Digital Technology in EFL Education: Students' Emotional and Cognitive Reflections from Blackboard Discussions

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***Abstract*—This study examines the role of digital technology in enhancing English as a Foreign Language (EFL) learning through Krashen's Affective Filter Hypothesis, Cognitive Load Theory, and Constructivist Learning Theory. Using qualitative data from 43 EFL students, it identifies how technology influences engagement, reduces anxiety, and fosters collaborative learning. The thematic analysis revealed that specific tools, including Duolingo, YouTube, TED Talks, WhatsApp, Twitter, and Speechify, transformed language learning by integrating engaging, personalized tools into daily routines. Challenges such as distraction and interface complexity were noted, emphasizing the need for guided, intuitive integration. Findings underscore the importance of designing learner-centered, emotionally responsive tools that address psychological and cognitive language acquisition needs, offering insight into how thoughtful digital integration can empower learners and promote more effective EFL instruction.**

***Keywords*—Krashen's affective filter, cognitive load theory, English as a Foreign Language (EFL) digital technology, learner-centered technology, Emotional and cognitive dimensions**

I. Introduction

The integration of digital technology in EFL classrooms has revolutionized language learning by providing tools that help learners overcome common challenges, namely anxiety, low motivation, and limited opportunities for authentic language use [1–4]. These issues often stem from rigid classroom dynamics and learners' fear of making mistakes in public settings.

Krashen's Affective Filter Hypothesis [5] explains how emotional factors such as anxiety, low self-esteem, and lack of motivation can inhibit language acquisition by acting as a mental barrier to comprehensible input. When this filter is high due to stress or lack of confidence, effective instruction may fail to reach the learner's internal language system. Thus, creating a low-anxiety, supportive environment is essential for fostering learner confidence, motivation, and active participation.

Building on Krashen's theory, the integration of digital technology can help lower the affective filter by offering a less intimidating, more personalized learning environment. For example, digital platforms can provide learners with private, self-paced opportunities to practice language skills without pressure to perform in front of peers, thereby reducing stress and boosting confidence.

In addition to emotional barriers, cognitive challenges must be addressed for learning to be effective. Cognitive Load Theory [6] provides insight into the mental processes required for learning, highlighting how cognitive overload, especially from poorly designed instructional tools, can hinder knowledge retention and understanding. This theory highlights the need for instructional designs that minimize extraneous cognitive load and optimize working memory capacity.

When thoughtfully implemented, digital technology has the potential to address both emotional and cognitive challenges, fostering a more engaging, supportive, and effective learning environment [7]. However, despite its potential, technology remains underutilized in many EFL contexts. Learners often face challenges, such as distractions, overly complex features, and a lack of guidance, issues frequently linked to insufficient teacher training and support [8–10].

Complementing both Krashen's and Sweller's frameworks, Constructivist Learning Theory further supports the idea that learners construct knowledge through experience, collaboration, and meaningful interaction. Digital tools, such as interactive simulations, virtual collaboration platforms, and multimedia content, can facilitate this active learning process by allowing learners to engage with content in a personally relevant and socially interactive manner.

The current study explores learners' perceptions of how digital technology can reduce anxiety and enhance engagement in EFL learning. It specifically investigates which tools and strategies learners find most effective, while identifying the common obstacles they face in using technology for language acquisition. Through the analysis of qualitative data, this research aims to offer practical insights for educators and course designers on how to integrate learner-centered, psychologically supportive digital tools into the EFL classroom. Drawing on the theoretical frameworks of Krashen, Sweller, and constructivist perspectives, the study examines how technology can simultaneously lower affective filters and optimize cognitive load, ultimately enhancing EFL learning experience.

This study is guided by the following research questions:

1) How do learners perceive digital technology's role in reducing anxiety and enhancing engagement?
2) What challenges do learners face when using digital technology for language acquisition, and how do these challenges affect their learning outcomes?

By addressing these questions, the study aims to explore how digital tools can help overcome psychological and cognitive barriers in EFL learning, specifically by reducing anxiety, enhancing engagement, and optimizing learners' experiences.

II. Literature Review

Research has demonstrated that teachers' approaches to teaching and learning evolve in tandem with their understanding of learner psychology [11]. Entwistle [12]

developed a heuristic model of the teaching-learning process, emphasizing the dynamic interaction between student characteristics and key components of the learning environment. The model underscores the importance of aligning instructional strategies with learners' attributes, such as their abilities and prior knowledge, while also considering broader contextual factors, including pedagogical approaches and assessment practices, highlighting the need for responsive, personalized instruction.

A. Technology Integration in EFL Teaching and Learning

Many studies highlighted the role of technology-enhanced language learning. Mobile-Assisted Language Learning (MALL) tools and virtual reality technologies allow learners to practice repeatedly at their own pace, fostering confidence in their abilities. Chen and Hsu [13] found that learners using MALL tools reported lower anxiety levels, which supports the present study's focus on anxiety reduction through personalized, self-paced learning environments. Similarly, Hwang *et al.* [14] demonstrated that virtual reality (VR) environments provide immersive, low-pressure contexts for real-life language use, aligning with Krashen's theory of lowering affective filters to enhance comprehensible input.

Yücedağ and Arslan [15] investigated language learning strategies among digital native EFL students in Türkiye. While the primary focus was not gamification alone, the study emphasized the strategic use of technology-based tools, including gamified and interactive media, as part of students' preferred learning approaches. The findings revealed that students leveraged mobile apps, games, and digital content to support vocabulary acquisition and self-paced learning. This study highlights the relevance of student-centered and personalized digital environments, a focus central to the current research.

Similarly, Ahmadi [1] highlighted the transformative impact of technology in EFL learning. According to this study, technology, particularly multimedia resources and gamified applications, fostered learner engagement, reduced language learning anxiety, and supported intrinsic motivation. The study emphasized that technology not only facilitated cognitive development but also promoted emotional well-being by creating low-anxiety and interactive environments. These insights support the current study's dual focus on affective and motivational benefits of digital tools. However, challenges such as distraction, lack of guidance, and the complexity of tools underscore the need for user-centered design and effective integration strategies. Ahmadi [1] further emphasized how multimedia and gamified tools increase learner engagement and motivation by creating interactive and visually rich learning experiences. This directly supports the second theme in the current study: enhancing learner engagement and motivation through technology. Ahmadi also cautioned against cognitive overload from poorly designed tools, which parallels the third theme regarding the challenges of digital integration.

The integration of technology in EFL teaching has transformed traditional practices, offering tools that enhance language acquisition, engagement, and personalized learning. Alharbi [2] examined Blackboard tools such as discussion boards, blogs, and wikis, finding that they improved literary skills and motivation through collaborative learning and authentic communication, which supports the current study's focus on how digital tools facilitate peer interaction and constructive learning.

Addressing a different form of technology, Cetinkaya [4] investigated the advantages and limitations of using WhatsApp as an educational tool for secondary school students. The study identified key technical benefits, including user-friendliness, widespread accessibility, and the capacity to enable rapid and reliable communication. From an educational perspective, WhatsApp was found to promote peer-to-peer interaction, facilitate mutual support among students, foster a sense of community, and enhance students' comfort in expressing themselves. Academically, WhatsApp supported flexible, anytime-anywhere learning, facilitated the sharing of educational materials, and enhanced academic collaboration among students. Nevertheless, the study also identified several limitations, including technical challenges such as battery drain and limited storage capacity, along with issues like inappropriate language use, distractions, and excessive dependence on peers for completing tasks.

Moreover, Annamalai [3] explored the use of WhatsApp as a tool to extend learning in a blended classroom environment among Malaysian undergraduates. The study revealed that WhatsApp enhanced learning flexibility by allowing students to engage and communicate beyond the limitations of time and location. It also supported knowledge sharing, encouraged collaboration, and allowed learners to consolidate their understanding of course content through discussions, shared materials, and bite-sized learning. The findings emphasized the potential of WhatsApp as a supplementary educational tool while underscoring the need for thoughtful pedagogical integration and teacher guidance to maximize its benefits.

Annamalai [3] and Cetinkaya [4] focused on WhatsApp's use in EFL classrooms. Their studies showed that WhatsApp enhances peer support and real-time communication but can also lead to overdependence and distraction. This dual nature reinforces the importance of intentional and structured use of mobile tools in language learning.

Tawafak *et al*. [10] explored the integration of digital gameplay in EFL contexts to enhance students' behavior intentions and language learning outcomes and found that gamified experiences promote autonomy and interaction. This finding supports the present study's emphasis on gamification as a driver of learner engagement and independence. However, the research also highlighted challenges, including technical barriers and the need for teacher training to optimize gameplay use in educational contexts.

B. Technology and Learners' Psychological and Cognitive Needs

The integration of technology into EFL education has significantly transformed traditional language classrooms by offering tools that help address the psychological and cognitive challenges learners often face. Among the most common barriers are anxiety, lack of engagement, and difficulties in adapting to diverse learning contexts. Krashen's Affective Filter Hypothesis [5], Cognitive Load Theory [6], and Constructivist Learning Theory [16]

provided a foundation for understanding how technology can help overcome these barriers. This section critically reviews recent research on the role of digital tools in reducing anxiety, enhancing motivation, and navigating the challenges of technology integration in EFL learning environments.

As digital technology becomes an integral part of language education, understanding how it intersects with learners' psychological and cognitive needs is increasingly important [17, 18]. Education aims to support the full development of the learner, cognitively, emotionally, and physically. In this context, Consoli *et al*. [17] introduced the Technology Integration Quality Scale (TIQS) to measure students' perceptions of teaching quality with technology. Based on data from 2,281 Swiss students, the study found that the quality of technology use, across four dimensions (support for learning, classroom management, individualized teaching, and cognitive activation), had a stronger impact on students' engagement and digital skills than the frequency of use. These results highlight the importance of meaningful, quality-driven technology use over mere frequency, an idea echoed in this study. Interestingly, individualized teaching had a negative impact when considered alongside other dimensions, indicating complex interactions among teaching quality factors. These findings emphasize the importance of thoughtful, multifaceted technology integration. They also reflect Vygotsky's [16] constructivist principles, which indicate the importance of learners' agency in constructing their knowledge through interaction and practice.

Engagement and motivation are critical for sustained language learning, and technology has proven to be a powerful tool for fostering these attributes. Self-Determination Theory [19] provided a framework for understanding how technology can enhance intrinsic motivation by supporting learners' needs for autonomy, competence, and relatedness. In particular, gamification has emerged as a highly effective strategy for keeping learners motivated and actively engaged in their language learning journeys.

Laksanasut [20] found that gamification enhances EFL learners' motivation, vocabulary retention, and engagement through platforms like Duolingo and Kahoot. The study highlights that game elements such as rewards and adaptive feedback improve learning outcomes, though it also cautions against overreliance on extrinsic rewards, highlighting the need for balance. Moreover, Munday [21] found that students who used gamified applications for vocabulary acquisition demonstrated higher retention rates and greater enthusiasm for learning compared to those using traditional methods. Applications like Duolingo, Memrise, and Kahoot use gamified elements such as rewards, challenges, and leaderboards to make learning enjoyable and interactive. These findings align with Mayer's [7] Multimedia Learning Theory, which highlighted how combining visual, auditory, and interactive elements can enhance learners' engagement and comprehension.

Multimedia tools such as YouTube and podcasts also play a crucial role in enhancing learner engagement by offering authentic, culturally relevant content that supports both cognitive and emotional learning goals. Khalid [22] demonstrated that the use of videos in EFL classrooms significantly increased student participation and fostered a stronger emotional connection to the material, thereby lowering affective barriers. Similarly, Wang and Tahir [23] found that integrating music into lessons not only boosted learners' engagement but also contributed to improved listening and pronunciation skills. These tools were frequently cited by participants in the current study as effective for making learning approachable and enjoyable.

On the other hand, Ahn [24] asserted that overly gamified systems risk prioritizing entertainment over educational value, leading to superficial engagement. This highlights the need for a balanced approach that ensures gamification serves pedagogical objectives without compromising educational rigor.

For teachers, understanding how to effectively encourage student participation is essential. Motivation, defined as an internal state that guides thoughts, emotions, and actions [25], plays a central role in this process. Oladele [26] describes motivation as the force that channels a learner's internal energy toward goal achievement, driving both effort and persistence. Tahmina [27] explored the impact of technology on motivating undergraduate EFL learners and found that integrative motivation, stemming from cultural and linguistic interest, was more influential than instrumental motivation. The study also highlighted how technology-enhanced pedagogy, through platforms such as Zoom and various digital tools, promoted engagement, learner autonomy, and active participation in a blended learning environment. These findings underscore the potential of well-designed, technology-integrated strategies to effectively boost learner motivation.

Groenewald and Kilag [28] explored how educational technology influences motivation in EFL settings, emphasizing the influential role of tools like Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) in enhancing both language proficiency and engagement. The study highlighted key motivational benefits, including increased grit, resilience, and integrative motivation, all of which were supported by the thoughtful use of digital tools. However, it also pointed out challenges such as rising anxiety and an overreliance on extrinsic rewards. The researchers stressed the vital role of educators in managing these dynamics, using technology not just as a tool for instruction but as a means to create a balanced, learner-centered environment that fosters both motivation and well-being.

C. Digital Technology and Anxiety Reduction

Anxiety is one of the most significant barriers to successful language acquisition, as it can greatly hinder a learner's ability to absorb and use the language effectively. According to Krashen [5], emotional factors such as fear and low self-confidence raise a mental barrier that prevents comprehensible input from being processed by the learner. However, when thoughtfully implemented, technology has shown great potential in reducing these barriers by providing learners with private, low-pressure spaces where they can practice without fear of judgment.

Social media platforms have also proven effective in helping reduce language learning anxiety. Lin and Lin [29] highlighted that platforms such as Twitter and Instagram create informal, low-pressure environments where learners

can practice language use without the fear of immediate correction. This aligns with the collaborative elements of Constructivist Learning Theory, as learners engage in meaningful social interactions that enhance their language skills. However, Greenfield [30] cautioned that while technology can reduce anxiety, the absence of structured feedback may limit its long-term effectiveness. These findings underscore the need for pairing informal practice with guided feedback mechanisms.

Using Krashen's Affective Filter Hypothesis as a framework, Wang [31] explored how motivation, confidence, and anxiety influence English language acquisition among struggling high school students in China. The study found that low motivation, a lack of confidence, and high levels of anxiety were key barriers to effective learning. These affective factors can act as filters, blocking linguistic input from being absorbed. The research highlighted the need for innovative teaching methods, such as task-based learning, fostering confidence through supportive teacher-student relationships, and reducing anxiety by teaching effective learning strategies. This supports the present study's attention to affective factors and learner support in digitally mediated environments.

Similarly, Li and Zhou [32] explored the impact of emotional factors such as anxiety and motivation on primary learners' second language acquisition, using Krashen's Affective Filter Hypothesis as the framework. The research highlighted that creating a supportive, low-anxiety environment and alleviating negative emotions can greatly enhance the effectiveness of language learning. It highlighted the importance of instrumental and integrative motivation, advocating educational diversity through multimedia tools, real-life scenarios, and positive teacher-student relationships to build learner confidence and reduce anxiety. These recommendations directly support the integration of technology as a flexible, inclusive medium for low-anxiety learning.

Highlighting the role of technology, Zen and Apriana [33] emphasized the importance of both traditional and technology-driven inputs for language acquisition. While primary contributors such as family interactions and peer influence play a central role, the study also highlighted the integration of technology as a significant secondary factor. Television, video games, and other multimedia tools are widely recognized for their ability to offer comprehensible input in a relaxed, low-stress learning environment. These technological media not only enhance vocabulary acquisition and comprehension but also align with Krashen's hypothesis by fostering engagement through enjoyable and motivating activities. The findings reinforce the potential of blended approaches that combine structured instruction with media-based, informal exposure.

On the other hand, Alshehri [34] explored how anxiety related to digital reading affects EFL learners' comprehension. The study found that while digital texts offer flexibility and accessibility, they also introduce cognitive challenges, technological distractions, and emotional stress that can hinder comprehension, especially among learners with lower proficiency. Using a digital reading anxiety scale, the study showed that students with higher reading proficiency experienced significantly lower levels of digital reading anxiety, particularly in inferential comprehension. This research highlights the need for emotionally responsive digital text design and better digital literacy training.

However, many studies have demonstrated that digital technology can create a supportive, low-anxiety environment that facilitates language acquisition. Platforms such as virtual reality, gamified applications, social media, and multimedia platforms are particularly effective in reducing learners' affective barriers and enhancing their motivation [14, 21]. Additionally, social media and mobile-assisted language learning (MALL) tools provide opportunities for authentic communication and self-paced learning, aligning with constructivist and motivational learning theories. These technologies can bridge the emotional and cognitive gaps often present in traditional EFL settings. However, the integration of technology is not without challenges, as learners often struggle with distractions, feature overload, and insufficient guidance [35, 36].

D. Addressing Challenges in Digital Technology Integration

Although digital technology offers numerous benefits for enhancing EFL learning, its integration is not without challenges. Sweller's [6] Cognitive Load Theory emphasized that when digital tools are poorly designed, they can impose excessive extraneous cognitive load, thereby impairing learners' ability to concentrate on essential learning tasks. Li and Zhao [35] further emphasized that overly complex applications, with overwhelming features and inconsistent interfaces, often lead to user frustration and disengagement. This is echoed by Fang *et al*. [37], who found that learners frequently encounter difficulties navigating such platforms, which detracts from their cognitive focus and overall learning efficiency. These findings reinforce the importance of intuitive, user-friendly interfaces in digital tool development.

Distractions and lack of guidance are additional challenges frequently reported by learners. While social media offers valuable opportunities for informal language practice, it also carries the risk of overuse and off-task behavior. Alghamdi and Plunkett [38] observed that learners who relied heavily on social media for language learning often had difficulty maintaining focus, highlighting the need for more structured support. Similarly, Wong and Looi [36] highlighted the importance of scaffolding learners' technological experiences by providing clear guidance on how to choose and use digital tools effectively. This supports the study's call for pedagogical frameworks that include technological scaffolding.

Emerging technologies, including Artificial Intelligence (AI) and Virtual Reality (VR), present promising solutions to address these educational challenges. Lin *et al*. [39] demonstrated that AI-driven applications provide personalized learning paths and adaptive feedback, addressing individual learners' needs. Similarly, Luo *et al*. [40] found that VR environments enhance learners' focus and immersion, reducing distractions and promoting sustained engagement. However, Lai and Gu [41] emphasized that the effective use of educational technology hinges on its alignment with learners' psychological and cognitive needs, highlighting the critical role of user-centered design in ensuring meaningful engagement and learning outcomes.

Many learners find it challenging to navigate the overwhelming features and options of technology [35]. While current research emphasizes the importance of reducing extraneous cognitive load [3], there is a notable lack of focus on providing structured guidance and scaffolding to help learners effectively integrate technology into their study routines [35]. Similarly, although social media platforms are increasingly recognized as valuable tools for informal learning [29], much of the research remains focused on formal classroom applications of technology. As a result, the potential of platforms like Twitter, Instagram, and TikTok to foster low-pressure, collaborative language practice in informal settings is underexplored, particularly regarding their long-term impact on language proficiency and learner confidence [30].

The literature demonstrates that technology holds significant potential for addressing psychological and cognitive barriers in EFL learning. Tools such as mobile apps, gamified platforms, and social media platforms enhance motivation, reduce anxiety, and create opportunities for meaningful interaction. However, challenges such as digital distractions, feature overload, and insufficient instructional guidance underscore the importance of thoughtful integration and ongoing support in the implementation of these technologies. As such, this study addresses a critical gap by exploring how learners themselves perceive these tools, not just in terms of outcomes, but in how they shape motivation, focus, and emotional well-being.

Furthermore, much of the existing research relies on quantitative methods, emphasizing outcomes like test scores and engagement statistics. However, there is a noticeable lack of qualitative exploration into learners' lived experiences with technology, including their perceived challenges and the emotional aspects of language learning. This is critical for understanding how technology impacts diverse learner populations [38].

These reviewed studies underscore how digital tools can be both empowering and overwhelming depending on their design and implementation. By building on this literature, the current study offers a learner-centered, qualitative perspective that bridges theoretical models and practical classroom realities. It seeks to provide a more nuanced understanding of how emotional and cognitive outcomes are shaped in EFL learning.

E. Theoretical Framework

This study draws on three complementary theoretical frameworks to examine the role of digital technology in EFL education: Krashen's Affective Filter Hypothesis, Cognitive Load Theory, and Constructivist Learning Theory.

Krashen's hypothesis highlights the importance of reducing emotional barriers such as anxiety and low self-confidence, which can prevent learners from processing language input effectively. Digital tools, particularly social media platforms, offer low-pressure environments that encourage risk-taking and language practice without fear of judgment, helping to build confidence and reduce stress. This framework supports the study's focus on using learner-controlled digital spaces to minimize stress and promote input reception.

Similarly, Cognitive Load Theory emphasizes the importance of managing mental effort during learning. Digital platforms that incorporate multimedia and gamification, such as YouTube and Duolingo, present information in an engaging and structured way, supporting comprehension while avoiding cognitive overload. This theory informs the analysis of how intuitive design and clear navigation in digital tools enhance learning efficiency by reducing extraneous load.

Furthermore, Constructivist Learning Theory underscores the value of interactive and collaborative learning. Online discussion forums, virtual classrooms, and collaborative tools allow learners to actively construct knowledge through meaningful peer engagement and real-world application. These tools also provide socially meaningful contexts that reflect the principles of situated learning and learner agency. By drawing on these frameworks, this study explores how digital technology can support EFL learners' emotional, cognitive, and collaborative needs while promoting active participation, offering insights into more effective, learner-centered approaches to EFL instruction.

III. Materials and Methods

A. Research Design

This study adopts a qualitative research design to examine the perceptions of EFL learners regarding the role of digital technology in enhancing their language learning experience. Data was sourced from a Blackboard discussion forum, where participants reflected on the advantages, challenges, and overall experiences with technology in EFL education. A thematic analysis was conducted to identify key themes, with participant quotations included to enrich interpretation and provide contextual depth.

Thematic analysis was conducted following Braun and Clarke's [42] six-phase framework. The process began with repeated readings of the data to ensure familiarity and a thorough understanding. Initial codes were generated at the sentence level, capturing key ideas expressed by participants. These codes were then grouped into broader themes reflecting the learners' perspectives on digital technology integration. The themes were carefully reviewed and refined for clarity, coherence, and relevance, resulting in three major themes. Participants' responses were systematically coded, with "R" representing the respondent and "N" denoting the number.

B. Participants

The participants, predominantly from diverse cultural backgrounds, were aged between 19 and 21, all enrolled in Level 6 of the College of Languages and Translation at King Khalid University. As part of their academic program, these students were enrolled in a course titled "Technology in Language Learning," which introduced them to the history of technology in language learning along with the practical application of various digital tools and platforms relevant to EFL education. Most participants had moderate to high levels of digital literacy and prior experience using applications such as Duolingo, YouTube, WhatsApp, and Blackboard. This demographic context is particularly relevant, as it situates the participants within a technologically aware group of language learners actively engaging with digital tools in

both academic and personal contexts. Their insights, therefore, offer meaningful perspectives on the integration of technology in EFL learning environments.

C. Data Collection

Participants were invited to respond to carefully designed open-ended prompts that encouraged them to reflect deeply on their interactions with digital tools, such as learning management systems, apps, or online resources. These prompts sought to uncover not only their practical usage of technology but also their emotional responses, such as feelings of motivation, frustration, or satisfaction, and cognitive engagement, including the perceived impact on their learning outcomes and skill development.

The question raised was: Reflect on your thoughts and experiences with using technology in language learning. How has it helped or hindered your learning, and what are some examples of tools or platforms you have used?

By avoiding guided or leading questions, the study ensured objectivity, creating space for students to freely express their perspectives without being influenced to favor or critique technology. Moreover, the discussion forum served as an effective platform for capturing authentic and unfiltered insights, allowing participants to express their thoughts in their own words without the pressure of face-to-face interaction. The asynchronous format further provided flexibility, enabling participants to reflect and respond at their own pace, resulting in more thoughtful and in-depth contributions.

D. Data Analysis

Thematic analysis in this study followed Braun and Clarke's [42] six-step framework and was conducted through a systematic and iterative process. The first stage involved familiarization with the data through repeated readings of student responses to develop a deep understanding of the content. Initial codes were generated by identifying sentences or phrases that reflected emotional, cognitive, or behavioral dimensions of technology use in EFL learning. The criteria for generating codes included semantic relevance to the research questions, recurrence across multiple responses, and conceptual alignment with the study's theoretical frameworks (Affective Filter Hypothesis, Cognitive Load Theory, and Constructivist Learning Theory). These codes were then clustered into broader themes based on shared meanings and patterns. Themes were refined through multiple rounds of review to ensure internal coherence (i.e., consistency within themes) and external heterogeneity (i.e., distinction between themes). Themes were retained if they captured a significant aspect of participants' lived experiences and directly supported one or more theoretical dimensions of the study. Representative quotes were selected to illustrate each theme and provide contextual richness.

IV. Result and Discussion

The qualitative data analysis identified three central themes that illustrate the impact of digital technology on language learning. First, participants emphasized the motivational power of gamified tools and multimedia, noting how these technologies transformed language learning into an engaging and learner-driven experience. Second, technology was recognized for its significant role in reducing fear and anxiety by providing private, non-judgmental spaces for practice and experimentation. However, participants also pointed to challenges such as digital distractions and the complexity of certain tools, emphasizing the need for user-friendly designs to ensure effective integration and minimize cognitive overload. These themes were not only drawn from participants' experiences but also directly mapped onto the theoretical frameworks guiding the study, Krashen's Affective Filter Hypothesis, Cognitive Load Theory, and Constructivist Learning Theory (Fig. 1).

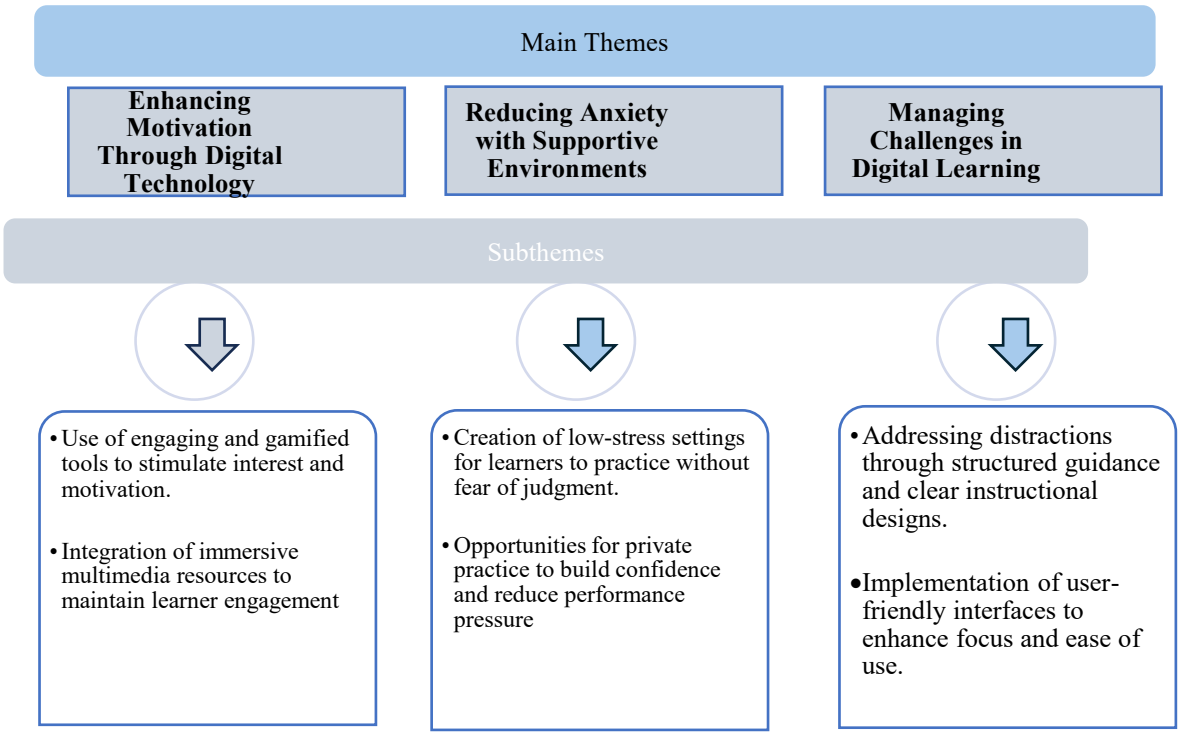

Fig. 1. Themes and sub-themes of digital technology's impact.

This process resulted in the identification of three major themes: (1) the transformative role of technology in learning, (2) enhancing engagement and motivation, and (3) addressing challenges in technology integration. These themes were continually evaluated for relevance, clarity, and resonance with both participant data and the guiding theoretical frameworks.

Theme 1: The Transformative Role of Technology in Learning

The integration of technology into language learning has led to significant transformations, particularly through the use of platforms such as YouTube, WhatsApp, and Twitter. These platforms offer low-pressure environments that encourage learners to practice the target language without fear of judgment. By lowering barriers to participation, such tools provide accessible and informal spaces where learners can engage with the language in a more natural, frequent, and self-directed manner.

This theme directly aligns with Krashen's Affective Filter Hypothesis, as platforms like Twitter and WhatsApp create low-anxiety, non-judgmental spaces that reduce fear of making mistakes and encourage risk-taking in language use. Furthermore, tools such as Duolingo and Speechify reflect Cognitive Load Theory, as they deliver content in small, structured formats, thereby minimizing cognitive overload and supporting efficient learning. Constructivist Learning Theory is also reflected as learners use social media and collaboration platforms to build knowledge through interaction and context-rich communication.

Participants overwhelmingly emphasized how digital technology reshaped their English language learning experiences, particularly through tools that allowed for personalized, real-time practice and self-paced exploration. For many, technology served as a gateway to progress that traditional classroom settings alone could not provide. One student noted, *"Technology added a lot to my English language. I know very well that I wouldn't have reached this stage without God and then technology and application 'Speechify', how can I talk, songs, and movie."* Others highlighted the ability to access global communication and daily exposure to English via social platforms. As one participant shared, *"We spend a long time on social media, as these platforms help us communicate with people worldwide and practice the language."* Similarly, platforms like YouTube played a significant role in offering authentic input. One learner stated, *"I used YouTube to learn the language through watching short films and debates,"* reinforcing the multimedia platform's value in promoting both listening and grammar awareness. Twitter was also praised for promoting concise writing practice, with a student explaining, *"The character limit on Twitter is 140 characters. This feature forces users to write concisely. Writing and reading basic short sentences will definitely help you in your practice of the English language."* In general, learners described technology not as a supplement but as a foundational tool in their language acquisition journey.

Theme 2: Enhancing Engagement and Motivation Through Technology

In addition to being transformative, digital tools were frequently credited with keeping learners engaged and motivated. Technology has proven effective in maintaining learners' motivation and engagement by incorporating features that make language learning enjoyable and interactive. Gamified platforms like Duolingo and Memrise use rewards, challenges, and visually appealing interfaces to encourage consistent participation. Multimedia resources such as YouTube and TED Talks accommodate diverse learner preferences by offering content that is both engaging and aligned with individual interests. Additionally, social and collaborative platforms, including blogs and social media groups, play a vital role in fostering supportive environments.

This theme resonates with Krashen's Affective Filter Hypothesis, as motivational digital tools reduce stress and support positive emotional states, fostering better input acquisition. From the perspective of Constructivist Learning Theory, the ability to personalize content and collaborate with others supports learners' autonomy, relatedness, and engagement. Cognitive Load Theory is evident in the design of apps that present digestible, multimodal information, keeping learners cognitively focused without overwhelming them.

Many participants found that the variety, interactivity, and entertainment value of platforms like Instagram, TikTok, and YouTube helped sustain their interest in English. One student reflected, *"From my experience, I learned English through TikTok and Instagram by following pages that are dedicated to learning new phrases and words."* Another noted, *"Social media sites bring various benefits, such as increasing reading, writing, and vocabulary mastery, which boost students' motivation."* Music and informal learning also played a critical role, as highlighted by a learner who said, *"I started learning English at a young age through music and TV."* Short-form writing on platforms like Twitter reduced performance pressure, with one student stating, *"Writing short tweets in English is less stressful than writing for class, and it helps me slowly improve my grammar and vocabulary."* Several students pointed to educational apps as effective tools for gamified learning. For instance, one explained, *"(Memrise) is a learning technology that taps into memory techniques such as repetition and gamification to help users remember new words and phrases."* Others mentioned the *Cake* and *CAMBLY* apps as especially helpful for improving pronunciation and speaking skills: *"Cake application is an English learning application, through it I learned how to speak and listen correctly,"* and *"I used CAMBLY for a while to improve my speaking skills, and it helped me talk with native speakers and learn correct pronunciation."* These examples illustrate how the combination of personalized content, interactive formats, and low-pressure environments helped maintain learners' intrinsic motivation.

Theme 3: Addressing Challenges in Technology Integration

Despite the benefits, participants cited several obstacles. These included distraction from social media, cognitive overload from feature-heavy apps, and the lack of personalized feedback in many digital tools. Learners also warned against over-reliance on apps and emphasized the importance of discipline and balance.

This theme relates to Cognitive Load Theory, as participants reported that cluttered or complex interfaces increased extraneous cognitive load, reducing learning efficiency. Krashen's Affective Filter Hypothesis is also

relevant, as digital overwhelm or lack of support can raise emotional barriers and inhibit language input. Constructivist Learning Theory is applicable, as the absence of collaborative, interactive features or instructor guidance was seen to hinder deep learning and social construction of knowledge.

A recurring theme was the potential for distraction, especially with social media. As one student expressed, *"Social media is a platform that can be a double-edged sword, as it can be a distraction or a means of learning, depending on the way it is used."* Time management also emerged as a concern, with one participant warning, *"Technology takes a lot of the student's time if not used properly, and it may reduce the motivation for traditional methods of learning."* Several students pointed to the overwhelming number of available resources as another obstacle. One remarked, *"There [are] a lot of apps that people can learn from, but we need to focus on one source of information because too many resources can lead to confusion."* Another participant stressed the importance of guided, intentional use, stating, *"I benefited from my experience in technology, but it also made me aware of the importance of managing time and not relying solely on devices."* Similarly, one student shared that while digital tools were enjoyable, they often became a distraction from academic priorities: *"I found that while it's fun and beneficial, I sometimes spend too much time on apps instead of focusing on my assignments."* Ultimately, learners recognized that while technology offers unparalleled support, its effectiveness depends heavily on how it is used and integrated into a structured learning routine.

Consequently, the identified themes illustrate how digital technology supports EFL learning by aligning with key principles from Krashen's Affective Filter Hypothesis, Cognitive Load Theory, and Constructivist Learning Theory. Platforms like YouTube, Duolingo, and WhatsApp reduce anxiety, provide structured and comprehensible input, and foster peer interaction for meaningful, real-world learning. While challenges such as distractions and a lack of personalized feedback persist, aligning technology with these theoretical principles ensures it effectively supports learners' emotional, cognitive, and collaborative needs, enhancing language acquisition outcomes.

A. Results of Thematic Analysis

The data indicates that students perceive technology as a transformative tool for enhancing their English language skills, utilizing a range of applications, social media platforms, and collaborative tools. Many responses emphasize the diverse ways in which structured digital technology facilitates their learning, creates opportunities for practice, and helps them overcome emotional or psychological barriers that may hinder their progress (Fig. 2).

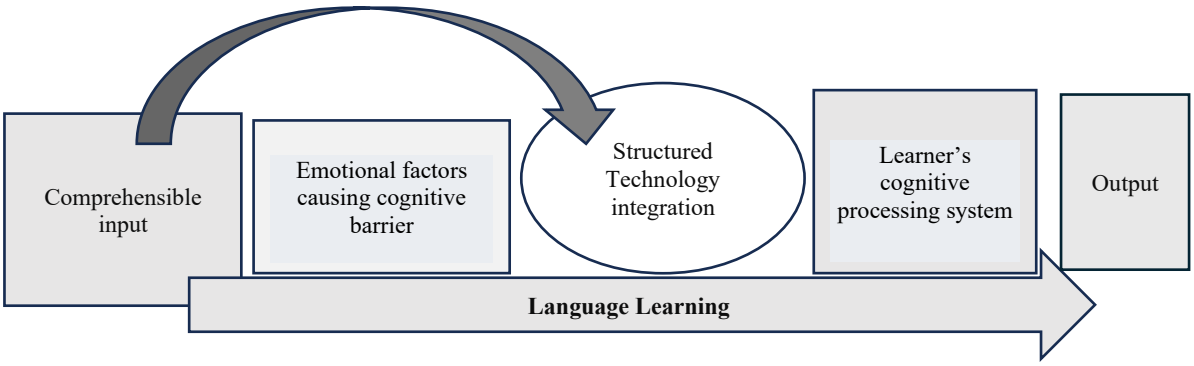

Fig. 2. The role of technology in overcoming emotional barriers in the filter hypothesis.

Theme 1 Analysis: The Transformative Role of Technology in Learning

Technology has become a cornerstone of English language learning, providing a wide array of platforms and tools that integrate seamlessly into learners' everyday lives. Participants frequently emphasized how applications like YouTube, WhatsApp, and Twitter have supported their learning journeys. RN5 stated, *"Technology added a lot to my English language. I know very well that I wouldn't have reached this stage without God and then technology and applications like Speechify, songs, and movies."* Similarly, RN12 noted, *"We use virtual blackboards to communicate with our doctors and peers. WhatsApp groups increase contact with the target language and provide supporting materials for study."*

Social media platforms like Twitter were praised for their brevity and interactivity. RN19 explained, *"The character limit on Twitter is very good since everyone should write in short sentences. Writing and reading basic short sentences will definitely help you in your practice of the English language."* Likewise, RN7 added, *"One of the best things you can do to start learning English on Twitter is to follow educational accounts. Many accounts post daily tips, tricks, and vocabulary, encouraging you to practice and providing direct feedback."*

Participants also highlighted immersive techniques that incorporate technology into daily activities. RN2 recommended, *"Start by changing your iPhone language's settings to English, join pages and groups in English, and start conversations with native speakers."* This sentiment was echoed by RN15, who said, *"Facebook is good for reading and writing purposes, YouTube for pronunciation and grammar, and Twitter for vocabulary."*

YouTube emerged as a particularly versatile and effective platform, offering a wide range of authentic, visually rich content that supports diverse learning styles and language proficiency levels. RN3 shared, *"I learned English through watching short films and debates on YouTube. It helped me understand pronunciation and grammar in a simple, effective way."* Similarly, RN10 explained, *"Social media,*

particularly YouTube, TikTok, and Twitter, provides opportunities to improve writing, reading, and vocabulary."

Applications like Duolingo and Speechify were also recognized for their ability to enhance learning through structured approaches. RN9 stated, *"Duolingo helped me learn basic sentences, match pictures with words, and practice pronunciation. It combines different methods, making it effective and engaging."* Additionally, RN18 emphasized the audio benefits of Speechify, noting, *"This app helps me listen and repeat sentences, which improves both my pronunciation and understanding."*

Some participants highlighted the social and collaborative aspects of technology. RN4 remarked, *"We spend a long time on social media, and it's interesting to see how learning English has become a tool for communication with people worldwide. I joined groups to discuss topics with native speakers, which improved my conversational skills."* Similarly, RN8 pointed out, *"Using WhatsApp and virtual blackboards enables me to interact with classmates and teachers, creating an environment where I can practice and receive feedback."*

Multifunctional tools like Facebook, Instagram, and TikTok were also praised for their adaptability to learning. RN22 shared, *"I learned English through TikTok and Instagram by following pages dedicated to learning new phrases and words. Short videos make it easy to grasp vocabulary."* RN13 noted, *"Facebook groups for learners helped me connect with other students to exchange tips and resources, making learning more engaging and social."*

Participants also described how technology enables them to self-learn effectively. RN6 reflected, *"Learning languages in the past was limited to educational institutions. Today, thanks to technology, I can teach myself at my own pace using apps and online tutorials."* RN11 echoed this, stating, *"Platforms like YouTube and Twitter allow me to explore content on my own, such as grammar tutorials or pronunciation exercises, without needing a teacher."*

The integration of technology into everyday routines has made English learning more accessible and personalized. RN20 stated, *"By watching movies, listening to songs, and using social media, I've been able to practice English naturally and improve my vocabulary and pronunciation."* Similarly, RN16 noted, *"Changing my phone's language settings to English forced me to learn and understand common phrases, which improved my reading comprehension."*

In summary, the participants' responses illustrate how technology transforms English language learning into an interactive, accessible, and immersive experience. Platforms such as YouTube, Twitter, and Duolingo offer structured, self-directed opportunities for developing a range of language skills. In parallel, social and collaborative tools like WhatsApp, Facebook, and TikTok foster communication and connection, enabling learners to seamlessly integrate language practice into their daily routines. Collectively, these technologies empower learners to take greater ownership of their learning while engaging with language in meaningful, context-rich environments.

Theme 2 Analysis: Enhancing Engagement and Motivation Through Technology

Participants frequently emphasized how technology creates enjoyable and engaging learning experiences that sustain their motivation, reduce their stress, and encourage consistent practice. Social media platforms such as Instagram, TikTok, and Twitter were celebrated for their accessible and entertaining content. RN20 stated, *"I use social media like Instagram, Twitter, and TikTok because they offer lessons in a fun and entertaining way. I can also share these lessons with friends and benefit from them."* Similarly, RN6 explained, *"Social media sites bring various benefits, such as increasing reading, writing, and vocabulary mastery, which boost students' motivation."*

Gamified applications like Duolingo and Memrise were frequently praised for their ability to maintain interest and engagement. RN11 described, *"Duolingo combines different methods, such as listening to the pronunciation of words, reading sentences, and matching pictures with words. Its gamified elements make it exciting and engaging."* RN17 echoed this sentiment, stating, *"Applications like Cambly and Memrise provide interactive ways to learn vocabulary and practice pronunciation. They are fun, flexible, and effective tools for self-paced learning."*

Multimedia platforms such as YouTube and TED Talks were recognized for their ability to cater to diverse learning preferences and make language learning dynamic. RN13 reflected, *"TED Talks help learners improve listening skills and expand their understanding. Blogs enable learners to write expressively and gain valuable insights into their fields of interest."* Similarly, RN9 highlighted, *"YouTube is a video-sharing application that is good for pronunciation purposes and explaining grammar rules. It is very effective for learners."* These platforms were appreciated for their engaging formats, which allow learners to access and revisit content as needed.

Music and movies were also acknowledged as powerful tools for fostering motivation. RN14 shared, *"I started learning English at a young age through music and TV. Songs and movies sparked my interest, and I later used my phone to socialize with people online, which improved my skills significantly."* Similarly, RN22 remarked, *"Watching native speakers interact in debates on YouTube and listening to music helped me improve my vocabulary and grammar."*

Interactive and community-based platforms were also highlighted for their role in keeping learners motivated and open to learning. RN4 stated, *"Joining online groups with other learners has made studying* more *enjoyable. Sharing tips and asking questions in real time makes the process less isolating."* RN8 noted, *"Social media communities and blogs allow me to engage with people who share similar learning goals, which keeps me motivated to practice daily."*

Gamified features of language apps were frequently described as particularly motivating. RN9 explained, *"Earning badges and completing challenges on Duolingo keeps me engaged and gives me a sense of accomplishment after every session."* RN15 elaborated, *"Gamification in apps like Duolingo and Memrise makes learning enjoyable, and the daily reminders encourage me to keep practicing regularly."*

The ability of technology to reduce stress while fostering engagement is particularly impactful. Participants emphasized that platforms like WhatsApp and Twitter allow them to practice without fear of judgment, helping them to

stay motivated and confident. One participant (RN2) shared, *"Practicing in WhatsApp groups makes it easier because I don't feel scared of making mistakes."* Moreover, RN40 explained, *"Writing short tweets in English is less stressful than writing for class, and it helps me slowly improve my grammar and vocabulary."* Additionally, using multimedia platforms like YouTube provides learners with opportunities to learn privately and at their own pace. Significantly, RN26 remarked, *"I like watching English videos on YouTube because I can repeat parts as much as I need without feeling embarrassed."*

Participants also pointed out how technology allows them to personalize their learning experiences to stay motivated. RN3 shared, *"On YouTube, I can find videos that match my specific interests, like grammar tutorials or vocabulary exercises. This makes learning feel more tailored to my needs."* RN7 added, *"TED Talks let me choose topics that interest me, so I stay engaged while improving my listening and comprehension skills."*

Additionally, short-form content was praised for its effectiveness in sustaining attention. RN19 stated, *"TikTok and Instagram offer bite-sized lessons that are easy to follow and fun to watch. I can learn new words and phrases in just a few minutes."* RN12 added, *"Twitter challenges me to write concise sentences, which keeps me motivated to improve my grammar and vocabulary."*

In summary, many participants highlighted how technology enhances engagement and motivation by offering interactive, gamified, and highly personalized experiences. Platforms like YouTube, Duolingo, TED Talks, and social media create entertaining and dynamic environments that encourage learners to explore and practice English in ways that align with their interests. Furthermore, through community interaction, multimedia formats, and gamification strategies, technology transforms language learning into an enjoyable and rewarding process.

Theme 3 Analysis: Addressing Challenges in Technology Integration

While technology offers numerous advantages for language learning, participants also identified several challenges that can hinder its effective use. A common concern was the distractions caused by excessive reliance on social media and apps. RN4 stated, *"Social media has many advantages, but it takes time to filter through useful content. Spending long hours on these platforms can lead to decreased productivity."* Similarly, RN22 shared, *"Learning languages has become much simpler with technology, but distractions and reliance on apps like Duolingo sometimes hinder consistent progress."*

The overwhelming availability of resources was another frequently mentioned issue. RN8 explained, "While *YouTube channels are helpful, navigating through multiple resources can be overwhelming and time-consuming. Apps like Duolingo require clear instructions for effective use."* Likewise, RN21 highlighted the risks of overexposure, noting, *"Social media can sometimes lead to blind imitation and excessive screen time, which affects individual health and productivity."* These concerns emphasize the need for structured use and clear guidance when leveraging technology for learning.

Participants also pointed out the lack of personalized support in many technological tools. RN16 reflected, *"Although social media platforms provide free and accessible resources, they lack the personalized support that traditional learning environments offer."* RN23 added, *"While apps like Memrise and Babbel are effective, the constant notifications and reminders can sometimes be overwhelming."* This lack of tailored feedback can make it challenging for learners to address specific areas of difficulty.

Over-reliance on technology was another concern raised by participants. RN19 observed, *"Technology has made learning easier, but it is important to use it thoughtfully and avoid over-reliance on any single tool."* Similarly, RN18 emphasized the importance of discipline, stating, *"Discipline is key when using social media or apps for learning. Without structure, it's easy to get distracted or waste time."* These responses highlight the need for balance and self-regulation to maximize the benefits of technological tools.

Additionally, participants noted that the design and usability of some tools could pose challenges. RN9 explained, *"Some apps like Duolingo can be repetitive, and without clear instructions, it's hard to use them effectively."* RN15 added, *"The abundance of features in certain platforms can sometimes confuse new users, making it difficult to focus on their primary learning goals."* These usability issues can detract from the overall learning experience, particularly for those unfamiliar with the tools.

The lack of curation in online resources was another barrier mentioned by learners. RN7 shared, *"Having too many options can make it hard to focus on one resource. A curated list of tools would help learners streamline their efforts."* Similarly, RN12 pointed out, *"On platforms like YouTube, not all content is accurate or helpful, which makes it difficult to identify high-quality resources."* These responses emphasize the need for curated and reliable content to enhance the effectiveness of technology-based learning.

Finally, participants acknowledged the importance of supplementing technology with other learning methods. RN3 remarked, *"Technology is helpful, but it cannot replace human interaction or the guidance of a teacher. A mix of both is essential for balanced learning."* RN14 agreed, stating, *"While apps and social media are great, they should be used as complementary tools rather than the sole source of learning."* These insights reflect the need for integrating technology with traditional learning practices to achieve better outcomes.

In summary, participants highlighted key challenges in the integration of technology, including distractions, resource overload, lack of personalization, usability issues, and over-reliance. These challenges underscore the importance of thoughtful design, structured use, and a balanced approach to leveraging technology for English language learning. By addressing these issues, learners can optimize their use of technology while minimizing potential drawbacks.

B. Discussion

This study explored the impact of digital technology on EFL learning, with a particular focus on its role in enhancing motivation, reducing anxiety, and addressing integration challenges. The findings align with key principles from Krashen's Affective Filter Hypothesis, Cognitive Load Theory, and Constructivist Learning Theory, illustrating how

technology can support learners across emotional, cognitive, and social dimensions.

The first theme revealed the transformative impact of digital technology on EFL learning. Platforms such as YouTube, WhatsApp, and Twitter were seamlessly integrated into learners' daily routines, providing accessible and flexible resources for language development. Participants noted that these platforms helped reduce anxiety by offering low-pressure, judgment-free environments for practice, aligning with Krashen's emphasis on minimizing emotional barriers. Moreover, the usability of applications like Duolingo and Speechify reflects Cognitive Load Theory's principles by presenting structured, manageable content that minimizes cognitive strain. Collaborative platforms such as virtual blackboards and social media groups further align with Constructivist Learning Theory, fostering peer interaction and real-world application, which enrich learners' experiences and skills.

The second theme emphasized how technology enhances motivation and engagement. Social media platforms such as Instagram, TikTok, and Twitter provide interactive, entertaining content that sustains learners' interest, while gamified applications like Duolingo and Memrise foster intrinsic motivation through rewards and challenges. Multimedia resources such as YouTube and TED Talks accommodate diverse learner preferences by providing personalized, engaging content that promotes active involvement and sustained interest in language learning. The non-judgmental nature of these platforms further reduces stress, encouraging consistent practice and building confidence. These features align with Krashen's focus on lowering the affective filter while also ensuring cognitive efficiency through intuitive design, as outlined in Cognitive Load Theory.

The third theme addressed the challenges of integrating technology into EFL learning. While students acknowledged the advantages of digital tools, they also pointed to several obstacles that hindered their effectiveness. Common issues included distractions, resource overload, and usability limitations.

Distraction was a recurring concern, particularly with social media. Many learners perceived social media as a double-edged tool—while it offered learning opportunities, it also posed significant risks for off-task behavior and reduced focus. Several students reported feeling overwhelmed by the sheer volume of available digital tools and content, noting that the abundance often created confusion and hindered their ability to concentrate on a single, reliable resource. These experiences align with the principles of Cognitive Load Theory, which emphasize the importance of minimizing extraneous information to support cognitive efficiency.

Additionally, participants expressed frustration over the limited opportunities for personalized feedback in many educational technologies. The absence of tailored responses and interaction was seen as a barrier to deeper learning, reducing opportunities for active knowledge construction—an essential element of Constructivist Learning Theory. As a result, students emphasized the importance of thoughtful and structured technology integration, advocating for the use of curated, high-quality resources and clearer instructional guidance to support more effective engagement.

The findings illustrate the multifaceted impact of technology on EFL learning. By aligning with the principles of Krashen's Affective Filter Hypothesis, Cognitive Load Theory, and Constructivist Learning Theory, the study highlights the importance of learner-centered digital tools that reduce stress, sustain motivation, and foster collaborative engagement. Addressing the challenges highlighted in this study can further enhance the integration of technology, ensuring that it supports learners' emotional and cognitive needs effectively.

Moreover, the results strongly align with and extend previous research in the field. The positive emotional impact of digital tools corroborates Krashen's emphasis on reducing affective barriers, while the cognitive benefits observed through gamification and multimedia resonate with Deci and Ryan's motivational theories and Mayer's Multimedia Learning Theory. Importantly, this study offers qualitative insights that complement the predominantly quantitative nature of existing literature. For instance, while earlier studies [13, 14] demonstrated the effectiveness of Mobile-Assisted Language Learning (MALL) tools in reducing learner anxiety, the present study adds depth by exploring learners' lived experiences and perceptions, offering a more nuanced understanding of how these tools are received and applied in real-world contexts. At the same time, the challenges highlighted in this study, such as distractions and usability issues, reaffirm the concerns raised by Fang *et al*. [37] about the cognitive demands of poorly designed tools. These findings emphasize the need for a more balanced approach to technology integration, one that combines innovative features with simplicity and pedagogical support.

While tools like Duolingo, TikTok, or YouTube are engaging by design, distraction occurred because these platforms also house non-academic content, making it easy for learners to veer off-task. The very design elements that make platforms engaging, such as instant gratification, infinite scroll, or reward systems, can also fragment attention and reduce sustained cognitive focus. This paradox illustrates how the motivational appeal of technology can, under certain conditions, undermine deep learning.

Moreover, cognitive overload emerged as a recurring barrier. Many apps offer a wide array of features, options, and pathways that require users to make constant decisions, such as selecting difficulty levels, choosing among multiple learning modes, or managing gamified progress dashboards. These design complexities increase extraneous cognitive load [6], diverting mental energy away from actual language acquisition. When tools lack intuitive navigation or present cluttered interfaces, learners may experience frustration or fatigue, which impairs learning efficiency and diminishes motivation.

Another contributing factor was insufficient digital literacy. Some learners reported difficulty in identifying which tools were best suited to their goals or how to combine them effectively. Without structured guidance or pedagogical support, technology can become overwhelming rather than empowering. This lack of scaffolded integration reinforces the importance of teacher involvement and intentional instructional design.

While these challenges do not negate the benefits of digital technology, they emphasize that thoughtful implementation

is crucial. Technology must be aligned not only with learning objectives but also with learners' psychological and cognitive needs. This requires balancing stimulation with simplicity, and motivation with focus, ensuring tools empower rather than distract.

C. Recommendations

To enhance digital technology integration in EFL learning, tailored recommendations are provided for educators, developers, and learners. For educators, it is important to combine 'structured technologies' with informal opportunities, organize training sessions, and curate appropriate tools with clear goals to foster engagement while minimizing distractions. Similarly, course developers should prioritize user-centered design by creating simple, accessible, and personalized tools that include adaptive learning paths, intuitive interfaces, and meaningful gamification. Moreover, learners are encouraged to establish clear learning goals and utilize self-paced technologies, such as branching drills, to build confidence and reduce stress. Finally, future research should focus on the integration of emerging technologies, including AI and virtual reality, to further enhance learner engagement, motivation, and proficiency.

V. Conclusion

This study highlights the transformative role of digital technology in EFL learning, particularly in enhancing motivation, reducing anxiety, and supporting learner autonomy. Based on students' experiences, several key strategies emerged for more effective technology integration. First, learners benefit from selecting a limited number of well-designed tools, such as YouTube, Duolingo, or WhatsApp, that support consistent, targeted practice without overwhelming them. Second, the findings underscore the importance of structured guidance from educators, including recommending specific platforms, clarifying learning objectives, and providing curated content. Third, addressing the lack of personalized feedback in many tools is essential; this can be mitigated through blended learning models that combine technology use with teacher or peer feedback. Finally, students emphasized the need for clear time management practices to avoid overuse and maintain a balance between digital learning and academic responsibilities. By incorporating these strategies, EFL instructors and curriculum designers can more effectively align digital tools with learners' emotional and cognitive needs. Ultimately, this study contributes practical, learner-informed recommendations to guide more thoughtful, purposeful, and supportive integration of technology in EFL classrooms.

Conflict of Interest

The author declares no conflict of interest.

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