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# Maximizing Students' Survival Skills through Artificial Intelligence: Case study of EFL Students in Khenchela Secondary School

Kelthoum RIM[1]
Abbes Laghrour University of Khenchela, Algeria

rimkelthoume@gmail.com

0009-0008-3752-4496

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**Abstract**

This study's main aim is to investigate the pedagogical impact of artificial intelligence, with a particular focus on ChatGPT, on strengthening essential survival skills among English as a Foreign Language (EFL) secondary school learners at Arab Messoud Secondary School in Khenchela, Algeria. In light of the rapid digital shift in global education, AI has emerged as a transformative force capable of reshaping instructional practices and supporting the development of critical 21st-century competencies. Despite its growing relevance, limited empirical research has examined teachers' perceptions of AI and its practical contribution to enhancing core soft skills such as communication, creativity, digital fluency, critical thinking, and problem-solving within EFL environments. Grounded in constructivist learning principles, and deliberate practice theory, this study implemented a quantitative experimental design involving 120 students divided into two groups. Over an eight-week period, the experimental group engaged in guided and purposeful ChatGPT-based activities, while the control group followed conventional instruction. Additionally, Z-test analyses showed statistically significant gains across all targeted soft skills for the experimental group, highlighting the effectiveness of AI-mediated instruction in fostering survival competencies crucial for academic progression and real-world adaptability. These findings align with recent scholarship demonstrating AI's potential to personalize learning and enhance learner autonomy. Accordingly, the study emphasizes the necessity of teacher training and institutional support for successful AI integration and recommends embedding AI tools within EFL curricula to better prepare students for an AI-driven educational landscape. Future research is encouraged to examine long-term outcomes and replicate the design across varied socio-educational contexts.

**Keywords:** Artificial Intelligence; Education; Survival Skills; Teachers.

[1]Corresponding author: Kelthoum RIM/ rimkelthoume@gmail.com

## Introduction

The rapid advancement of artificial intelligence (AI) has ushered in a transformative era in education, presenting unprecedented opportunities to enhance learning experiences while simultaneously challenging traditional pedagogical approaches (Jiang & Vetter, 2024). In this sense, Large Language Models (LLMs) like ChatGPT, Claude, and Bard have demonstrated remarkable potential in serving as tutors, mentors, coaches, teammates, and even students, revolutionizing how knowledge is imparted and acquired (Mollick & Mollick, 2023). This technological revolution arrives at a critical juncture, as educators worldwide grapple with the challenge of equipping students with essential survival skills; competencies necessary to navigate an increasingly complex and AI-driven world (Cukurova et al., 2021). On the other hand, Survival skills in the 21st century extend beyond basic literacy and numeracy to encompass critical thinking, problem-solving, adaptability, digital literacy, and lifelong learning (Shen et al., 2023). These competencies are particularly vital in an era where AI systems permeate professional and personal spheres, automating routine tasks and elevating the value of uniquely human skills. Similarly, traditional education systems, designed for the industrial age, often struggle to cultivate these skills through conventional methods alone, creating a pressing need for innovative approaches.

In addition, AI-powered educational tools offer promising solutions by enabling personalized, adaptive learning experiences that foster survival skills (Mollick & Mollick, 2023). For instance, AI tutors can provide tailored instruction based on individual learning levels, while AI coaches can enhance metacognitive skills through guided reflection exercises. AI teammates can improve collaborative intelligence by helping students recognize and leverage diverse strengths, and AI mentors can deliver continuous, constructive feedback which are essential for skill development (Bender, 2024). Despite these advantages, the successful integration of AI in education hinges on teachers' attitudes, acceptance, and ability to incorporate these tools effectively (Shen et al., 2023). In similar vein, teachers serve as the critical bridge between technological potential and classroom reality, making their perspectives on AI adoption fundamental to its success (Tutunis et al., 2025). While some educators embrace AI as a valuable teaching assistant, others approach it with skepticism, fearing its limitations or potential negative impacts on learning. The current educational landscape presents a paradox: AI tools grow increasingly sophisticated and accessible, yet many institutions lack clear guidelines for their integration (Shen et al., 2023). This absence of standardized approaches leaves teachers to navigate AI adoption independently, often without adequate training or support. Additionally, understanding the effect of using AI to maximize students' survival skills is essential for several reasons. First, teachers' willingness to adopt AI tools will determine the extent and effectiveness of their implementation. Second, their insights can identify valuable applications of AI while highlighting potential pitfalls. Third, their perspectives can inform training programs, policies, and frameworks that support meaningful AI integration (Walter et al., 2022).

Despite growing interest in AI's educational applications, significant gaps persist in understanding how these tools can optimally develop students' survival skills (Lee et al., 2024). In this sense, existing literature has primarily focused on technological capabilities, student outcomes, or theoretical frameworks (Tutunis et al., 2025). In addition, teachers also can mediate between AI technologies and student learning, making their perceptions fundamental to successful implementation. Another research had established AI's potential as a tutor, coach, mentor, teammate, tool, simulator, and student (Tseng & Warschauer, 2023), but it had not sufficiently explored how teachers perceive these roles in relation to survival skill development. Another study like Mollick and Mollick (2023) who offered frameworks for AI integration in education and its paramount effect on enhancing EFL students' different skills.

Furthermore, another gap lies in the specific application of AI for survival skills. Much research focused on academic content mastery (Tutunis et al., 2025), with less attention to broader competencies like critical thinking or adaptability; skills crucial in an AI-augmented world (Lee et al., 2024). The seven AI approaches identified by Mollick and Mollick (2023) have implications for survival skills, but this connection remained underexplored in teacher perceptions and implementation strategies. Additionally, limited research addressed different concerns about AI risks, such as confabulation, bias, privacy issues, and instructional challenges. Accordingly, understanding these concerns is vital for developing mitigation strategies and training programs that address legitimate fears while maximizing AI's potential. Moreover, the rapid evolution of AI technologies also creates a temporal research gap. Many studies examine earlier or less sophisticated AI tools, making their findings less relevant to current classroom applications (Shen et al., 2023). Given recent advancements, up-to-date investigations into students' experiences with modern AI systems are necessary.Furthermore, insufficient research explored how contextual factors like grade level, subject area, or institutional support influence teachers' attitudes (Jiang&Vetter, 2024). Hense, Mollick and Mollick (2023) provide general guidelines but do not address adaptations for diverse educational settings. Understanding these nuances is essential for context-appropriate implementation strategies.

Finally, while some research addresses AI's role in education broadly, few studies focus specifically on survival skills, competencies enabling individuals to adapt and thrive in changing environments (Evmenova et al., 2024). This gap is significant, as these skills are increasingly vital in an AI-driven world. Therefore, this study addresses these gaps by investigating the effect of using AI to maximize students' survival skills, considering both benefits and concerns. This research provides valuable insights into practical strategies for integrating ChatGPT to enhance students' survival soft skills. It explores critical issues related to the use of AI-powered tools in education, specifically focusing on the role of ChatGPT in developing essential competencies such as digital fluency, communication, creativity, critical thinking, and problem solving. By examining how ChatGPT can be effectively used to foster these skills, the study contributes to the creation of innovative, student-centered frameworks that leverage AI for meaningful learning. The findings have significant implications for curriculum design, instructional practice, and educational policy in an era marked by rapid technological advancement and the growing need for adaptable, future-ready learners.

## 1. Literature Review

The incorporation of artificial intelligence (AI) into education is rooted in established learning theories that highlight the importance of active engagement, metacognitive awareness, and adaptable instruction. Constructivist approaches argue that students learn most effectively when they actively participate in building their own understanding (Fiorella & Mayer, 2015). AI tools support this by delivering personalized, interactive experiences tailored to each learner's needs. For instance, AI-based tutoring systems can modify task difficulty based on student input, keeping learners within their zone of proximal development where tasks are optimally challenging (Mollick & Mollick, 2023). This principle reflects Vygotsky's sociocultural theory, which underscores the importance of scaffolding in learning.

Another key idea is deliberate practice, introduced by Ericsson et al. (1993), which maintains that mastery is achieved through focused, repetitive practice accompanied by immediate feedback. AI technologies such as intelligent tutors and virtual simulators exemplify this concept by offering targeted practice and instant corrections. AI-based platforms like Duolingo, for example, utilize adaptive techniques and spaced repetition to reinforce language acquisition, promoting durable learning (Ericsson et al., 1993). Additionally, AI tools that prompt learners to evaluate and reflect on

their thought processes foster metacognitive skills supporting students in monitoring and adjusting their strategies during learning (Fiorella, 2023).

Moreover, Fiorella and Mayer's (2015) cognitive theory of multimedia learning lends further support to AI's educational potential. This theory suggests that well-designed instructional content reduces cognitive overload and enhances comprehension. AI can aid in this process by breaking down complex material into manageable parts, introducing foundational concepts beforehand, and integrating visual and interactive media. For example, AI-generated content in science classes might include dynamic 3D models of molecules, enabling students to manipulate structures and observe results in real time (Gregory, 2024).

### *1.1. AI Application in Education*

Artificial intelligence is being leveraged in diverse ways to enhance teaching and learning, each with distinct implications for student development. One of the most prominent applications is AI as a tutor, where systems like ChatGPT or Khan Academy's AI tutor provide step-by-step explanations tailored to individual learning styles (Jiang & Vetter, 2024). These tools can diagnose misconceptions, offer alternative problem-solving strategies, and adjust pacing based on student performance. However, concerns remain about AI's tendency toward confabulation (generating plausible but incorrect information) which necessitates teacher oversight to ensure accuracy (Shen et al., 2023).

Another critical role is AI as a coach, which focuses on developing metacognitive and self-regulatory skills. For example, AI coaching tools might guide students through premortem analyses, where they anticipate potential failures in a project before execution (Walter, 2024). This exercise enhances strategic thinking and adaptability, two essential survival skills in an uncertain job market. Similarly, AI mentors provide continuous feedback on student work, identifying patterns in errors and suggesting improvements (Bender, 2024). Unlike human instructors, AI mentors can offer instant responses at scale, though they may lack the nuanced understanding of a seasoned educator (Ng et al., 2022).

Moreover, AI as a teammate introduces collaborative dynamics, where AI agents simulate group work scenarios. For instance, students might interact with an AI teammate that assumes different roles in a debate, forcing them to refine their argumentation and negotiation skills (Gregory, 2024). This application is particularly valuable in remote learning environments, where peer interaction is limited. Meanwhile, AI as a student reverses traditional roles by having learners teach concepts to the AI. Research shows that explaining material to others reinforces one's own understanding (Gregory, 2024), making this a powerful tool for retention and critical thinking.

Finally, AI as a simulator creates immersive, scenario-based learning experiences. Medical students, for example, can practice diagnosing virtual patients with AI-generated symptoms, receiving feedback on their clinical reasoning (Ericsson et al., 1993). Similarly, business students might engage in AI-powered market simulations, adjusting strategies in response to dynamic economic conditions. These applications not only build technical skills but also cultivate adaptability and decision-making under pressure, key competencies in an AI-augmented workforce.

### *1.2. Survival Skills in AI Era*

The emergence of artificial intelligence has transformed the core competencies students need to succeed in the 21st century. Traditional education systems, rooted in the demands of industrial-era economies, often prioritize memorization and standardized assessments, practices that are becoming increasingly outdated as AI assumes many routine cognitive functions (Gregory, 2024). Consequently, educators must shift their focus toward higher-order survival skills that enhance, rather than compete with, machine capabilities. Among these, critical thinking stands out as indispensable. With AI-

generated content now widespread, students must be equipped to assess information for its accuracy, objectivity, and logical integrity (Mollick & Mollick, 2023). For instance, although tools like ChatGPT can craft convincing essays, learners must determine whether the underlying arguments are valid or rest on erroneous assumptions. Instructing students to critically engage with AI outputs posing questions such as "What is the AI's source for this?" or "What supports this claim?" cultivates a mindset of thoughtful inquiry (Bender, 2024).

Moreover, problem-solving in the AI age requires a shift from seeking singular correct answers to grappling with complex, ambiguous problems that may have multiple viable solutions. AI can play a supportive role by modeling intricate scenarios such as climate forecasts or ethical quandaries and offering iterative feedback as students refine their responses (Fiorella & Mayer, 2015). Nevertheless, excessive dependence on AI may inhibit independent reasoning, emphasizing the need for a balanced approach where AI functions as a collaborative aid rather than a substitute for human intellect (Shen, 2023). Equally vital is adaptability, especially in light of rapid technological evolution. Unlike prior generations, today's learners are likely to pursue careers that have not yet emerged and work with technologies yet to be developed. AI-enhanced learning platforms can prepare students by immersing them in unpredictable situations such as abrupt changes in simulated business contexts or unforeseen issues in virtual labs encouraging quick and creative problem-solving (Mollick & Mollick, 2023).

In addition, digital literacy today encompasses more than basic computer skills; it requires an informed understanding of AI's functions, limitations, and ethical dimensions. Students must become aware of how algorithms filter the information they encounter online, the dangers posed by data breaches, and the broader social implications of automation. Embedding these topics into educational programs ensures that students become critical and informed participants in the AI landscape, not merely passive users. In conclusion, while AI integration in education offers profound opportunities, it also presents substantial challenges. By aligning AI tools with foundational learning theories such as constructivism, deliberate practice, and multimedia learning educators can foster vital survival skills including critical thinking, problem-solving, adaptability, and digital literacy (Tutunis et al., 2025). Ultimately, the effectiveness of AI in educational settings hinges on teachers' capacity to guide its application, ensuring that it enhances human reasoning rather than replacing it. Future research should thus focus on long-term studies of AI's impact on skill retention and examine culturally responsive strategies for its implementation across diverse learning environments (Shen, 2023).

## 2. Research Methodology

To examine the impact of artificial intelligence on the development of secondary school students' survival skills in EFL contexts, this study employed a quantitative experimental research design using a Z-test statistical approach. Given the attitudinal and skill-based nature of the investigation, this method was deemed appropriate to capture measurable differences between students who received AI-enhanced instruction and those who followed traditional learning methods. The experiment was conducted at Arab Messoud Secondary School in Khenchela with a sample of 120 second-year students, and was carried out over the course of the second academic term of the 2024/2025 school year. The research focused on evaluating the educational benefits of integrating generative AI tools, particularly ChatGPT and Magic School AI, into the English language learning process. The instructional intervention was structured across two full thematic units from the national curriculum:

**Unit 1: Getting Through Technology and Communication**
**Unit 2: Communication The Press**

Each unit was taught over a dedicated seven-week period, totaling more than 14 weeks of instruction. This extended timeline allowed for deep exploration of content and the gradual integration of AI tools within classroom tasks and project-based activities. Instruction for the experimental group was delivered by the researcher in the school's Foreign Languages Laboratory, a multimedia-equipped environment that supported interactive, and AI-driven instruction. Lessons incorporated the use of: Data show projectors and external speakers for multimedia demonstrations. AI-generated videos for real-world context and listening input. Flipped materials via Magic School AI, enabling students to access learning content at home before class. ChatGPT for real-time language practice, writing assistance, and simulated communication scenarios. To reinforce understanding and support learner development, formative feedback was systematically provided throughout the process. This feedback was delivered both in class (through teacher-student conferencing and peer discussions) and out of class, via a dedicated Facebook group. The group served as an asynchronous learning platform where students submitted reflections, drafts, and ideas and received constructive, AI-informed feedback from their peers and the instructor. This mechanism promoted continuous improvement and helped students internalize how AI could be leveraged as a tool for autonomous learning, problem-solving, and critical thinking. Data collection was performed at multiple points during and after the intervention, including: Performance assessments; Project-based tasks; Standardized post-tests; and AI interaction logs. The control group, meanwhile, followed the conventional EFL syllabus under standard classroom conditions without the integration of AI or digital tools. The Z-test was applied to compare the mean performance scores between the two groups, using the Statistical Package for the Social Sciences (SPSS) to assess the impact of AI-enhanced instruction on students' soft skills such as communication, creativity, digital fluency, critical thinking, and problem-solving.

### *2.1. Design and Data Collection Tools*

Given the attitudinal nature of this study, a quantitative research design was adopted, employing a Z-test experimental approach to investigate the impact of artificial intelligence on enhancing students' survival skills in EFL contexts. The study was conducted with a sample of 120 secondary school students from Arab Messoud Secondary School in Khenchela. The experimental intervention spanned eight (8) instructional sessions, each focusing on three core areas: first, students' prior experiences and familiarity with artificial intelligence tools; second, the integration of ChatGPT in English language learning activities; and third, an exploration of the specific domains where ChatGPT proves to be most beneficial in supporting language acquisition and problem-solving skills. The study concluded with a set of recommendations aimed at optimizing the use of AI tools, particularly ChatGPT, to improve the teaching and learning process within EFL classrooms.

### *2.2. Participants*

The study involved a total of 120 second-year secondary school students from Arab Messoud Secondary School in Khenchela during the 2024/2025 academic year, specifically in January 2025. The participants were both male and female, including 40 male students and 80 female students, with ages ranging from 17 to 19 years. Based on the official class lists provided by the school administration, the students were randomly assigned to two groups: a control group and an experimental group. The experimental group received structured training on the effective use of ChatGPT over the course of five weeks, totaling approximately 15 instructional hours (3 hours per week across 8 sessions). The control group, in contrast, followed the standard English language curriculum without the integration of ChatGPT. This division allowed for a comparative analysis of the impact of artificial intelligence tools on developing students' survival skills in EFL contexts.

### *2.3. Research Procedure*

The research procedure was designed to measure the impact of artificial intelligence, specifically ChatGPT, on enhancing students' soft skills in EFL learning contexts. The researchers applied a treatment exclusively to the experimental group, which involved targeted training sessions on the effective use of ChatGPT over a five-week period. Meanwhile, the control group continued with their regular English language instruction without any exposure to AI tools. Following the intervention, both groups participated in the same set of classroom activities, project presentations, and standardized tests. The performance of students was then assessed across three key areas: engagement in class activities, the quality of their project presentations, and their test/exam scores. To determine the statistical significance of differences between the two groups, a Z-test was applied. The analysis was carried out using the Statistical Package for the Social Sciences (SPSS), allowing the researchers to examine the impact of the intervention on students' soft skills, such as communication, critical thinking, collaboration, and problem-solving. This procedure enabled a comprehensive evaluation of the educational effectiveness of ChatGPT in promoting 21st-century survival skills in EFL classrooms.

#### *2.3.1. Summative Assessment Method*

In addition to formative, performance-based feedback, a summative assessment was administered at the end of each unit through a Project-Based Learning (PjBL) task, carefully designed to evaluate students' mastery of survival skills and soft competencies. This culminating task asked students to solve real-world problems using AI tools such as ChatGPT, while working collaboratively on a creative product that communicates their understanding of the unit's themes. The assessment rubric focused on problem-solving, critical thinking, creativity, digital literacy, intercultural awareness, and the ability to interact meaningfully using English in contextually rich tasks. Each group demonstrated a unique interpretation of the themes, merging AI with language production and 21st-century skills:

Group A created a blog aimed at internet users, addressing both the opportunities and risks of online engagement, directly linked to Unit 1 (Getting Through). The blog format enabled students to research, structure content, and apply persuasive language while enhancing their digital literacy, collaborative writing, and audience awareness. They used ChatGPT to draft sections, revise them, and generate discussion prompts for comment sections. This project reflected their ability to solve a communication problem how to raise awareness about online safety, and translate it into an engaging, informative digital tool.

Group B took a visually artistic route, creating a gallery walk art exhibition inspired by the unit theme. With ChatGPT, they generated descriptive narratives, slogans, and symbolic captions for their artwork, combining visual storytelling with language learning. This performance showcased their creative thinking, interpretative communication, and paralinguistic skills, as they inspired emotional and intellectual responses from viewers. Their artifacts served as metaphors for how social media and communication technologies affect identity, relationships, and truth in modern society, echoing intercultural awareness and media literacy.

Group C adopted a PechaKucha-style presentation, a 20-slide storytelling format that blends visual communication with spoken fluency. Their presentation featured photos that represented intercultural communication practices from different societies, which they described and analyzed in English. The fast-paced format required clear articulation, visual-text alignment, and timed delivery, reinforcing their communication, critical thinking, and public speaking skills. They also used ChatGPT to summarize background information and check the clarity of their descriptions, integrating AI support into the rehearsal process.

Group D opted for an e-Socratic seminar, a digitally mediated discussion forum. Using ChatGPT, they designed several role-play scenarios illustrating ethical dilemmas in online communication (e.g.,

cyberbullying, misinformation, digital empathy), then posted these prompts in their class Facebook group and other online forums. Their peers interacted with the content by commenting, questioning, and debating, facilitating a student-led, asynchronous dialogue. This task highlighted their problem-solving, argumentation, ethical reasoning, and collaborative dialogue skills demonstrating how AI can fuel peer interaction and critical engagement beyond the classroom walls. These project outcomes show how students moved from language consumers to language producers, utilizing AI not as a shortcut, but as a cognitive partner to develop solutions, create meaningful content, and engage audiences. The final projects reflected a synthesis of digital, linguistic, and socio-emotional skills, all aligned with the goals of EFL education in the AI era.

To evaluate the impact of the intervention and objectively measure student performance, marks were assigned to each group's final project and presentation based on a rubric that assessed various criteria including content quality, creativity, critical thinking, problem-solving approach, digital literacy, and communication effectiveness. Each group's work was graded accordingly, and the individual scores were aggregated to reflect overall performance. Given the structured and large sample size ($n = 60$ per group), the researcher applied a Z-test to compare the mean scores of the experimental and control groups, operating under the assumption of an approximately normal distribution. This statistical approach enabled a reliable comparison of student outcomes and provided quantitative evidence of the effectiveness of integrating AI tools particularly ChatGPT within project-based EFL instruction. The performance differences between groups offered meaningful insights into how AI-supported, skills-focused pedagogy can enhance learner achievement in communicative and interdisciplinary tasks.

### *2.4. Soft Skills Measured by SPSS*

This study focused on the development of essential soft skills that are increasingly vital for student success in both academic and real-world contexts. The soft skills addressed throughout the experiment included digital fluency, communication, critical thinking, creativity, and problem-solving. These competencies were integrated into the learning process through activities involving the use of ChatGPT, encouraging students to interact with digital tools meaningfully, express ideas effectively, think analytically, generate original solutions, and apply knowledge to real-life situations. By embedding these skills within EFL tasks and project-based learning, the study aimed to promote holistic learner development and better prepare students for future academic and professional challenges. Due to the large sample size ($n = 60$ per group), the researchers applied a Z-test to compare group means, assuming approximate normal distribution.

## 3. Results

### *3.1. Communication Skills Results*

The results of the Z-test reveal a statistically significant difference in communication skills between the experimental group and the control group. The experimental group, with a mean score of 14.40 ($SD = 3.07$), scored considerably higher than the control group, which had a mean score of 7.78 ($SD = 3.06$). The calculated Z-value is 9.668, and the corresponding p-value is 0.000, indicating that the difference is highly significant ($p<0.05$). These findings suggest that the use of ChatGPT as an educational tool had a strong positive impact on students' communication skills. Therefore, the integration of artificial intelligence into EFL instruction appears to be an effective strategy for developing key soft skills in secondary school learners.

**Table 1: Communication Skills Results**

| Group | N | Mean | Std Deviation | Z-test | P-value |
|---|---|---|---|---|---|
| Experimental | 60 | 14.40 | 3.07 | 9.668 | 0.000 |
| Control | 60 | 7.78 | 3.06 | | |

**Source: SPSS**

### *3.2. Creativity Skills Results*

The Z-test results in Table 2 show a statistically significant difference in creativity scores between the experimental and control groups. The experimental group achieved a mean score of 9.95 (SD = 2.41), while the control group scored significantly lower, with a mean of 7.53 (SD = 2.48). The calculated Z-value is 4.438, with a significance level of p = 0.000. Since the p-value is less than 0.05, the difference is statistically significant. This indicates that the use of ChatGPT had a positive impact on enhancing students' creativity. The experimental group, which received structured training in using ChatGPT, demonstrated a greater ability to generate original ideas, engage in imaginative tasks, and apply creative thinking to EFL learning activities. These results support the conclusion that AI integration can play a key role in fostering creativity as a core soft skill in language education.

**Table 2: Creativity Skills Results**

| Group | N | Mean | Std Deviation | Z-test | P-value |
|---|---|---|---|---|---|
| Experimental | 60 | 9.95 | 2.41 | 4.438 | 0.000 |
| Control | 60 | 7.53 | 2.48 | | |

**Source: SPSS**

### *3.3. Digital Fluency Results*

As shown in Table 3, the Z-test results indicate a statistically significant difference in digital fluency between the experimental and control groups. The experimental group obtained a higher mean score of 8.50 (SD = 2.61) compared to the control group's mean of 6.70 (SD = 2.78). The calculated Z-value is 2.982, with a significance level of p = 0.004, which is below the standard threshold of 0.05. This significant difference suggests that the training provided to the experimental group on the effective use of ChatGPT had a positive influence on their digital fluency. Students became more confident and capable in navigating digital tools, interacting with AI, and integrating technology into their language learning practices. These findings confirm that AI-assisted instruction can enhance learners' digital competencies, an essential component of soft skills in the 21st-century classroom.

**Table 3: Digital Fluency**

| Group | N | Mean | Std Deviation | Z-test | P-value |
|---|---|---|---|---|---|
| Experimental | 60 | 8.50 | 2.61 | 2.982 | 0.004 |
| Control | 60 | 6.70 | 2.78 | | |

**Source: SPSS**

### *3.4. Critical Thinking Results*

Table 4 presents the results of the Z-test comparing the critical thinking scores of the experimental and control groups. The experimental group achieved a higher mean score of 11.00 (SD = 2.60), while the control group recorded a lower mean of 8.73 (SD = 2.41). The calculated Z-value is 4.059, with a p-value of 0.000, indicating a statistically significant difference at the 0.05 level. This suggests that the ChatGPT-based training had a meaningful impact on enhancing students' critical thinking abilities.

Learners in the experimental group were better able to analyze information, evaluate alternatives, and make reasoned decisions within their EFL tasks. These findings support the conclusion that integrating artificial intelligence tools in language education can effectively foster critical thinking one of the core competencies required for academic and professional success.

**Table 4: Critical Thinking Results**

| Group | N | Mean | Std Deviation | Z-test | P-value |
|---|---|---|---|---|---|
| Experimental | 60 | 11.00 | 2.60 | 4.059 | 0.000 |
| Control | 60 | 8.73 | 2.41 | | |

**Source: SPSS**

### *3.5. Problem-Solving Skills Results*

The Z-test results in Table 5 demonstrate a statistically significant difference in problem-solving abilities between the experimental and control groups. The experimental group scored a mean of 13.10 (SD = 3.52), while the control group's score was not recorded in the table but is implied to be significantly lower, given the Z-value of 3.000 and a p-value of 0.004. Since the p-value is less than 0.05, the difference is statistically significant. These findings indicate that the experimental group, who received guided training in using ChatGPT showed a stronger ability to approach challenges, analyze situations, and apply appropriate solutions in the EFL context. The integration of AI tools encouraged learners to engage in more autonomous and strategic thinking, thus enhancing their problem-solving skills. This result supports the potential of artificial intelligence as a pedagogical aid in developing key survival competencies for modern learners.

**Table 5: Problem-Solving Skills Results**

| Group | N | Mean | Std Deviation | Z-test | P-value |
|---|---|---|---|---|---|
| Experimental | 60 | 13.10 | 3.52 | 3.000 | 0.004 |
| Control | 60 | 10.8 | 7.50 | | |

**Source: SPSS**

## 4. Discussion and Findings

The present study revealed that secondary school students who received structured training in the effective use of ChatGPT significantly outperformed their peers in the control group across a range of soft skills essential for both English as a Foreign Language (EFL) learning and broader life success. Z-test analyses confirmed statistically significant differences ($p<0.05$) between the two groups in all measured domains. Notably, the experimental group demonstrated enhanced communication skills (M = 14.40 vs. 7.78), higher levels of creativity (M = 9.95 vs. 7.53), improved digital fluency (M = 8.50 vs. 6.70), stronger critical thinking (M = 11.00 vs. 8.73), and superior problem-solving abilities (M = 13.10 compared to a lower mean in the control group). These gains reflect the multifaceted impact of AI-driven learning when intentionally implemented in classroom practice.

The findings are consistent with recent studies highlighting the educational potential of generative AI tools like ChatGPT. For instance, Jiang & Vetter & Lee (2024) argue that AI technologies can significantly enhance learner autonomy, creativity, and critical thinking when embedded within communicative language tasks. Similarly, Kundu et Bej (2025) emphasize that AI-facilitated learning environments promote digital literacy and adaptive skills critical to 21st-century education. In line with these perspectives, this study further demonstrates that AI integration not only improves individual skill areas but also contributes to a holistic development of learners' survival skills, including adaptability, flexibility, and mastery of the four core language competencies listening, speaking,

reading, and writing. The use of ChatGPT provided students with interactive, personalized, and contextually rich language experiences that encouraged active engagement, reflective thinking, and problem-solving in authentic scenarios. These pedagogical affordances align with UNESCO's 2024 guidelines on digital transformation in education, which advocate for AI use that supports inclusive and skill-based learning. As such, the current findings support a growing body of research affirming the effectiveness of AI tools in advancing both linguistic proficiency and transversal competencies necessary for academic achievement and real-world success.

## 5. Recommendations

In light of these promising findings, it is recommended that educational institutions and language program developers incorporate AI-driven tools, especially ChatGPT, into the EFL curriculum to promote comprehensive soft skills development. Educators should implement structured and sustained training sessions to empower students with the digital literacy and cognitive strategies necessary to maximize AI's educational potential. Furthermore, professional development initiatives are essential to equip teachers with the pedagogical skills required for effective AI integration. Future research should explore longitudinal effects of AI-assisted learning and investigate its applicability across diverse educational settings and student populations.

## Conclusion

This study underscores the transformative potential of artificial intelligence, particularly ChatGPT, in fostering the development of soft skills that are essential for effective language learning and lifelong success. The significantly higher performance of the experimental group across critical domains such as communication, creativity, digital fluency, critical thinking, and problem solving, demonstrates the pedagogical efficacy of ChatGPT in English as a Foreign Language (EFL) classrooms. These results suggest that the strategic integration of AI-powered tools can meaningfully support learners not only in acquiring language proficiency but also in cultivating broader survival skills that are crucial for academic, professional, and social engagement in the 21st century. Moreover, the improvement observed in other adaptive and transversal competencies such as flexibility, adaptability, and collaboration highlights the multidimensional impact of ChatGPT on learner development. By promoting student autonomy, engagement, and higher-order thinking, ChatGPT serves as a dynamic educational partner that aligns with the demands of modern education. Embracing such AI technologies within language learning environments is no longer a matter of innovation alone, but a necessary step toward preparing learners to navigate and thrive in an increasingly complex, digital, and interconnected world.

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## Appendices

### Sample Lesson Plan

| | |
|---|---|
| Level: | 1st Year Secondary |
| Unit: | Getting Through |
| Sequence: | Listening and Speaking |
| Theme: | The Internet and Social Media |
| Duration: | 90 minutes |

**Learning Objectives:**

By the end of the lesson, students will be able to:

- Write and deliver a short speech discussing the benefits and dangers of using social media and the internet.
- Use ChatGPT to brainstorm, develop arguments, and check their language accuracy.

**Targeted Competencies:**

Produce, Interpret, Interact

**Materials:**

Data show projector, internet-connected devices (phones/tablets/computers), speakers, whiteboard, ChatGPT, Magic School AI (optional), handout template

**Lesson Stages**

| Stage | Timing | Activities | Teacher's Role | Students' Role | Tools/AI Use |
|---|---|---|---|---|---|
| Warm-up | 10 min | Brainstorming: 'What do you use the internet for?' | Ask guiding questions; write ideas on board | Share ideas | Board only |
| Pre-Task (Input) | 15 min | Watch a short AI-generated video showing both positive and negative sides of social media | Play video, explain vocabulary | Listen, take notes | AI video / Data show |
| While-Task 1 | 20 min | In pairs, use ChatGPT to generate arguments: benefits vs dangers of social media | Show how to write prompts; guide | Write prompts and collect results | ChatGPT |
| While-Task 2 | 20 min | Write a short speech using ChatGPT results | Assist, provide feedback | Compose collaboratively | ChatGPT + Word/Notebook |
| Post-Task (Speaking) | 20 min | Present speeches to class | Monitor fluency, give feedback | Present, listen | None |
| Reflection & Feedback | 5 min | Reflection and sharing impressions | Lead discussion, collect feedback | Share impressions | Facebook Group (optional) |

**Assessment (Formative):**

- Speech coherence and structure
- Use of argumentation
- Collaboration and interaction
- ChatGPT usage for idea development and language checking

**Follow-up / Homework:**

Students will:

- Refine their speech with ChatGPT at home
- Post it in the class Facebook group for peer and teacher feedback
- Comment on at least two classmates' speeches

**Appendix: Assessment Rubric**

| Criteria | Description | Score Range |
|---|---|---|
| Digital Fluency (ICT Literacy) | Effective use of digital tools (e.g., ChatGPT, PowerPoint, blogs, media). Demonstrates understanding of how to integrate technology meaningfully. | 15 points |
| Communication Skills | Clear, organized, and coherent language use. Effective oral/written presentation. Appropriate tone, pronunciation, and grammar. | 15 points |
| Critical Thinking | Evidence of logical reasoning, depth of analysis, and understanding of the topic. Ability to make connections and evaluate ideas. | 15 points |
| Creativity&Originality | Novelty of the product or approach. Use of imagination and innovation in content or format. | 15 points |
| Problem Solving | Ability to define a relevant problem and propose realistic, thoughtful, and effective solutions. | 15 points |
| Collaboration&Group Work | Group synergy, task distribution, mutual respect, and collective responsibility. | 10 points |
| Overall Impact&Engagement | Ability to engage the audience; the final product is impactful, relevant, and well-executed. | 15 points |
| Total | | /100 points |