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THE IMPACT OF DIGITAL TOOLS ON EFL TERTIARY STUDENTS' ENGAGEMENT FROM A POSITIVE PSYCHOLOGICAL PERSPECTIVE

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Abstract: The research evaluates how digital tools influence the positive psychological state of Vietnamese students pursuing English as a foreign language at the tertiary level by examining their engagement using the PERMA framework. The qualitative method explored both the main digital tools students used and the effects these tools had on their learning engagement. Open-ended questionnaires and semi-structured interviews conducted at a private university in Hai Phong, Vietnam, served as the data collection methods. Students actively used three distinct digital tool categories: social media networks, learning management systems, and technology-supported language learning platforms. Student engagement experienced dramatic impact through electronic tools extending across three learning domains: behavior, affect, and cognition. Digital tools enabled students to solve problems while assisting language analysis, ensuring continuous learning practices, and creating supportive learning environments. The outcomes might contribute to digital tool integration knowledge in Vietnamese EFL instruction and an understanding that longitudinal research and cultural-technical technology adoption barriers require investigation.

Keywords: digital tools, PERMA by Selignman (2011), positive psychology, student engagement

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TÁC ĐỘNG CỦA CÔNG CỤ CÔNG NGHỆ ĐẾN SỰ THAM GIA HỌC TẬP CỦA SINH VIÊN ĐẠI HỌC DƯỚI GÓC NHÌN TÂM LÝ HỌC TÍCH CỰC

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Tóm tắt: Nghiên cứu này đánh giá cách các công cụ công nghệ ảnh hưởng đến tâm lý tích cực của sinh viên Việt Nam ở bậc đại học bằng cách phân tích mức độ tham gia học tập của họ theo mô hình PERMA. Phương pháp nghiên cứu định tính được sử dụng để khám phá những công cụ công nghệ chính mà sinh viên sử dụng và tác động của những công cụ này đến sự tham gia học tập của sinh viên. Dữ liệu được thu thập thông qua bảng hỏi mở và phỏng vấn bán cấu trúc tại một trường đại học tư thục ở Hải Phòng, Việt Nam. Sinh viên sử dụng tích cực ba nhóm công cụ công nghệ khác nhau: mạng xã hội, hệ thống quản lý học tập và nền tảng học ngoại ngữ hỗ trợ công nghệ. Trải nghiệm tham gia học tập của sinh viên chịu tác động rõ rệt từ các công cụ công nghệ trên ba lĩnh vực: hành vi, cảm xúc và nhận thức. Các công cụ công nghệ giúp sinh viên giải quyết vấn đề, hỗ trợ phân tích ngôn ngữ, đảm bảo thực hành học tập liên tục và tạo ra môi trường hỗ trợ học tập. Kết quả nghiên cứu có thể đóng góp vào kiến thức về việc tích hợp công cụ công nghệ trong giảng dạy tiếng Anh như ngoại ngữ tại Việt Nam, đồng thời nhấn mạnh sự cần thiết của nghiên cứu dài hạn và việc xem xét các rào cản văn hóa - kỹ thuật trong việc tiếp nhận công nghệ.

Từ khóa: công cụ công nghệ, PERMA của Seligman (2011), tâm lý học tích cực, sự tham gia của sinh viên

1. Introduction

Digital tools in foreign language education have generated a fundamental change that rules teaching and learning processes during the 21st century. The key components of digital tools, such as mobile applications, online platforms, and multimedia resources, are fundamental to encouraging language learner engagement, autonomy, and motivation (Jiang & Peng, 2023). The technological advancement in Vietnam follows the country's educational reform policy to establish world-class English proficiency levels (Hoang, 2010). The Vietnamese government invests in educational technology (Hoang et al., 2018), because it supports national plans to prepare students for the 4th Industrial Revolution. Standard classroom practices dominate Vietnamese learning spaces because teachers continue to deliver lessons by talking to students while students mainly depend on instructor guidance (Le, 2011; Lewis & McCook, 2002). The powerful dynamic between teachers and students in Vietnamese classrooms remains strong due to Confucian cultural values (Le, 2014). Digital tools integration in educational settings faces specific barriers and advantages within Vietnamese culture because it affects the development of beneficial learner psychological results (Nguyen et al., 2021). The PERMA (Positive emotions - Engagement - Relationship - Meaning - Accomplishment) framework of Seligman (2011) includes student engagement as a vital element that provides essential power for positive psychology and English language acquisition processes. The learning process in language education requires involvement at three levels, which include deep thinking and emotional ties combined with behavioral actions (MacIntyre & Mercer, 2014). Scientific research proves that

motivated students stay committed to their language studies and reach better academic outcomes (Dörnyei & Ushioda, 2011). From the perspective of positive psychology, engagement strongly correlates with flow states defined by Csikszentmihalyi (2014) as complete absorption in what one does that produces very focused attention together with the elimination of self-awareness and natural pleasure. Research indicates that target language students achieve better vocabulary assimilation and grammatical precision while showing more willingness to use the foreign language when entering flow states while learning (Oxford, 2016a). The engagement levels of language learners improve due to digital tools that enable individualized learning experiences with instant feedback while offering interactive content matching students' interests and abilities (Stockwell & Hubbard, 2013).

The research explores how digital tools affect tertiary students' positive psychology in Vietnam while evaluating their engagement, particularly emphasizing this aspect. The research looks at two fundamental goals: (1) recognizing the most influential digital tools that affect student positive psychology throughout their English learning process and (2) studying how these tools affect PERMA framework engagement metrics for learners. The research goals aim to fill the existing gap in knowledge about the effects of technological integration on students' learning-related psychological issues. This research investigates two main questions:

(1) What digital tools do EFL students use to enhance their positive psychological engagement?

(2) How do these tools affect the positive psychological aspects (PERMA) of students' English learning?

2. Literature Review

2.1. Theoretical Frameworks

2.1.1. Overview of PERMA Model by Seligman (2011)

As derived by Martin Seligman (2011), the PERMA model is comprehensive enough to encompass and promote well-being. It is comprised of five essential components, and they include: Positive Emotions, Engagement, Relationships, Meaning, and Accomplishment. The model has found popularity in learning institutions to assess the role of psychology in encouraging students and ensuring their Accomplishment.

Positive emotions, specifically joy and satisfaction, contribute to expanding students' attention and developing psychological resources that facilitate the learning process (Fredrickson, 2013). Engagement is regarded as being fully absorbed and present during learning activities, which allows for increased motivation and better results (Csikszentmihalyi, 2014). Relationships also demonstrate the importance of socializing with peers and teachers, which facilitates authentic interaction and collaborative learning (Oxford, 2016b). Meaning denotes the personal exploration of students regarding the importance of language learning for their future careers and self-improvement (Dewaele & MacIntyre, 2014). Lastly, Accomplishment concerns the feeling of success acquired by attaining learned goals through the development of skills, and in many cases, assisted by digital achievement records and reward schemes (Seligman, 2011).

2.1.2. The Roles of Engagement in PERMA Model

Engagement, as one of the central elements of PERMA, promotes student well-being and high levels of language learning due to its ability to create a state of flow (Seligman, 2011)

and maintain internal motivation (Dörnyei & Ushioda, 2011). This is facilitated by digital tools that align tasks and skills (Csikszentmihalyi, 2014), foster autonomy and awareness (Oxford, 2016a), and enhance performance (Stockwell & Hubbard, 2013). The construct of engagement in the discussed study predefines the approach to language learning using digital tools. Although engagement is identified as an important component in the expanded PERMA model of positive psychology, our study focuses on analyzing engagement in cognitive, affective, and behavioral aspects. According to this approach, it is possible to investigate the implications of digital tools more accurately in terms of active participation by students and in the learning process than by covering all aspects of positive psychology.

Dornyei (2009) categorized three fundamental aspects of conversation in language learning, i.e., cognitive, behavioral, and affective. These are interrelated dimensions that facilitate good learning conditions and maintain dynamic language development, particularly in digital-mediated environments. Cognitive engagement focuses on reliably using words to describe something, which includes application of intelligence in learning about the language, i.e., problem access, error analysis (Schmidt, 2020), pronunciation, and tasks in grammar (Ellis, 2019), and increases metalinguistic awareness and more innerization (Brown, 2019). The attitude of active engagement and regular engagement produces behavioral engagement that positively contributes towards better academic results (Wang & Chen, 2023). Interactive, structured programming enhances retention and performance, and regular exercises can increase performance by up to 40% (Thompson & Ward, 2022; Kim et al., 2022). Emotional and social support aspects are the focus of affective engagement, where peer interaction and motivation support perseverance (Zimmerman et al., 2024; Pearson, 2024). Students with excellent affective engagement are more likely to stay in programs for longer. Therefore, confidence and emotional resilience are long-term tools of success in language learning.

2.2. Digital Tools in English Language Learning

The application of digital technology in English language learning can be divided into several important categories based on their purposes and usage. First, there are Learning Management Systems (LMS) such as Moodle or Blackboard, which make it easier to perform tasks like course delivery, assessment, or communication between teachers and students in synchronous or asynchronous methods (Nguyen et al., 2021). Second, language learning apps promote vocabulary, grammar, and peer-to-peer communication, offering the added value of portability and gamification-like elements that enhance participation (Oxford, 2016a). Third, video calls, discussion boards, and co-authoring can be used as means of communication and collaboration, which leads to genuine language use and interaction between peers, which is important for communicative competence (MacIntyre & Mercer, 2014). The tools are increasingly used in classrooms in Vietnam as they fill the gap between academic teaching and language practice (Le, 2014; Stockwell & Hubbard, 2013).

2.3. Student Engagement in Digital English Language Learning

Language learning involves the interplay of a set of personal, pedagogical, and technological issues that determine how students learn (Stockwell & Hubbard, 2013). On an individual level, personal motivation and a sense of value in language activities significantly influence learners' commitment (Dornyei & Ushioda, 2011). The effectiveness of students' digital tool usage is also dependent on their digital literacy and prior knowledge of technology (Le, 2014). In pedagogy, a well-designed learning approach that aligns with learners' skills and interests facilitates greater engagement. To improve participation, digital tools should be

actively incorporated into the curriculum, accompanied by proper assistance and timely, constructive feedback (MacIntyre & Mercer, 2014; Oxford, 2016a).

Technological factors would involve the accessibility of tools, ease of use of the interface, and reliability in its operation. The acceptability of digital resources among students is typically influenced by the comfort and reliability of these platforms (Nguyen et al., 2021). Engagement is also supported through personalized learning opportunities, which take into consideration individual capabilities and adapt content accordingly (Csikszentmihalyi, 2014). Nevertheless, the impacts of culture and contextual dimensions on the way students engage with technology and collaborative tasks are also observed, e.g., hierarchical norms in the classroom environment of Vietnamese education (Le, 2011; Lewis & McCook, 2002).

Several studies indicate that engagement enhances language learning among students. Activated students demonstrate greater receptive and productive proficiency, possessing superior wholesome memories, explicitness, promptness, and conveying capacities (Philp & Duchesne, 2016). Nguyen (2023) found that Vietnamese students who used mobile apps showed positive improvements in their vocabulary and grammatical knowledge at university. Similarly, Pham et al. (2023) reported the positive impact of student feedback on mobile learning, citing increased interest and engagement among students. Digital interaction can also enhance oral fluency and confidence (Reinders & Wattana, 2015; Lambert et al., 2017), reading comprehension (Jang et al., 2012), and writing proficiency (Han & Hiver, 2018). Engaged learners are characterized by self-regulation and a desire for independent learning (Mercer & Dornyei, 2020). Finally, the overall language proficiency of students who actively use digital tools is more successful (Li et al., 2018).

2.4. Research Gaps

Multiple fundamental gaps exist in research about which digital tools Vietnamese university students use to learn English. In the first place, research about language learning tools exists but lacks sufficient information about specific digital tool preferences among Vietnamese tertiary students (Stockwell & Hubbard, 2013). Nguyen et al. (2021) provided insights into digital technology integration in Vietnamese education yet failed to explain thoroughly which digital tools students adopt as regular tools for English learning. Furthermore, university administrators and educators face challenges in understanding how specific digital tools affect different types of engagement with students in the Vietnamese higher education setting. MacIntyre and Mercer (2014) established behavioral, cognitive, and emotional engagement as essential for language learning. However, insufficient evidence exists regarding which digital tools assist Vietnamese university students in developing these engagement dimensions. Lastly, research lacks insights into the negative features and obstacles that digital tools generate in Vietnamese universities' English language learning environments. The research field lacks an extensive understanding of student learning engagement barriers and the adverse effects of digital English language tool utilization within the Vietnamese academic context (Csikszentmihalyi, 2014; Dörnyei & Ushioda, 2011).

3. Methodology

3.1. Research Design

Using the model developed by Merriam and Tisdell (2016), this study represents a simple qualitative investigation into the role of digital tools in English language learning activities for EFL students. Open-ended questionnaires were issued to 15 respondents,

providing more in-depth responses through semi-structured interviews conducted with six students. Qualitative results were processed and interpreted using the thematic analysis framework provided by Braun and Clarke (2006) to identify patterns in the qualitative data, facilitating an in-depth exploration of the experiences of students studying English with digital tools in a higher education setting in Vietnam.

3.2. Participants

The research took place in a private institution based in Hai Phong. Students at this university can choose from various undergraduate programs spread across Medicine, Business Administration, Linguistics, Accounting, and Banking because of the university's inclusive educational approach. The university lists English language education as its core subject, which all majors must complete within their curriculum. Every student at the university must take a minimum of four English language classes throughout their entire study period. English language instruction within the university operates through the national foreign language competency standards guidelines to achieve minimum B1 level skills by graduation. Traditional classroom teaching combines advanced digital facilities like language laboratories and multimedia resources at the institution for its language instruction methods. The English language curriculum provides dual academic and vocational training by offering major-specific courses for students across all programs.

The research uses open-ended questionnaires with fifteen participants and semi-structured interviews with six additional participants to give respondents complete freedom of expression. The participant demographics show a well-distributed representation of students across northern Vietnam. Reliable enrollment patterns in Vietnamese universities demonstrate that women constitute 60% of enrolled students. The participants originate from five academic disciplines, including Medicine and three other disciplines, which achieved equal participant numbers, and Banking represents the remaining 13.3% of the total sample. The results indicate that participants spent most of their time studying English for 5-6 years before reaching 33.3% who studied for 6-7 years, and the rest, 26.7%, studied for 7-8 years. Most students started their English language studies during secondary education, which offered them generous opportunities to learn the language before entering university.

3.3. Data Collection Instruments

The research design incorporated two main data collection methods, including open-ended questionnaires and semi-structured interviews, for studying the effect of digital tools on Vietnamese university students' involvement in English language learning.

The researcher selected semi-structured interviews as their second data collection method due to their adaptability to allow various communication channels, including verbal, non-verbal, spoken, and heard (Cohen et al., 2017). Researchers can use this method to investigate interviewees' thoughts and values and their prejudices, perceptions, feelings, and perspectives about their use of digital tools for English learning (Wellington, 2015). Researchers chose semi-structured interviews to combine features from both structured and unstructured approaches because they provided exploratory capabilities while keeping the main focus on understanding participant experiences (Wellington, 2015).

All data collection tools followed systematic development based on principles of qualitative research practice. The team developed open-ended questionnaires and semi-structured interview inquiries by analyzing the research goals for digital tool participation in English education. According to Cohen et al. (2017), the instruments established three main

dimensions: digital tool usage, connection/interaction, and learning experience. The 15-question open-ended questionnaire covered three main dimensions: it started with broad digital tool questions followed by targeted learning experience topics placed strategically during the sequence. The developed semi-structured interview questions functioned to enhance and extend the findings from questionnaire data by providing an opportunity for an in-depth understanding of student engagement behaviors. According to Wellington (2015), semi-structured interviews allow researchers freedom while keeping their project goals central to their studies.

The design process required the completion of three fundamental stages. The first phase of question development concentrated on writing precise measurement items capable of obtaining comprehensive data about student interactions with digital technology. EFL technology researchers conducted an expert assessment to validate the content while ensuring alignment with the theoretical background. A pilot test involving a small group of Vietnamese students was performed to guarantee question clarity while validating cultural appropriateness. The development of both instruments started in English before the researchers translated them into Vietnamese and verified the back-translated content for linguistic equivalence (Hiratsuka, 2014).

Interviewing questions were used to create a rational sequence of inquiries. Survey questions started with general questions about tools and usage and progressed to more detailed questions about learning interactions with technology. The questionnaire included items intended to collect basic information before interview questions aided respondents in sharing detailed experiences while accommodating additional questions and explanations. According to Lichtman (2023), the interview protocol was detailed enough to provide consistency but allowed flexibility to explore new themes. The careful instrument design process guarantees that data collection tools effectively track sophisticated student interactions with digital tools throughout their English language study.

3.4. Data Analysis

The qualitative data analysis incorporated Braun and Clarke's (2006) thematic approach when investigating questionnaires and interview responses to fulfill the research objectives. The research examined which digital resources Vietnamese university students mainly utilized for their English learning purposes to address the first goal. In the initial coding phase, researchers sorted digital tools into separate categories (language learning programs, social media platforms, and online learning platforms) to study usage statistics and patterns. The classification system created a specific understanding of digital tools adopted by Vietnamese university students in their English learning activities.

According to Fredricks et al. (2004), the analysis followed three engagement domains: cognitive processes, behavioral actions, and affective dynamics. The cognitive engagement assessment demonstrated how digital resources enhance student abilities to develop learning approaches, improve academic performance, and deepen their comprehension of language content. The researchers coded student responses to identify their application of digital tools to solve problems while masterminding their thinking and engaging in critical activities. The behavioral engagement analysis examined how students used digital equipment for language learning by observing their approach to participation, time utilization patterns, and ongoing dedication. The analysis method required evaluation of results, which contained information about learners' tool usage, their established learning habits, and continuing engagement within the learning process. Research on affective engagement analyzed students' emotional responses, motivation levels, and attitudes regarding digital tools for language learning by assigning codes for expressions regarding interest, enjoyment, and feelings of being emotionally involved.

Both inductive and deductive analytical approaches were utilized during the research procedure. The principal categories of analysis were predetermined based on the engagement framework, yet the researchers used iterative coding to identify subcategories from the gathered data. Cohen et al. (2017) encouraged researchers to perform several rounds of coding for a comprehensive analysis process. The first analysis cycle started by assigning preliminary codes to responses before researchers began using pattern codes for relationship exploration between the engagement dimensions. The researchers improved the reliability of the analysis through two steps: member checking for participant interpretation verification and peer debriefing of the research group regarding the coding framework (Creswell & Poth, 2018). The systematic analysis method ensured that the findings represented the student-used tools while depicting their effects on multiple English language learning engagement dimensions.

4. Findings and Discussion

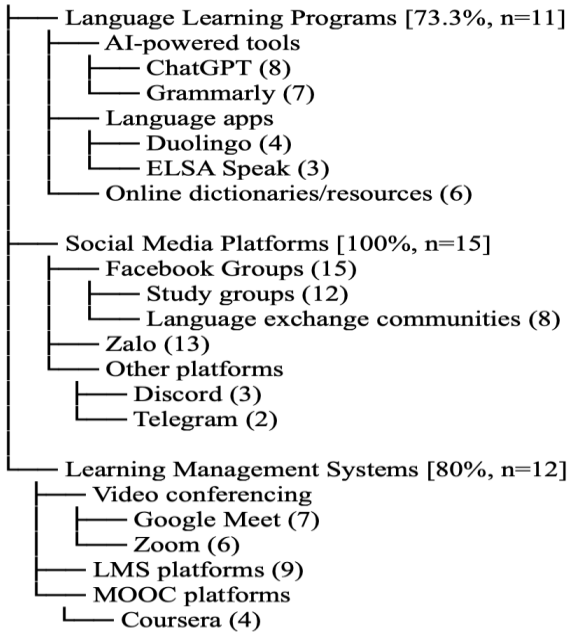
4.1. Findings

4.1.1. The Digital Tools the Participants Predominantly Use in Their English Language Learning

The digital tools employed by Vietnamese university students under examination show how they adopt language learning programs, social media platforms, and learning management systems, see Figure 1.

Figure 1

Different Digital Tools Used by the Participants in Their English Language Learning



** Note: Created by the author based on the data collected in this study*

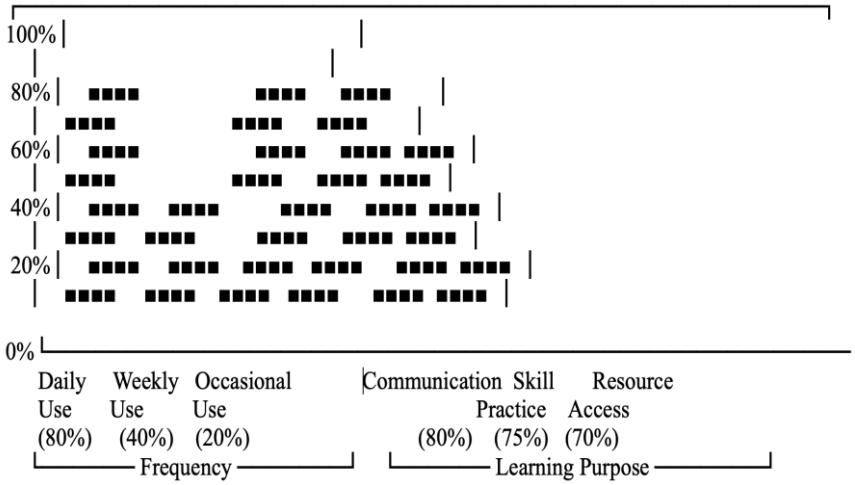
Every participant in the study (n=15) adopted social media platforms within the category. Every student from the study population used Facebook Groups for study groups and language exchange communities, where participation reached 12 students in the former and eight students in the latter. The messaging system Zalo gained popularity with thirteen

participants who used it along with smaller groups on Discord and Telegram platforms, each containing three and two users, respectively. Language learning apps were used by 73.3% (n=11) of the participants, who mostly favored artificial-intelligence-enhanced software solutions. Eight students opted for ChatGPT, while Grammarly received use from seven students to lead this category. Duolingo and ELSA Speak, followed by dictionary and resource use, were the traditional language learning apps with four and three users across the student population. LMS gained substantial implementation from 80% of participants (n=12). Most platform usage among educators occurred within LMS platforms, with nine users, while video conferences through Google Meet and Zoom received seven and six users, respectively. Coursera represented the MOOC platforms, which attracted four users. The collected data indicates that students appreciate platforms integrating interactive social features, so they have shown high acceptance rates toward such platforms. The substantial adoption of toolsets featuring artificial intelligence shows a clear shift in favor of modern educational technologies. However, the vast presence of LMS platforms demonstrates how traditional education systems adapt to digitalization; and language learning requires students to employ multiple digital resources to build an extensive learning system.

Research data in Figure 2 shows Vietnamese university students utilize digital tools with unique ways of frequency and purpose distribution. Users who utilize digital tools daily make up 80% of the student population, demonstrating that students fully integrate digital tools into their routine studies. Students who use digital tools once weekly form 40% of the total student population, and occasional users comprise 20% of the university student population.

Figure 2

Digital Tool Usage Patterns

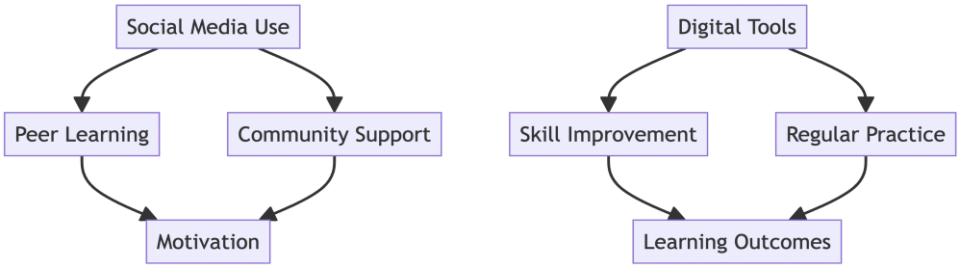


** Note: Created by the author based on the data collected in this study*

Communication is the primary purpose of using digital tools for learning, while skill practice maintains secondary importance at 80% and 75%, respectively. While still significant at 70%, resource access ranks third among the primary purposes. Students select digital platforms that enable interactive learning experiences and practical activities to build their communicative competence while allocating their usage to this form of education. Students utilize digital tools for various educational purposes, as shown by the high statistical numbers across the evaluation categories.

Figure 3

Purposes of Using Social Media Use and Digital Tools



** Note: Created by the author based on the data collected in this study*

Students blend their language learning with social media limits and structured learning platforms through the etched tool usage patterns for their language education journey. The graphic 3 presents two related educational methods that aid in student language advancement. Through peer interactions and a communal support system, social media helps students increase their motivation in their learning process. Students can practice the language through authentic activities in their learning communities and get social encouragement. The digital tools pathway teaches students through structured learning activities that promote systematic skills development combined with regular practice, which measures their progress. Modern language learners have converged their educational methods to develop an integrated learning space to merge informal social interaction with formal learning approaches. Students exhibit integrative knowledge about language learning success through combining social interaction technology with educational tools. Successful digital language learning depends on students who can effectively blend their social network activities with structured practice methods because the educational pathways work synergistically. To promote the quality of learning experiences, digital learning tools combined with social media transformed language learning strategies by merging educational institutions with social engagement.

4.1.2. The Impacts of Digital Tools on Students' Engagement in Their English Language Learning

The data shows that digital tools provide students with important cognitive advantages because they use them in their learning. The complex language learning challenges find essential support through digital tools, including ChatGPT and Grammarly. The interviewee stated that ChatGPT deciphers challenging grammar rules, thus showing how the tool enables students to understand complex ideas. The data collected through questionnaires indicates language education software usage at 73.3% among students who focus mainly on error analysis and problem-solving as their intellectual activities. Student feedback demonstrates that Grammarly enables learning through its deep explanations of concepts, improving self-learning experiences.

Table 1

Students' Type of Engagement and Examples of Their Quotes in Digital English Language Learning

Type	Sub-type	Digital tools	Examples of interviewees' quotes
Cognitive	Problem-solving	ChatGPT	"ChatGPT helps me break down complex grammar rules"
			"I use ChatGPT to understand tricky sentence structures"
	Error analysis	Grammarly	"Grammarly helps me identify my common writing mistakes"

			"I learn from Grammarly's detailed explanations"
	Skill building	Duolingo	"Duolingo's lessons help me build vocabulary systematically"
			"I practice grammar patterns through exercises"
	Pronunciation analysis	ELSA Speak	"ELSA helps me analyze my pronunciation mistakes"
			"I can understand phonetic patterns better"
Behavioral	Active participation	Facebook Groups	"I participate in daily English challenges"
			"I share my writing exercises for feedback"
			"I join live speaking sessions regularly"
	Regular practice	Zalo	"I schedule regular language exchange sessions"
			"I practice English chat daily with my study partners"
	Interactive learning	Discord/ Telegram	"I join voice channels for speaking practice"
			"I participate in themed discussion rooms"
	Structured learning	Coursera	"I follow structured weekly learning schedules"
			"I complete course assignments consistently"
Affective	Social connection	Language exchange communities	"I feel motivated when practicing with native speakers"
			"The community support keeps me going"
	Peer support	Study groups	"Group members encourage me when I make mistakes"
			"I feel less anxious practicing in our small group"
	Confidence building	Google Meet/ Zoom	"Virtual meetings boost my speaking confidence"
			"I'm more comfortable presenting in video sessions"
	Achievement motivation	LMS	"Seeing my progress tracker motivates me"
			"Achievement badges inspire me to learn more"

Data analysis shows that digital tools create a robust connection between tool utilization and students maintaining their learning practice. All students in the survey used social media platforms, and Facebook Groups proved to be their most popular platform. The platforms enable continuous participation through English language tests students complete daily. Students manifest structured learning activities by following weekly Coursera schedules and practicing English with their Zalo study partners daily. Digital tools have assimilated into students' daily educational processes following numerous interactions.

Thirdly, community-based learning delivers maximum practical benefits to students. The interview information demonstrates that peer interactions and social support strongly impact student learning motivation. According to student feedback, students feel supported in their learning process because their group members encourage them when fallibility occurs. Students who use LMS total 80% of the population, and their progress trackers serve as a primary motivational factor - "*The progress tracker inspires me*." Students feel more confident about speaking English because video meeting platforms (Google Meet/ Zoom) enable them to practice their communication skills.

The collected information demonstrates that digital resources create synergies among cognitive engagement, behavioral, and affective approaches. The speech analyzer ELSA Speak helps students identify pronunciation errors ("*ELSA helps me analyze my pronunciation mistakes*"), yet it assists them in developing practice habits through achievement monitoring features. Students demonstrate these interconnected learnings in social learning platforms because they perform cognitive activities while keeping consistent attendance patterns and getting emotional support from their peers.

4.2. Discussions

The study results show that Vietnamese students employ a wide range of digital instruments in terms of their language learning support needs. These observations are about the advancement of digital tools. Social media and LMS achieve high adoption rates among learners because they follow Vietnamese educational trends in adopting technology (Nguyen, 2023). Vietnamese education is transitioning away from traditional learning approaches, according to Le (2011), because students do not use their previous methods but prefer modern digital applications, including ChatGPT and Grammarly.

The analysis of digital tools that enhance student problem-solving and language analysis measures matches the three engagement levels described in MacIntyre and Mercer's (2014) theory about language learning. The research outcomes from Philp and Duchesne (2016) directly match the findings identified in this investigation about active participation and learning outcomes. High levels of student online activity participation demonstrate that technology promotes self-directed learning (Oxford, 2016a). This pattern marks the transformation from traditional classroom teaching to interactive learning (Le, 2014). The transition brought improved learning practices with the aims of establishing parallel methods for student instruction. The research data about learner motivation and confidence increases underscores the findings presented by Dörnyei and Ushioda (2011), which explored motivation links to learning achievement. Language learning has experienced an emotional enhancement thanks to the creation of supportive online communities for students.

Research has solved significant deficiencies in published studies and uncovered additional unanswered questions. The extensive research gap examination develops essential guidance for digital tool studies within EFL education from an academic perspective. The research successfully dealt with significant gaps recognized in existing literature through its findings. This study provides concrete evidence about Vietnamese tertiary students' digital tools. The study presents exact usage data, which shows that every student uses social media while 80% uses the LMS and 73.3% uses language learning apps. The detailed information in this data system allows researchers to understand more than general findings from previous literature. The study successfully addresses the impact of digital tools on student engagement, as defined by MacIntyre and Mercer (2014). The research delivers specific evidence demonstrating the effects of digital tools on cognitive engagement and behavioral and emotional aspects, particularly in the Vietnamese cultural environment. The study effectively adopts the PERMA framework to show how digital resources enhance positive emotional state engagement and relationship building, as well as the significance they create and achievements in language acquisition. Indicatively, students reported that online language games, multimedia materials, and other types of digital content were more enjoyable and less anxiety-inducing, which validates the Positive Emotions component (e.g., the use of interactive applications helps make learning more relaxed and entertaining). Regarding Engagement, respondents reported that when using adaptive learning tools, they are more focused on a task and quickly receive feedback, as well as personalized challenges and questions generated by the program. The relationships component improved with the collaborative digital space, including online discussion forums and group projects, which allowed students to communicate more frequently with their peers and teachers. In terms of Meaning, the students emphasized the benefits of having access to authentic online resources, enabling them to understand the real-life usefulness of English and align their studies with their plans and ambitions. Lastly, students experienced digital progress tracking, which added to their accomplishment, as they could see the progress

they were making and celebrate it.

Several essential restraints exist in the current research, leaving space for approaching new study subjects. The field lacks effective research covering how digital tools affect student language development when used over extended periods. Research findings deliver important findings about fast results, yet we need further studies to determine the effects of complete digital tool adoption on language learning over time. The significant research gap is important because educational technology develops quickly while playing an expanding role in language education. Additional investigation needs to focus on cultural aspects alongside technical elements. The research gives findings about patterns of tool uptake, while Le (2014) points out that Confucian heritage culture needs further exploration regarding its impact on digital tool integration. Technical barriers alongside faculty readiness and technological resource availability need additional research perspectives. The specific research elements remain significant due to the blend of conventional and technological educational methods that typify Vietnamese academic practices.

5. Conclusions

The research outcomes prove that digital instruments are essential for boosting student involvement throughout cognitive, educational domains, behavioral elements, and emotional dimensions. Social media platforms, learning management systems, and digital-powered language learning applications have become widely popular among Vietnamese students, indicating significant changes in their language learning methods. Students learn better because digital tools create more interactive learning spaces that match PERMA theory principles to produce beneficial outcomes. These tools have become instrumental in promoting student-to-student contact, student-initiated learning, and student-level motivation increases. The research findings demonstrate that correctly implemented digital tools create efficient connections between classic teaching approaches and contemporary learning requirements of the Vietnamese education system. This investigation demonstrates how digital resources in EFL education bring unified enhancement to educational processes while improving both learning delivery and student achievement. Digital tool integration success requires more than technological availability because it needs cultural modification and pedagogical quality alignment.

However, several vital constraints should be noted during this study. Due to its cross-sectional format, the data collection method shows only temporary perspectives of the phenomenon, which restricts our ability to understand extended-term effects and patterns of development. Student engagement and learning outcomes become more challenging to monitor since the study relies on a compressed time frame. This research included enough participants, yet the sample may insufficiently encompass the entire spectrum of Vietnamese tertiary institutions. The research on urban university students might reduce external validity because technological access and infrastructure frequently diverge notably between urban and rural higher education institutions. The study depended on students reporting their tool usage patterns, which creates potential inconsistencies because they may respond in a way that makes them appear positively engaged. The study period occurred during rapid technological changes, which could affect its future use. The paper did not correctly handle regional differences in technological infrastructure. Meanwhile, participants' varied technological skills likely shaped the research outcomes. The workshop response rates and resulting data quality could have declined based on technical difficulties during collection when internet connections were less stable.

Several critical conditions should be recognized for this study. The cross-sectional data

collection method produces limited temporary observations of the phenomenon, preventing researchers from comprehending extended-term impacts and developmental patterns. Student engagement data and learning outcome assessments become difficult to track because the study operates quickly. The research included enough participants, but the sample collection possibly failed to include all Vietnamese tertiary institutions properly. Research on urban university students can impair external validity since the access to technology and infrastructure between urban and rural higher education institutions presents significant distinctions. The research method of relying on student reports about their tool usage patterns introduces possible inconsistencies since participants may report statistics that portray themselves positively. The research occurred during fast technological change that could affect its future application. The research study neglected to address how different regions relied on technological infrastructure. Different technological capabilities among research participants probably influenced how the study concluded. Response rates and data quality at the workshop decreased because participants faced technical difficulties influencing the stability of their internet connections.

This study yields several implications regarding the teaching of English as a foreign language in higher education in Vietnam. To begin with, the implementation of digital tools that foster positive emotions, engagement, and social connection will help increase students' motivation and improve their learning process. It is imperative that, in order to assist students in all dimensions of PERMA, educators focus on ensuring the use of interactive platforms, collaborative online activities, and progress-tracking applications. Moreover, the involvement of both teachers and students could be enhanced with support and education on how to utilize these digital tools to maximize their capabilities. Lastly, policymakers and university administrators must consider investing in diverse and accessible digital materials to develop more engaging, meaningful, and supportive English learning environments.

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