st-century capabilities (Rubach & Lazarides, 2021).

This situation highlights the need for a conceptual model capable of bridging the relationship between digital literacy, critical thinking, and EFL curriculum design. The model developed must incorporate pedagogical elements such as multiliteracies, constructivism, and task-based learning as the basis for integration. Thus, the resulting curriculum will not only accommodate language proficiency but also develop digital competencies, higher-order thinking skills, and communication ethics in the digital space. This conceptual article is designed to provide conceptual direction and a theoretical framework for developing an EFL curriculum based on digital literacy and a culture of critical thinking that is relevant to the needs of today's global education.

Purpose of the Conceptual Article

This conceptual article develops an integrative conceptual model that explains how digital literacy and a culture of critical thinking can be systematically integrated into the design of a 21st-century EFL curriculum. This model is expected to provide both theoretical direction and a practical framework for developing an English language curriculum that is relevant to the demands of global, digital, and cognitive competencies.

Theoretical Foundation and Literature Synthesis

21st-Century EFL Curriculum

The design of EFL curricula in the 21st century necessitates the incorporation of four fundamental pillars that address global competencies: linguistic competence, technological competence (digital competence), cognitive competence (critical and creative thinking), and social competence, encompassing communication, collaboration, and ethics (Nisa et al., 2023). In practice, conventional

EFL programs primarily emphasize language ability as the central aspect of learning, but the technology dimension and critical thinking are not yet regarded as essential components of the curriculum framework. This disparity generates a chasm between the requirements of the progressively digital 21st century and the developing literacy in students' everyday experiences, alongside a language learning framework that remains rigid and detached from contemporary competencies (Rahimi & Tafazoli, 2022). The instruction in the English language is not only disjointed but also inadequate in preparing pupils for the intricate demands of communication, teamwork, and digital literacy in a globalized context (Nurul Asri, 2019). The 21st-century EFL curriculum must be transformed to incorporate digital and critical competencies across all aspects, including objectives, content, learning methodologies, and examinations (Lawitta, 2025).

Digital Literacy in EFL Learning

Digital literacy in the EFL context extends beyond mere proficiency in utilizing technological devices or digital applications; it encompasses a comprehensive array of competencies, including the capacity to access digital information, assess the credibility and quality of such information, generate digital content, and engage in ethical communication within digital environments. In English learning, digital literacy plays a crucial role as a means of increasing authentic exposure because students can access native (Yilmaz Özden, 2023) language resources from various digital platforms. Furthermore, digital literacy encourages the expansion of text formats in learning, not only in printed text but also in multimodal forms such as videos, infographics, online forums, and social media content. This strengthens students' competence in producing meaning in various formats and media (Deiniatur et al., 2024).

Digital competencies enhance global communication abilities, facilitating collaboration and interaction among

students, native speakers, and other EFL learners from many nations (Muthmainnah et al., 2022). Moreover, the capacity to generate digital content enhances creativity and offers pupils the chance to engage with language in more authentic and pertinent multimodal production environments. Therefore, digital literacy should be embedded in the EFL curriculum, not as an add-on, but as a core competency that determines students' ability to participate in an increasingly technology-driven global communication environment (Karaoglan Yilmaz et al., 2025).

A culture of Critical Thinking in EFL Environments

Critical thinking in EFL learning is closely related to students' ability to analyze texts, evaluate arguments, synthesize ideas, construct logical arguments, and reflect on the meaning and context of the language material being studied (Mohammadi et al., 2022). EFL students' critical thinking skills remain low due to the dominance of a traditional, teacher-centred learning culture that relies on memorization and little space for reflective or argumentative discussion (Knochel, 2013). In such environments, students are rarely involved in in-depth analysis, information evaluation, and complex meaning construction. The lack of practice in discussions, debates, text analysis, and argument-based assignments prevents the optimal development of critical thinking processes. Therefore, an EFL curriculum responsive to the needs of the 21st century must create a classroom culture that places critical thinking as a daily practice, not merely an optional skill (Jordan et al., 2025). This integration of a critical thinking culture will strengthen language skills while enhancing students' cognitive competencies in processing information and making analytical decisions (Namsaeng & Ambele, 2024).

Multiliteracies Theory

The notion of multiliteracies, proposed by the New London Group (1996), asserts that contemporary literacy extends beyond written texts to include cultural variety,

multimodality, and the practice of meaning design (design pedagogy) (Hong & Hua, 2020; Shahzadi, 2022). In the contemporary global context, students interact with diverse modalities of meaning representation, including images, music, animation, interactive graphics, and other digital instruments (Kim & Xing, 2019). The multiliteracies perspective posits that language education should enable students to comprehend, analyze, and generate meaning across diverse channels of communication (Lim et al., 2021).

In the EFL environment, multiliteracies theory serves as an optimal framework for incorporating digital literacy and critical thinking, as both are intricately connected to meaning interpretation and the creation of multimodal texts (Thibaut & Curwood, 2018). Digital literacy empowers students to access and employ diverse multimodal sources, whereas critical thinking assists students in assessing the quality and significance of these many kinds of representation

(Jordan et al., 2025). Consequently, multiliteracies provide a theoretical framework that integrates these two competences in the development of an EFL program that aligns with modern requirements.

Literature Synthesis

A synthesis of various literatures indicates that digital literacy and critical thinking are essential core competencies for 21st-century EFL learning. However, the integration of these two competencies into the curriculum remains superficial and sporadic. Various studies English language classrooms serve as a suitable environment for the application of critical thinking. EFL educators can include it in several facets of instruction and learning, including pedagogical methods, assessment procedures, and instructional materials (Saleh, 2019). Engage students in the practice of critical thinking by encouraging them to examine intercultural interactions and processes, and analyze the impact of other cultures on their perception of reality (Sobkowiak, 2016). However, there is a mismatch between theoretical

developments and practical implementation in the classroom. The curriculum and pedagogy employed in numerous schools are predominantly rigid, teacher-centred, and assessment-driven, thereby failing to foster the growth of digital literacy or critical thinking (Deiniatur et al., 2024). A conceptual model is required that systematically incorporates digital literacy and critical thinking into the EFL curriculum, assuring the integration of both competencies in the creation of objectives, resources, learning methodologies, and assessments as a cohesive entity.

Conceptual Framework

Main Components of the Model

This conceptual model presents a conceptual model that identifies digital literacy and critical thinking culture as essential characteristics influencing the creation of the 21st-century EFL curriculum. These two competencies are not supporting elements, but rather the main foundations in curriculum transformation that influence learning objectives, content, pedagogical approaches, and assessment. Digital literacy equips individuals with the competencies to access, analyze, evaluate, and produce digital content, whereas a culture of critical thinking establishes a cognitive framework that promotes thorough interpretation, reflection, and argumentation in both academic and digital discourse (Martínez-Bravo et al., 2022). Both are recognized as factors that directly shape the curriculum, leading to comprehensive and adaptable English education focused on global communication competencies. This integrative approach aims for the 21st-century EFL curriculum to cultivate digital communication competences, critical reading and writing abilities, multimodal text production skills, and digital ethics and duty as global citizens (Deiniatur et al., 2024). This demonstrates that digital literacy and critical thinking have been systemically internalized in curriculum design, not simply as additional components.

Interrelationships Between Components

The relationships among the components in this conceptual model are systemic and interrelated. Digital literacy equips pupils with the technological, interpretative, and operational competencies necessary to responsibly access and generate digital information (Rahimi & Tafazoli, 2022). Critical thinking provides an analytical, evaluative, and reflective foundation that enables students to assess the quality of information, construct arguments, and synthesize meaning from various multimodal sources (Manalo et al., 2015). Through an integrated 21st-century EFL curriculum design, this model produces learning outcomes in the form of digital communicative competence, strong argumentative skills, multimodal production skills, and an understanding of digital ethics, which are essential requirements in modern global communication.

The emphasis on the role of a “Culture of Critical Thinking” in this model demonstrates that critical thinking is understood not only as a set of skills, but as an academic culture encompassing habits of reflection, sustained analytical thinking, the courage to question and challenge assumptions, argumentative communication, and rational, evidence-based dialogue. By positioning it as a cultural element, this model emphasizes that the EFL curriculum must build a learning ecosystem that consistently encourages critical practice, rather than simply teaching technical cognitive skills.

Research Questions

This article fills the gap by the following Research Question:

How can digital literacy and a culture of critical thinking be systematically integrated into 21st-century EFL curriculum design?

Method

This article used a conceptual analysis approach to develop an integrative curriculum model that integrates digital literacy and a culture of critical thinking in the context of learning English as a foreign

language (EFL). This approach was chosen because the primary objective of the article is not to test empirical hypotheses, but rather to formulate theoretical constructs, map relationships between concepts, and develop a new framework (Hu & Guo, 2021), that can be used as a basis for designing a 21st-century curriculum. Conceptual analysis allows for an in-depth investigation of concept definitions, semantic boundaries, relational structures, and the theoretical and practical implications (Qamariah et al., 2025) in integrating digital literacy and a culture of critical thinking in curriculum design. Thus, this approach provides a strong scientific foundation for model development before being empirically tested in further research.

Procedurally, the conceptual analysis in this article is conducted through four main stages (Indrayani, 2025). The first stage involves identifying fundamental ideas pertinent to the study's focus: digital literacy, a culture of critical thinking, a 21st-century EFL curriculum, and pedagogical strategies that facilitate the integration of these two competencies. The identification is conducted by an examination of essential literature in multiliteracies, digital pedagogy, competency-based language education, critical pedagogy, and the curriculum of the digital age. The evaluated literature comprised esteemed international journal papers, research reports from global educational institutes, and modern curriculum models employed in diverse nations. This phase sought to establish a thorough comprehension of the theoretical evolution of each concept, the problems of implementation, and the integrative requirements within an EFL setting.

The second stage involved the clarification of concepts and the restoration of operational definitions. In conceptual analysis, clarification was attained by scrutinising the parallels and contrasts among diverse definitions in the literature, delineating semantic boundaries, and elucidating the structural components of each concept. Digital literacy encompasses access, analysis, evaluation, creativity, cooperation, and digital ethics; whereas

critical thinking culture includes critical reading, argument-based writing, reflective discourse, and evaluative listening. Conceptual clarification was undertaken to prevent overlapping concepts, terminological ambiguity, and mistakes frequently encountered in EFL studies. This stage was essential to guarantee that the produced model possessed a distinct conceptual foundation and could be duplicated in further research.

The third stage was the analysis of relationships between concepts and the construction of the model's structure. In this stage, the literature is analyzed to identify how digital literacy and a culture of critical thinking interact, how they influence curriculum elements, and how pedagogical approaches play a role in integrating them into learning practices. This process involves establishing hierarchical, horizontal, and functional relationships that demonstrate the flow of influence, practical reach, and domains of application. This analysis allows for the development of an integrative conceptual framework that explains the direct link between digital literacy, a culture of critical thinking, curriculum transformation, and EFL learning. A relational analysis approach is used to demonstrate how each component reinforces each other in producing 21st-century learning outcomes.

The fourth stage is conceptual synthesis and the formulation of the final model. The synthesis is carried out by combining the findings from the clarification and relationship analysis stages to produce a comprehensive, systematic, and easily implemented curriculum model. The synthesis does not simply summarize but creates a new integration that is theoretically sound and pedagogically applicable (Zeydani et al., 2023). This article proposes a conceptual model that identifies digital literacy and a culture of critical thinking as essential components in EFL curriculum design, underpinned by pedagogical strategies including Project-Based Learning (PBL), Task-Based Language Teaching (TBLT), and collaborative digital inquiry. The final

model is depicted as a conceptual diagram that demonstrates the direct correlation between the two competences and curriculum components, encompassing objectives, content, learning processes, and assessments. This study's conceptual analysis approach incorporates analytical rigor, emphasizing meticulous literature interpretation, terminological consistency, and logical validity in establishing theoretical linkages, alongside the four primary stages. Analytical rigor guarantees that every assertion in the model is firmly grounded in theory and devoid of speculation

Results

This section presents the results of a conceptual analysis conducted through theory mapping, literature synthesis, research gap evaluation, and the construction of a conceptual model for a 21st-century EFL curriculum based on digital literacy and a culture of critical thinking. The discussion focuses on how these two core competencies are positioned as the main foundation of the curriculum, how they relate to contemporary pedagogical practices, and their implications and transformations for the main components of the English language curriculum.

Main Findings of the Conceptual Analysis

The conceptual analysis indicates that the 21st-century EFL curriculum is at a point of fundamental change. The curriculum, which previously focused on grammar, vocabulary, and conventional communicative skills, now faces new demands stemming from the development of digital technology, changes in reading and communication styles, and the increasing need for critical thinking skills in dealing with global information. Recent literature emphasizes that linguistic competence alone is insufficient to prepare learners for a global communication context rich in multimodality, digital information manipulation, and demands for critical evaluation.

The results of the literature synthesis reveal two key findings. First, digital literacy is no

longer an additional competency, but a fundamental capacity that must be embedded in all language learning activities—from accessing information and analyzing digital sources to producing multimodal content, to cross-cultural communication. Second, a culture of critical thinking is an element systemically driven by 21st-century learning objectives, which emphasize the ability to interpret, evaluate arguments, reflect, and construct academic arguments. These two competencies reinforce each other and directly influence curriculum transformation.

Synthesis Results of Digital Literacy in EFL

The literature analysis identified that digital literacy has four main dimensions that are highly relevant to EFL learning: access, evaluation, creation, and digital communication. The access dimension refers to the skills of acquiring information from digital sources into language learning practices. However, the literature indicates that many EFL learners only utilize technology as a medium for passive consumption, rather than as a source of critical interaction or creative production. This finding aligns with research in Asia that suggests students are accustomed to receiving information without undergoing a thorough evaluation process.

The evaluation dimension is crucial because EFL learners must be able to discern the credibility of sources, understand context, and recognize digital bias. In the era of "information overload," this skill is crucial for preventing misuse of information, digital plagiarism, and the acceptance of false information (hoaxes). Literature findings also indicate that critical evaluation of digital information is very low among EFL students, making the integration of digital literacy into the curriculum an urgent need.

The creative dimension relates not only to the technical ability to create digital content, but also to the ability to construct meaning in multimodal texts—combining text, images, audio, or video in English communication. This skill is a hallmark of

21st-century competencies. Meanwhile, the digital communication dimension emphasizes communication ethics, collaboration through digital platforms, and active participation in the global community. The literature analysis confirms that digital literacy should be a core component of the curriculum, not a supporting or complementary activity.

Findings on a Culture of Critical Thinking in EFL

Research in Asian and African contexts indicates that EFL students' critical thinking skills are generally low due to the dominance of teacher-centred learning approaches. This results in minimal opportunities for discussion, argumentation, critical questioning, and analytical reflection. In this context, a culture of critical thinking is not merely a cognitive ability, but also a pedagogical ecosystem that fosters reflective and analytical thinking habits in the classroom. Literature analysis identifies four principal domains of a critical thinking culture in EFL: critical reading, which promotes the evaluation of argument structure, author bias, and text coherence; reflective dialogue, which underscores the capacity for in-depth and reflective discussion; argument-based writing, which necessitates the construction of claims substantiated by evidence and logic; and evaluative listening, which requires the critical assessment of spoken information. The four domains illustrate that critical thinking is essential across all language skills—listening, speaking, reading, and writing—rather than being limited to reading or conversation contexts.

DL–CT Integration as a Curriculum Foundation

The results of the model analysis indicate that digital literacy and a culture of critical thinking shape the curriculum structure with four main components: learning objectives, content, pedagogical approaches, and assessment.

In terms of learning objectives, DL–CT integration encourages the curriculum to emphasize outcomes such as multimodal

interpretation skills, critical argumentation, ethical digital communication, and multimodal text production. This shifts the learning orientation from mere vocabulary and grammar mastery to functional language skills in a digital and global context.

In terms of content, the results of the conceptual analysis indicate the need to incorporate digital-based materials such as multimodal texts, digital articles, interactive videos, online platform-based discussions, and digital ethics cases. Traditional content, such as static text-based reading passages, needs to be enriched with authentic texts that reflect academic and professional communication in the digital age.

In terms of pedagogical approaches, DL–CT integration requires the use of constructivist approaches, such as TBLT, problem-based learning, collaborative inquiry, and project-based digital learning. These approaches have proven effective in encouraging active participation, problem-solving, digital collaboration, and data-driven argumentative production.

Regarding assessment, the analysis shows that traditional assessments are no longer adequate for measuring 21st-century skills. Assessments need to be geared toward digital portfolio assessment, argumentative rubrics, multimodal content analysis, and digital production evaluation. This way, assessments should assess not only final results but also critical thinking processes, the quality of reflection, and creativity in the use of technology.

Discussion

The discussion in this conceptual article emphasizes that integrating digital literacy and a culture of critical thinking into the EFL curriculum is an urgent need driven by the epistemological and sociocultural changes of the 21st century. Language learning environments are no longer centred on printed texts but have evolved into multimodal, interactive, and digital data-driven ecosystems (Early et al., 2015). In this context, traditional linguistic competencies must be expanded to include the ability to navigate information, evaluate

the credibility of sources, produce ethical digital texts, and use language as a reasoning tool. The conceptual model developed in this article positions digital literacy and a culture of critical thinking as two key pillars in shaping curriculum design, teaching strategies, and learning outcomes that align with global needs and the demands of contemporary multiliteracies (Nurhayatin, 2020).

At first, digital literacy in EFL education may no longer be perceived merely as the technical proficiency in utilizing digital resources. It comprises a collection of cognitive, metacognitive, social, and ethical competences that pertain to how learners comprehend, evaluate, and engage with digital information. Within the curriculum framework, digital literacy catalyzes a fundamental transition in learning objectives from a linguistic focus to a multiliteracy focus. This modification necessitates that students possess the ability to interpret multimodal texts that integrate words, images, sounds, and various visual components that concurrently convey meaning. Digital literacy necessitates evaluative abilities, enabling students to identify prejudice, digital propaganda, visual manipulation, and disinformation, while engaging in discussions and academic discourse that prioritize evidence.

Consequently, a culture of critical thinking should establish itself as a standard in the classroom, directing all educational activities (Lawitta, 2025). Therefore, the integration of digital literacy not only improves language skills but also builds life skills and intellectual competence in the digital world.

Second, a culture of critical thinking acts as an epistemic foundation that fortifies the essence of language acquisition in this century. This culture pertains not just to critical thinking abilities but also includes reflective habits, the audacity to challenge assumptions, the capacity to formulate evidence-based arguments, and a receptive intellectual disposition. In EFL classrooms, a culture of critical thinking is manifested through critical reading techniques that necessitate students to discern primary ideas, analyze the structure of arguments,

and evaluate the values expressed both implicitly and openly in texts (Tan, 2017). This culture drives students to create persuasive writing that is coherent, organized, and substantiated by reliable evidence. A critical culture promotes deliberate discourse and scholarly engagement that prioritizes evidence. Consequently, a culture of critical thinking should establish itself as a standard in the classroom, directing all educational endeavors (Knochel, 2013; Burkhalter & Shegebayev, 2012).

Third, pedagogical serves as a crucial that translates digital literacy and a culture of critical thinking into concrete learning practices. Approaches such as Project-Based Learning (PBL), Task-Based Language Teaching (TBLT), and collaborative digital inquiry provide a framework that enables learners to learn through problem-solving, digital exploration, and the production of authentic work. Through digital projects such as reflective vlogs, multimodal essays, academic infographics, or digital source analysis, students learn to integrate language, technology, and argumentation simultaneously (Wahid et al., 2025). Pedagogical also ensures that learning is not theoretical but allows for active participation, decision-making, and collaborative interaction (Mingaleva & Vukovic, 2020). In this context, the teacher's role becomes that of an intellectual facilitator guiding the inquiry process, not simply a transmitter of material.

Fourth, the transformation of the 21st-century EFL curriculum must occur systematically across four main areas: content, process, assessment, and the learning ecosystem. In terms of content, the curriculum must emphasize digitally relevant materials, such as multimodal texts, online discourse, media literacy, and authentic internet-based materials (Bin Tuan Kechik et al., 2025). In terms of the process, learning must emphasize activities that encourage analysis, evaluation, and creativity. In terms of assessment, authentic instruments such as digital portfolios, thinking process assessments, argumentative assessments, and digital

product evaluation rubrics are needed (Nurul Asri, 2019). Meanwhile, in terms of the learning ecosystem, educational institutions need to provide a supportive environment, from digital infrastructure to an academic culture that allows students to ask questions, discuss, and collaborate (Knochel, 2013).

The proposed DL–CT (Digital Literacy–Critical Thinking) model demonstrates that when digital literacy and a culture of critical thinking are integrated in a balanced way, EFL learning outcomes are more comprehensive. Learners are not only able to master English mechanically but also able to use it as a thinking tool to analyze reality, convey arguments, and produce responsible digital texts (Deiniatur et al., 2024). The integration of these two competencies also expands global communication skills, as learners learn to navigate diverse perspectives, cultural norms, and forms of digital interaction across nations.

Without the support of an appropriate curriculum and pedagogical strategies, digital literacy and critical thinking will not develop naturally. Schools need to shift the paradigm from passive learning to active-reflective learning. Teachers need training in digital pedagogy, multiliteracy-based assignment design, and the facilitation of critical dialogue. Assessment systems need to provide space for creativity and evaluative thinking. Institutionally, a learning ecosystem must be built that supports innovation, open access to digital resources, and cross-disciplinary collaboration.

Digital literacy and a culture of critical thinking are two strategic competencies that reinforce each other in creating meaningful, relevant, and transformative EFL learning. Integrating the two not only improves the quality of language learning but also builds a foundation for learners to become ethical, reflective, and global digital citizens capable of participating in the knowledge society.

This combination, bolstered by a progressive curriculum, inventive teaching methodologies, and an optimal learning

atmosphere, has the potential to serve as a new paradigm for English language education reform in Indonesia and worldwide.

Conclusion

This conceptual study affirms that a culture of critical thinking is fundamental to transformative English as a Foreign Language (EFL) education in the 21st century. Students must not only achieve verbal proficiency but also engage in reflective, critical, and argumentative thinking to navigate intricate global information. To improve problem-solving, evidence-based thinking, and critical decision-making; nevertheless, its efficacy mostly depends on classroom implementation. EFL teaching strategies are crucial for transforming curriculum

goals into dialogic, collaborative, and reflective learning approaches. Higher-order thinking skills (HOTS) emerge when curriculum and pedagogy align within a classroom setting that promotes critical thinking, evidenced by students' critical reading, argumentative writing, reflective speaking, and cross-cultural analysis. Without an academic atmosphere that emphasizes inquiry, intellectual courage, and evidence-based dialogue, the ideal cultivation of these attributes is unachievable. Thus, a culture of critical thinking functions as the epistemological foundation that aligns curriculum, pedagogy, and learning objectives, ensuring that EFL education is relevant, flexible, and capable of cultivating critical thinkers for global issues.

References

- Bin Tuan Kechik, T. N., Nurliah, N., Limbong, S., Sasabone, L., Amaliah, N., M, A., & Asdar, . (2025). Talking Stick Learning Model in Fostering EFL Students' Digital Communicative Competence in the 21st Century. *IJOLEH: International Journal of Education and Humanities*, 4(1), 59–69. <https://doi.org/10.56314/ijoleh.v4i1.316>
- Burkhalter, N., & Shegebayev, M. R. (2012). Critical thinking as culture: Teaching post-Soviet teachers in Kazakhstan. *International Review of Education*, 58(1), 55–72. <https://doi.org/10.1007/s11159-012-9285-5>
- Çinar, M. (2012). The Conceptual Integration of 21st Century Skills into ELT. *LOTUS: International Journal of Language and Translation Studies*, 1(1), 51–57.
- Deiniatur, M., Cahyono, B. Y., Ivone, F. M., & Prayogo, J. A. (2024). English teachers' beliefs and practices in integrating digital literacy in the language classroom. *International Journal of Evaluation and Research in Education (IJERE)*, 13(2), 1242. <https://doi.org/10.11591/ijere.v13i2.25733>
- Early, M., Kendrick, M., & Potts, D. (2015). Multimodality: Out From the Margins of English Language Teaching. *TESOL Quarterly*, 49(3), 447–460. <https://doi.org/10.1002/tesq.246>
- Hong, A. L., & Hua, T. K. (2020). A Review of Theories and Practices of Multiliteracies in Classroom: Issues and Trends. *International Journal of Learning, Teaching and Educational Research*, 19(11), 41–52. <https://doi.org/10.26803/ijlter.19.11.3>
- Hu, W., & Guo, X. (2021). Toward the Development of Key Competencies: A Conceptual Framework for the STEM Curriculum Design and a Case Study. *Frontiers in Education*, 6, 684265. <https://doi.org/10.3389/educ.2021.684265>
- Indrayani, N. L. D. (2025). Trends of concept analysis in nursing science with Walker and Avant approaches: A literature review. *Innovation in Health for Society*, 5(1), 51–62. <https://doi.org/10.31603/ihs.12858>
- Jordan, A., Julianto, A., & Firmansyah, M. A. (2025). Integrating Digital

- Literacy into Curriculum Design a Framework for 21st Century Learning. *JOURNAL OF TECHNOLOGY, EDUCATION & TEACHING (J-TECH)*, 1(2), 79–85. <https://doi.org/10.62734/jtech.v1i2.418>
- Karaoglan Yilmaz, F. G., Yilmaz, R., Ustun, A. B., & Uzun, H. (2025). Exploring the Role of Cognitive Flexibility, Digital Competencies, and Self-Regulation Skills on Students' Generative Artificial Intelligence Anxiety. *Computers in Human Behavior: Artificial Humans*, 5, 100187. <https://doi.org/10.1016/j.chbah.2025.100187>
- Kim, M. S., & Xing, X. (2019). Appropriation of affordances of multiliteracies for Chinese literacy teaching in Canada. *Research and Practice in Technology Enhanced Learning*, 14(1), 1. <https://doi.org/10.1186/s41039-019-0095-2>
- Knochel, A. D. (2013). Assembling Visuality: Social Media, Everyday Imaging, and Critical Thinking in Digital Visual Culture. *Visual Arts Research*, 39(2), 13–27. <https://doi.org/10.5406/visuartsrese.39.2.0013>
- Lawitta, R. (2025). The Role of Critical Thinking as a Predictor of Students' Digital Literacy Skills. *SOCIAL: Jurnal Inovasi Pendidikan IPS*, 5(1).
- Lim, F. V., Weninger, C., & Nguyen, T. T. H. (2021). "I expect boredom": Students' experiences and expectations of multiliteracies learning. *Literacy*, 55(2), 102–112. <https://doi.org/10.1111/lit.12243>
- Manalo, E., Kusumi, T., Koyasu, M., Michita, Y., & Tanaka, Y. (2015). Do Students from Different Cultures Think Differently about Critical and Other Thinking Skills? In *The Palgrave Handbook of Critical Thinking in Higher Education*.
- Martínez-Bravo, M. C., Sádaba Chalezquer, C., & Serrano-Puche, J. (2022). Dimensions of Digital Literacy in the 21st Century Competency Frameworks. *Sustainability*, 14(3), 1867. <https://doi.org/10.3390/su14031867>
- Mingaleva, Z., & Vukovic, N. (2020). Development of Engineering Students Competencies Based on Cognitive Technologies in Conditions of Industry 4.0. *International Journal of Cognitive Research in Science Engineering and Education*, 8(Special issue), 93–101. <https://doi.org/10.23947/2334-8496-2020-8-SI-93-101>
- Mohammadi, M., Abbasian, G.-R., & Siyyari, M. (2022). Adaptation and validation of a critical thinking scale to measure the 3D critical thinking ability of EFL readers. *Language Testing in Asia*, 12(1), 24. <https://doi.org/10.1186/s40468-022-00173-6>
- Muthmainnah, Ibna Seraj, P. M., & Oteir, I. (2022). Playing with AI to Investigate Human-Computer Interaction Technology and Improving Critical Thinking Skills to Pursue 21st Century Age. *Education Research International*, 2022, 1–17. <https://doi.org/10.1155/2022/6468995>
- Namsaeng, P., & Ambele, E. A. (2024). Integrating Intercultural Competence into the Curriculum: A Catalyst for Critical Thinking in Thai Tertiary English Education. *THAITESOL JOURNAL*, 37(2).
- Nisa, H., Isnaini, M., Utami, L. S., & Islahudin, I. (2023). Collaborative Learning Effect on Improving Students' Creativity and Critical Thinking in the Independent Curriculum. *AL-ISHLAH: Jurnal Pendidikan*, 15(3). <https://doi.org/10.35445/alishlah.v15i3.3538>

- Nurhayatin, T. (2020). *Pembelajaran Bahasa Indonesia Berorientasi Keterampilan Abad Ke-21 Dan Multiliterasi Pada Masa Adaptasi Kebiasaan Baru*.
- Nurul Asri, A. (2019). Designing a 21st Century Assessment in EFL Learning Context. *KnE Social Sciences*, 3(10), 335. <https://doi.org/10.18502/kss.v3i10.3915>
- Prior, D. D., Mazanov, J., Meacheam, D., Heaslip, G., & Hanson, J. (2016). Attitude, digital literacy and self efficacy: Flow-on effects for online learning behavior. *The Internet and Higher Education*, 29, 91–97. <https://doi.org/10.1016/j.iheduc.2016.01.001>
- Qamariah, Z., Anwar, K., & Raya, I. P. (2025). Analisis Konseptual Kurikulum Cinta: Pendekatan Humanistik dan Implikasinya terhadap Pendidikan Islam. *Nusantara: Jurnal Pendidikan Indonesia*, 5(2). <https://doi.org/10.62491/njpi.2025.v5i2-13>
- Rahimi, A. R., & Tafazoli, D. (2022). The role of university teachers' 21st-century digital competence in their attitudes toward ICT integration in higher education: Extending the theory of planned behavior. *The JALT CALL Journal*, 18(2), 238–263. <https://doi.org/10.29140/jaltcall.v18n2.632>
- Rubach, C., & Lazarides, R. (2021). Addressing 21st-century digital skills in schools – Development and validation of an instrument to measure teachers' basic ICT competence beliefs. *Computers in Human Behavior*, 118, 106636. <https://doi.org/10.1016/j.chb.2020.106636>
- Saleh, E. S. (2019). Critical Thinking As A 21st Century Skill: Conceptions, Implementation And Challenges In the EFL Classroom. *European Journal of Foreign Language Teaching*, 4(1). <https://doi.org/doi:%252010.5281/zenodo.2542838>
- Shahzadi, N. (2022). *Multiple and multiliteracies: Dilemmas in New Zealand secondary science classrooms*. In Review. <https://doi.org/10.21203/rs.3.rs-1634060/v1>
- Sobkowiak, P. (2016). Critical thinking in the intercultural context: Investigating EFL textbooks. *Studies in Second Language Learning and Teaching*, 6(4), 697–716. <https://doi.org/10.14746/ssllt.2016.6.4.7>
- Tan, C. (2017). Teaching critical thinking: Cultural challenges and strategies in Singapore. *British Educational Research Journal*, 43(5), 988–1002. <https://doi.org/10.1002/berj.3295>
- Thibaut, P., & Curwood, J. S. (2018). Multiliteracies in Practice: Integrating Multimodal Production Across the Curriculum. *Theory Into Practice*, 57(1), 48–55. <https://doi.org/10.1080/00405841.2017.1392202>
- Wahid, A., Afni, N., & Sujarwo, S. (2025). Promoting Learners' Autonomy through Metacognitive, Higher-Order Thinking Skills and Digital Literacy of Indonesian Private Universities. *Educational Process International Journal*, 16(1). <https://doi.org/10.22521/edupij.2025.16.204>
- Yilmaz Özden, Ş. (2023). Investigating the relationship between digital instructional material development self-efficacy, digital literacy and critical thinking disposition. *Journal of Educational Technology and Online Learning*, 6(4), 911–924. <https://doi.org/10.31681/jetol.1360830>
- Zeydani, A., Atashzadeh-Shoorideh, F., Hosseini, M., & Zohari-Anboohi, S.

(2023). Community-based nursing:
A concept analysis with Walker and
Avant's approach. *BMC Medical
Education*, 23(1), 762.
[https://doi.org/10.1186/s12909-023-
04749-5](https://doi.org/10.1186/s12909-023-04749-5)