

An Analysis of a Learning Ecosystem: The Knotion CMS

Análisis de un ecosistema de aprendizaje: Knotion

María I. Rosario López ^a, Isai A. Guevara Bazán ^b

Abstract:

This paper examines the impact of the Content Management System (CMS) Knotion in English as a Foreign Language (EFL) classrooms, exploring the perspectives of elementary private school teachers on using digital tools in their teaching. The study highlights how technology has transformed traditional learning paradigms, influencing how students acquire knowledge, interact, and participate in their learning. The research focuses on learning ecosystem platforms, which combine technology and personalized strategies to enhance education. Many private schools have adopted these platforms to create more engaging and effective experiences. Knotion, a comprehensive learning ecosystem, integrates educational content tools to support student development. Its unique pedagogical model, the IMPAct method, merges design thinking with problem-solving to promote meaningful, transdisciplinary learning. This method prepares students to address real-world challenges and develop essential skills for lifelong learning. To assess the effectiveness of Knotion, this mixed-methods case study collected quantitative data through a Likert-scale questionnaire from students and qualitative feedback through semi-structured interviews with six English as a Foreign Language (EFL) teachers in an elementary school in Xalapa, Veracruz, Mexico. The findings indicate that students benefited from the IMPAct method by engaging with real-life situations throughout the school year. This approach not only improved their linguistic and mechanical language skills but also improved their linguistic and mechanical language skills and enhanced their intercultural competence and problem-solving abilities. Overall, the study concludes that integrating Knotion into EFL classrooms fosters meaningful learning experiences, equipping students with linguistic proficiency and critical thinking skills necessary for real-world communication.

Keywords:

Teaching English as a foreign language, IMPAct model, learning ecosystem, content management system, design thinking

Resumen:

Este artículo analiza el impacto del sistema de gestión de contenido (CMS) Knotion en las aulas de inglés como lengua extranjera (EFL) explorando las perspectivas de docentes de una escuela primaria privada sobre el uso de herramientas digitales en su práctica docente. El estudio destaca cómo la tecnología ha transformado los paradigmas tradicionales de aprendizaje, influyendo en la adquisición de conocimientos, la interacción y la participación de los estudiantes en su proceso educativo. La investigación se enfoca en el uso de ecosistemas de aprendizaje, los cuales combinan tecnología y estrategias personalizadas para mejorar la educación. Muchas escuelas privadas han adoptado estas plataformas para crear experiencias de aprendizaje más atractivas y efectivas. Knotion es un ecosistema de aprendizaje integral que incorpora contenido educativo y herramientas para apoyar el desarrollo de estudiantes. Su modelo pedagógico, el método IMPAct, combina el pensamiento de diseño con la resolución de problemas para fomentar un aprendizaje transdisciplinario y significativo. Este método prepara a los estudiantes para afrontar desafíos del mundo real y desarrollar habilidades esenciales para el aprendizaje permanente. Para evaluar la efectividad de Knotion, este estudio de caso mixto recopiló datos cuantitativos mediante un cuestionario con escala de Likert aplicado a estudiantes y retroalimentación cualitativa con entrevistas semiestructuradas a seis docentes de inglés en una escuela primaria de Xalapa, Veracruz, México. Los hallazgos indican que los estudiantes se beneficiaron del método IMPAct al involucrarse con situaciones de la vida real. Este enfoque no solo mejoró sus habilidades lingüísticas y mecánicas, sino que también fortaleció su competencia intercultural y habilidades para resolver problemas. El estudio concluye que la integración de Knotion en las aulas de EFL fomenta experiencias de aprendizaje significativas, dotando a los estudiantes de competencia lingüística y pensamiento crítico necesarios para comunicarse eficazmente en contextos reales.

^a María Isabel Rosario López | Universidad Veracruzana | Xalapa, Veracruz | México, <https://orcid.org/0009-0004-1959-2066>, Email: issabelrosario@gmail.com

^b Isai Ali Guevara Bazán | Universidad Veracruzana, Facultad de Idiomas | Xalapa-Veracruz | México, <https://orcid.org/0000-0002-1500-291X>, Email: iguevara@uv.mx

Fecha de recepción: 25/06/2025, Fecha de aceptación: 14/10/2025, Fecha de publicación: 05/05/2025

DOI: <https://doi.org/10.29057/lc.v7i13.15370>



Palabras Clave:

Enseñanza del inglés como lengua extranjera, Modelo IMPAct, ecosistema de aprendizaje, pensamiento de diseño, sistema de administración de contenidos

Introduction

Language learning and teaching have undergone significant transformations due to technological advancements, culture, and society. The role of the modern educator has evolved, requiring teachers to stay updated with the latest developments in education for meaningful and motivating instruction. Cruz (2024) stated that students expressed “a desire for a more effective and comprehensive English language education that meets their expectations and needs” (p. 38). Traditional teaching methods are no longer sufficient for engaging learners effectively. Instead, educators must adopt innovative strategies that align with how students acquire knowledge today. One of the most impactful innovations in language education is the integration of technology into the classroom.

Technology offers numerous benefits in EFL education by enhancing the learning experience for both teachers and students. According to Zhao (2005), technology provides accessibility, efficiency, and exposure to diverse learning materials. Additionally, digital tools support interactive learning, improve language skills, and help students prepare for a technology-driven world. By incorporating technology into teaching practices, educators can create dynamic and engaging lessons that cater to different learning styles.

Some of the most commonly used technological tools are educational digital platforms, which have revolutionized the way students acquire knowledge (Ally, 2008). These platforms provide a wealth of resources for both learners and teachers, offering access to interactive exercises, multimedia content, and immediate feedback (Godwin-Jones, 2018). In the context of EFL, digital platforms allow students to practice their language skills in real-world scenarios, making learning more meaningful and effective (Chapelle, 2003). Moreover, they facilitate communication between educators and learners, enabling a more personalized approach to instruction (Reinders & White, 2011; Warschauer & Healey, 1998).

Despite their benefits, digital platforms also present challenges for educators. Many teachers face difficulties such as a lack of proper training, insufficient technical support, and limited digital literacy. Additionally, some schools may lack the necessary infrastructure, such as stable internet connections, to fully implement these tools (Johnson et al., 2016). Addressing these challenges requires investment in professional development programs and improved access to technological resources.

Another valuable technological tool in EFL classrooms is a Content Management System (CMS). Coates et al. (2005) state that these platforms provide a structured environment for organizing educational materials, tracking student progress, and facilitating communication. CMS platforms support personalized learning by enabling teachers to tailor content to meet the individual needs of each student. They also enhance cognitive development, promote collaboration, and foster cultural awareness. By integrating CMS into EFL instruction, educators can also create a more engaging and effective learning experience.

What makes the CMS Knotion a particularly appealing learning ecosystem is its ability to provide a personalized and interactive learning experience. Knotion has developed a series of mobile applications that deliver content through interactive and motivating lessons. These applications cater to students of different grade levels, ensuring a progressive and engaging learning journey. Additionally, it has created its own pedagogical framework known as the IMPAct Method. This method consists of four stages: Identify, Map, Propose, and Act. It encourages students to move beyond passive learning and become active participants in their education. By applying the IMPAct Method, learners develop critical thinking skills, problem-solving abilities, and a deeper understanding of the language. This approach aligns with modern educational principles, emphasizing hands-on learning and real-world application.

This study aims to contribute to the ongoing discussion on the integration of technology, specifically learning ecosystems, in language education. It explores how platforms like Knotion can enhance learning outcomes and support teachers in delivering high-quality instruction. As technology continues to evolve, its role in education will only become more significant, shaping the future of language learning in new and exciting ways.

Digital platforms in EFL teaching and learning

Technology has brought multiple tools that can be used for different aims, such as digital platforms. Irzawati (2021) states that a digital platform is a web-based structural software package to facilitate user transactions and interactions. She also argues that creating a digital platform involves a comprehensive combination of hardware and software, making it more complex than a simple web server. Additionally, Irzawati (2021) mentioned that the critical components of a digital

platform vary depending on its purpose but often include elements for web serving, data aggregation, matchmaking, and collaborative tools.

Digital education through platforms has become a significant part of the global educational landscape, transforming how learning is delivered and accessed. This transformation is driven by the evolution of digital technologies, which have moved from stand-alone projects to integrated networks that connect people and resources worldwide. Implementing digital platforms in EFL teaching and learning facilitates the development of language skills through multimedia resources, online exercises, and interactive activities catering to different learning styles and preferences (Viberg et al., 2020).

Digital education through platforms is a transformative force of education, offering new ways to deliver learning and address global challenges. By treating digital education as a public good and ensuring accessibility and inclusivity, we can harness the power of digital technologies to enhance learning outcomes and contribute to the United Nations Sustainable Development Goals by encouraging inclusive and equitable quality of education and promoting lifelong learning opportunities for everyone (Pappas, 2018).

Educational digital platforms have revolutionized the learning landscape by providing accessible, flexible, and interactive tools that enhance the educational experience. These platforms may offer diverse courses and resources catering to learners of all ages and backgrounds. As the demand for lifelong learning continues to grow, educational digital platforms are likely to play an increasingly vital role in the future of education.

Learning Content Management Systems (LCMS), in particular, are vital tools in digital education, offering robust capabilities for the creation, management, and distribution of learning content. As defined by Khan (2005), LCMS differ from traditional Learning Management Systems (LMS) by emphasizing content development and reuse, integrating multimedia, and providing analytics for tracking learner engagement. Greenberg (2002) highlights their collaborative content creation features and their role in enhancing educational quality. Watson and Watson (2007) support this by noting that well-implemented LCMS can streamline education across all instructional levels. In the context of English as a Foreign Language (EFL) education, Dang and Robertson (2010) emphasize LCMS's role in promoting interactive communication, increasing student engagement, and confidence. Furthermore, LCMS support collaborative learning through tools that align with Vygotsky's social constructivist theory, reinforcing the

importance of social interaction in learning (Lantolf & Thorne, 2006). Overall, LCMS contribute significantly to modern, flexible, and interactive learning environments, making them indispensable in contemporary education.

The implementation of learning ecosystems in Elementary schools

A learning ecosystem is a dynamic and interconnected network of individuals, resources, technologies, and environments that collaboratively support and enhance learning (Johnson et al., 2016). Siemens (2005) mentioned that this holistic approach encompasses formal and informal educational settings, leveraging different tools and platforms to create a seamless and integrated learning experience.

Additionally, Brown et al. (2015) agree that within a learning ecosystem, various stakeholders, including learners, educators, administrators, and content creators, actively engage in a collaborative framework focused on innovation and the effective utilization of digital technologies. They also mention that these ecosystems often incorporate LCMS, social media, mobile learning applications, and other digital resources to facilitate the accessibility and delivery of educational content.

Studies indicate that the use of LCMS in EFL classrooms supports different aspects of language learning, including vocabulary acquisition, listening comprehension, and pronunciation. LCMS can create a more engaging and immersive learning environment by integrating multimedia elements such as videos, audio recordings, and interactive exercises. For instance, the study of Tsai (2019) demonstrates that EFL students using LCMS platforms exhibited improved listening skills and better retention of vocabulary compared to those who relied on traditional textbooks. Moreover, Wang (2020) states that LCMS platforms offer personalized learning paths and adaptive learning technologies that cater to the individual needs of learners. This personalization is crucial in EFL contexts, where students often have varying levels of proficiency and learning speeds. Also, these platforms can track students' progress and provide immediate feedback, helping them to identify their strengths and areas for improvement and fostering a more self-directed learning experience (Wang, 2020). Furthermore, Liaw and Huang (2011) state that integrating LCMS in EFL classrooms can streamline administrative tasks for educators, allowing them to focus more on instructional quality. Automated grading, course management, and analytics tools provide insights into student performance and engagement, enabling teachers to make data-driven

decisions to improve their teaching strategies (Liaw & Huang, 2011).

Learning ecosystems in EFL (English as a Foreign Language) classrooms could enhance language skills and foster a more engaging and effective learning environment. Learning ecosystem platforms in EFL classrooms facilitate the integration of technology into language teaching, enhancing the learning experience for teachers and learners. These platforms offer various features supporting various aspects of language learning, from content delivery to assessment and feedback.

Methodology

This research followed a critical paradigm to challenge existing pedagogical practices and promote transformative learning in English as a Foreign Language (EFL) classroom. It used a sequential explanatory mixed-method design (Creswell & Plano Clark, 2017), combining quantitative and qualitative data to provide a comprehensive understanding of the Knotion CMS's effectiveness in language acquisition. This paradigm emphasized empowerment, social justice, and critical engagement, aligning with Freire's (1970) concept of problem-posing education and Kincheloe and McLaren's (2005) views on transformative pedagogy.

Furthermore, the case study method was chosen for its strength in exploring complex educational practices within real-world contexts (Nunan, 1992, as cited in Yin, 2017). This case study focused on the implementation of the Knotion platform in EFL classrooms at a private elementary school in an urban area.

Context and Participants

The study took place at a private elementary school in Xalapa, Veracruz. Founded in 1992, the school promotes inquiry-based learning through a constructivist and humanistic approach, these days using Knotion CMS. All students and teachers are equipped with iPads, and the school prioritizes English language learning with classes twice daily. The CMS Knotion is integrated across all grades and aligned with design thinking and the IMPAct methodology.

The participants for this research project were students from first to sixth grade from elementary school. Additionally, seven English teachers, including the researcher, participated in this research project. The participants took different roles in this research project to collect the appropriate data to answer the research questions. For the quantitative phase, 114 students (55% of the total population) and all 7 EFL teachers responded

to the questionnaire. For the qualitative phase, 6 teachers, those who continued working at the school when these data were collected, participated in interviews to examine their opinions about using the platform in EFL classrooms.

Before data collection, participants were informed about the study's aims, procedures, and their rights, including the option to withdraw at any point without consequence. This process of informed consent, achieved through a detailed consent form, assured participants that their participation was entirely voluntary and confidential. Data was collected through anonymous questionnaires and semi-structured interviews, with identifiers removed to maintain participants' anonymity.

Data Collection and Data Analysis

The quantitative phase used questionnaires with Likert-scale items to gather numerical data on perceptions of the platform's effectiveness. A clear and well-structured questionnaire was designed in Google Forms, which was divided into two sections: Basic information about the subjects, followed by ten questions that covered topics related to the development of language skills, content, use of interactive activities, students' autonomy, and the usefulness of Knotion. The instrument was piloted with a small group of participants to assess its clarity, relevance, and structure. Based on the feedback and observations obtained during the pilot study, several revisions were made to improve the wording, organization, and overall comprehensibility of the instrument.

Once the questionnaire was refined based on the pilot study findings, the final version was administered to the target population. The sample size and population were determined using a sample size calculation carried out with the APEND tool, ensuring statistical representativeness and reliability of the data collected. During the data collection, we obtained informed consent from participants, ensured responses were gathered within the set timeframe, and checked for completeness. The collected data was entered into an Excel spreadsheet and cleaned to address errors, missing values, and outliers. Descriptive statistics, including frequencies, percentages, and the FI index, were used to analyze categorical variables. Results were visualized through bar charts, and findings were interpreted by identifying patterns, comparing groups, and determining which hypotheses were supported in alignment with the research objectives.

The qualitative phase involved semi-structured interviews with English teachers, offering a flexible yet systematic approach to gathering in-depth insights. A set of open-ended questions served as a guiding framework for the

interviews, ensuring consistency across interviews while allowing the interviewer to probe further into responses as needed. This approach facilitated a conversational flow, enabling participants to share their perspectives freely and in detail. The interview was organized into seven main thematic sections, along with an additional set of follow-up questions aimed at deepening the discussion, focusing on teachers' experiences using the Knotation platform for English teaching. It covers topics such as usability, content quality, training, impact on learning, and suggestions for improvement. The format combines open-ended and scaled questions to encourage detailed and reflective responses, as well as flexibility during the interview.

The interview data were transcribed using an AI tool integrated into a Samsung device, followed by manual review and correction to ensure accuracy. The data was then analyzed through initial coding and thematic analysis to identify key themes and variations across participants' responses. Special care was taken to consider contextual details to ensure meaningful interpretation. The aim was to elaborate on quantitative results and provide a deeper insight into teacher experiences (Gill et al., 2008; Kallio et al., 2016).

Knotation implementation

The implementation of Knotation in EFL classrooms is presented from the perspective of the researcher's teaching experience, aiming to reflect how the platform functions in practice objectively. Knotation is a CMS ecosystem aligned with SEP academic standards and enriched with international protocols. It includes transdisciplinary curriculum components such as Inner Kore (focused on holistic development) and Outer Kore (centered on 21st-century skills), all structured around the UN 2030 Sustainable Development Goals under the thematic axis of Global Knotation. This framework promotes meaningful, cross-curricular learning and the development of complex thinking skills.

Throughout the school year, the program is organized around different challenges, each addressing a specific global issue related to the UN 2030 Sustainable Development Goals. Each challenge includes 20 sessions, offering a variety of activities that teachers can select based on their students' needs. These activities are tailored to the nature of the global problem being addressed and include the introduction of the issue, grammar topics, theme-related vocabulary, reading comprehension strategies, listening exercises, pronunciation practice, and reflective tasks to raise awareness of the problem.

Knotation is designed to be flexible and adaptive for both learners and teachers. It supports individual and group learning through interactive, collaborative, and multimedia tools. Its core features include:

- Modular lesson structure: Identify, Map, Prototype, Act
- Interactive activities to encourage active learning
- Multimedia resources (videos, images, audio)
- Collaborative tools such as forums and chats
- Partnerships with Scholastic Library, TrueFlix, CNN, and DreamBox

Students use iPads provided by the platform to interact with educational content, complete tasks, and use various applications that enhance their digital literacy. They can also record audio and video as part of their learning process. Teachers can create and customize interactive lessons, presentations, and assessments using the same tools, ensuring that instruction is aligned with learners' individual needs and classroom goals.

In summary, Knotation offers a flexible, student-centered approach to EFL learning by integrating global challenges aligned with the UN 2030 goals. Its modular structure, multimedia tools, and adaptable activities support meaningful language learning while promoting reflection on real-world issues. Teachers can tailor content to students' needs, making Knotation an effective and engaging tool for modern classrooms.

Findings

The Findings section presents the study's results using an explanatory mixed-method approach that combines quantitative and qualitative data to provide a comprehensive understanding of using the Knotation platform in English as a Foreign Language (EFL) education. The quantitative findings are derived from student questionnaires, which measured perceptions of the platform's effectiveness through a Frequency Index (FI). In contrast, the qualitative findings are based on semi-structured interviews with teachers, offering detailed insights into their experiences and suggestions. The data are organized into thematic areas that reflect the key aspects of the research. First, the section explores students' general perceptions of Knotation, focusing on its ability to support language skills, promote communication, and offer engaging content. Next, it addresses teachers' overall experiences with the platform. The use of Knotation in EFL classrooms is also analyzed, emphasizing how its structured tools aid teaching but often require adaptation for students at different proficiency levels. The platform's content and resources are examined for their visual appeal and interactivity, pointing out grammar,

vocabulary, and writing practice gaps. The findings also consider the impact of Knotion on teaching and learning. Additional sections discuss accessibility and navigation, with teachers reporting difficulties due to the platform's interface and technical issues, as well as varied experiences with training and support. Finally, the findings include actionable teacher suggestions. These insights collectively highlight both the potential and the challenges of implementing Knotion in EFL settings.

General perceptions of Knotion

Results from the questionnaires indicate that participants generally perceive the Knotion platform as an effective and supportive tool for English language learning. Users highlighted the platform's comprehensive approach to developing the four core language skills—reading, listening, speaking, and writing—as well as its success in promoting communication and providing diverse writing opportunities.

Additionally, the content was considered age-appropriate and engaging, particularly in relation to global topics and vocabulary relevance. While grammar instruction was viewed positively overall, some respondents noted the need for clearer sequencing and progression. The platform's interactive activities were praised for enhancing comprehension and engagement, and most participants agreed that it supports meaningful learning through practical application. However, opinions were more mixed regarding the promotion of student autonomy, with some learners expressing a desire for more self-directed learning features. Overall, the feedback highlights the platform's strengths while also identifying areas for improvement to meet the diverse needs of learners better.

With an overall average FI of 8.5, these findings strongly support the platform's effectiveness in promoting English language learning. Nonetheless, improvements are recommended in grammar content clarity and enhancing learner autonomy.

STATEMENTS	FREQUENCY INDEX
<i>Statement 1</i>	8.7
<i>Statement 2</i>	8.6
<i>Statement 3</i>	8.7
<i>Statement 4</i>	9.0
<i>Statement 5</i>	7.7
<i>Statement 6</i>	8.1
<i>Statement 7</i>	8.6
<i>Statement 8</i>	8.9
<i>Statement 9</i>	8.8
<i>Statement 10</i>	7.5
Frequency Index Average	8.5

Table 1. Index of Frequency

General Teachers' Experience

Teachers expressed mixed perceptions of Knotion. On the positive side, its interactive features—such as avatars, rewards, and gamified activities—were noted to enhance student motivation and participation. Mariana shared, “The avatars and rewards really motivated the students to participate and complete activities.” The platform's structured layout also helped teachers plan lessons more efficiently. However, several participants criticized the platform's complexity and the steep learning curve it presents. Luisa remarked, “I find it overwhelming, especially at first. It has so many features that it's easy to get lost.” Similarly, Guillermo added, “The learning curve is steep, and without proper guidance, it's hard to make full use of the platform.” Concerns were also raised about overreliance on digital tools, with some teachers preferring a more balanced approach that includes traditional teaching methods.

Use in EFL classrooms

Knotion offers structured lesson support and valuable features, including phonetic tools and challenge boosters, that enhance planning and student engagement. Luisa commented, “I appreciate that the platform suggests specific apps and activities for teaching certain topics.” However, its content often assumes prior knowledge and lacks flexibility, making it necessary for teachers to adapt materials to suit students' needs. Diego noted, “The platform assumes students have prior knowledge, but that's not always true. I often have to create or add extra activities to bridge these gaps.” Mariel also remarked, “Some of the activities are engaging, but they require significant adjustment to meet my students' levels of proficiency.” These insights highlight the need for more adaptable content that can address varying proficiency levels and allow for differentiated instruction.

Content and Educational Resources

Knotion's resources are visually appealing and interactive, particularly in areas like phonetics, listening, and reading comprehension. Diego shared, "The phonetics module and audio resources are excellent for helping students with pronunciation and vocabulary." However, teachers pointed out critical gaps in foundational areas such as grammar and writing. Mariana emphasized, "There's not enough focus on grammar and writing. Most activities are interactive but do not encourage students to practice producing the language in written form." Additionally, teachers expressed concern about the platform's fast-paced coverage of topics, which they felt hindered students' ability to fully grasp key concepts. As Diego explained, "We're expected to cover too many grammar topics in a short period of time." This suggests that while Knotion offers valuable resources, it could benefit from additional content that addresses basic EFL needs and allows for more thorough concept reinforcement.

Impact on Teaching and Learning

Knotion supports organized teaching and boosts student involvement through **interactive content** and tools like Scholastic. Teachers acknowledged that Knotion supports lesson organization and increases student participation through its interactive tools. Diego mentioned, "Knotion provides a clear methodology that helps me stay organized and focused during lessons," while Mariel noted, "Students are more involved in lessons thanks to interactive content." However, the platform's heavy reliance on digital engagement may reduce students' willingness to perform essential tasks like writing. Mariana commented, "Students are so used to tapping through activities that they resist writing tasks, which are crucial for language acquisition." Furthermore, Erika highlighted the need for deeper learning support: "We need more features that encourage collaboration and critical thinking." Some participants concluded that teacher strategies often influence student improvement more than the platform itself.

Accessibility and Navigation

Navigating Knotion remains a significant challenge for new users. Erika explained, "Navigating through the platform requires patience. It's not intuitive for new users." While experienced teachers have adapted over time, many reported ongoing frustrations with technical glitches and disorganized content flow. Mariana noted, "Some activities freeze during class, disrupting the flow," and Diego added, "Sometimes the topic jumps around, which makes it harder for students to follow a logical sequence." These challenges indicate the need for better interface

design and improved topic progression within the platform.

Training and Technical Support

The experiences with technical support and training varied significantly among participants. Most teachers admitted a **lack of formal training** and having to learn the platform through self-exploration or peer support. Luisa said, "When I started, I was given the platform and told to figure it out on my own." Erika echoed this experience, "*I had to rely on online tutorials and trial-and-error to understand the platform's features*". She also mentioned that in-person training would make a significant difference when they started using the platform. While some appreciated the availability of guides, technical support was described as inconsistent. Mariana observed, "Sometimes technical support is quick to respond, but other times, it's slow, and we're left waiting for solutions." Teachers strongly recommended more hands-on and timely training to ensure effective use of the platform.

Suggestions and Improvements

Participants offered actionable recommendations to enhance Knotion's effectiveness. Diego suggested, "Introduce more grammar-focused activities and allow more time for students to master each topic." Luisa advocated for better teacher preparation: "Hands-on workshops tailored to teachers' needs would be incredibly helpful." There was also a strong demand for customizable activities and tools that support collaboration. Guillermo proposed, "Adding customizable options for activities would make the platform more versatile," and Erika added, "Collaboration features, such as group tasks and shared projects, would enhance the learning experience." Mariana emphasized the urgency of addressing technical problems: "Stability issues need to be addressed. Glitches disrupt lessons and waste valuable time." Teachers also expressed interest in a dedicated English-learning alliance within Knotion to reinforce grammar and vocabulary practice.

Discussion

The findings of this research underscore the potential of the Knotion Content Management System (CMS) to transform English as a Foreign Language (EFL) instruction within elementary school settings. By employing a mixed-method approach that combined quantitative data from student questionnaires with qualitative insights from teacher interviews, the study presents a nuanced understanding of how technology, when pedagogically grounded, can support language learning.

The results demonstrated that students generally perceive the platform as a useful and engaging tool for developing the four foundational language skills—reading, writing, listening, and speaking. The high frequency index scores across key indicators support the notion that Knotion's content is appropriate, dynamic, and relevant to learners' age and language proficiency level. Furthermore, the platform's design facilitates varied writing activities, promotes communicative competence, and fosters the autonomous use of English in real-world contexts, echoing the benefits described in prior studies on digital education (Zhao & Lai, 2020; Tsai, 2019).

Teachers' experiences corroborated these findings. Many educators noted that the platform encourages meaningful learning through its problem-based, transdisciplinary approach, reflecting the core tenets of the IMPAct model. In this way, Knotion fosters language development and cultivates essential life skills, critical thinking, and global citizenship awareness. Its structure integrates content from global agendas and prioritizes active learner participation, resonating with contemporary educational frameworks that emphasize holistic, student-centered learning.

However, the research also reveals several challenges. Teachers reported difficulties navigating the platform's complex structure and highlighted the necessity for ongoing training and technical support. These challenges reflect broader concerns within educational technology research regarding digital literacy, equitable access, and the rapid pace of technological change (Van Dijk, 2020; Howard & Mozejko, 2015). While Knotion offers an innovative alternative to traditional instruction, the transition requires educators to shift their teaching strategies and professional identities—something that is not always easily achieved without systemic support.

Furthermore, some teachers expressed concern about relying exclusively on Knotion for language instruction. This suggests the need to adopt a more balanced pedagogical model, one that integrates digital tools with traditional methods to provide varied learning experiences and avoid over-dependence on a single educational system. This finding aligns with research advocating for blended learning environments, which combine the strengths of face-to-face interaction and technological affordances to optimize language acquisition (Graham, 2013; Lai & Bower, 2019).

In summary, the discussion of the results suggests that Knotion has strong potential to support English language development and global competencies in young learners. However, its effective use depends on contextual variables such as teacher training, infrastructure, and

institutional policies. While the platform is pedagogically rich and technologically robust, its implementation must be accompanied by critical reflection, inclusive planning, and professional support to truly enhance EFL learning outcomes in sustainable and equitable ways.

Conclusion

This research highlights the growing significance of technology in English language education. Digital platforms, CMS tools, and interactive learning methods have transformed the way students engage with language learning. As the field evolves, educators are increasingly turning to innovative tools that support more dynamic, personalized, and effective EFL instruction. Platforms like Knotion exemplify this shift by offering a structured, pedagogically grounded ecosystem that promotes not only linguistic development but also critical thinking, collaboration, and global awareness.

The study concludes that the Knotion CMS has strong pedagogical potential to enhance English language teaching and learning in EFL classrooms. Through its student-centered design, integration of design thinking, and emphasis on real-world challenges, Knotion supports the development of foundational language skills while encouraging learners to become autonomous users of the language and responsible global citizens. The IMPAct model fosters a transdisciplinary, immersive, and problem-solving approach that aligns with modern educational theories such as connectivism, the humanistic approach, and global citizenship education.

The quantitative and qualitative findings confirm that, when effectively implemented, Knotion can enrich students' learning experiences by increasing engagement, supporting communicative competence, and offering authentic, context-based content. This supports previous studies that highlight the advantages of digital ecosystems, including enhanced learner autonomy, improved interaction, and access to authentic materials (Godwin-Jones, 2018; Thorne & Payne, 2005).

However, the research also identifies notable challenges that must be addressed to fully leverage the platform's potential. These include the steep learning curve for educators, limited digital literacy, the need for consistent technical support, and the risk of over-relying on a single educational tool. The study underscores that successful integration of CMS platforms in EFL classrooms depends on more than the technology itself—it requires strategic planning, infrastructure readiness, and comprehensive teacher training. Without these elements, platforms may fall short of their transformative promise.

Reflecting more broadly, the integration of platforms in EFL education invites a redefinition of teaching roles, curriculum design, and learner engagement. Digital tools must be integrated with intentional pedagogical strategies, allowing teachers to act not only as content facilitators but also as guides in navigating digital learning environments. Rather than replacing traditional methods, platforms like Knotion should be viewed as complements—tools that, when used effectively, can deepen learning, personalize instruction, and prepare students for a connected and complex world.

Ultimately, Knotion represents a forward-thinking model for EFL instruction in the digital age. With continued research, thoughtful development, and robust institutional support, it holds the promise to transform how languages are taught and learned. By embracing the pedagogical affordances of learning ecosystems and addressing their limitations, educational communities can build more inclusive, engaging, and future-ready environments for language education.

References

- [1] Ally, M. (2008). Foundations of educational theory for online learning. In T. Anderson (Ed.), *The theory and practice of online learning* (pp. 15-44). Athabasca University Press.
- [2] Brown, M., Dehoney, J., & Millichap, N. (2015). *The next generation digital learning environment: A report on research*. EDUCAUSE Learning Initiative. <https://library.educause.edu/resources/2015/4/the-next-generation-digital-learning-environment-a-report-on-research>
- [3] Chapelle, C. A. (2003). *English language learning and technology: Lectures on applied linguistics in the age of information and communication technology*. John Benjamins Publishing.
- [4] Coates, H., James, R., & Baldwin, G. (2005). A critical examination of the effects of learning management systems on university teaching and learning. *Tertiary Education and Management*, 11(1), 19–36. <https://doi.org/10.1080/13583883.2005.9967137>
- [5] Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and Conducting Mixed Methods Research*. SAGE Publications.
- [6] Cruz Martínez, C. A. (2024). Construcción de identidades a través del efecto transformativo del estudio del inglés como lengua extranjera. *Revista Lengua Y Cultura*, 6(11), 34–43. <https://doi.org/10.29057/lc.v6i11.13059>
- [7] Dang, T., & Robertson, M. (2010). Impacts of learning management system on learner autonomy in EFL learning. *International Education Studies*, 3(3). <https://doi.org/10.5539/ies.v3n3p3>
- [8] Freire, P. (1970). *Pedagogy of the oppressed* (M. B. Ramos, Trans.). Herder and Herder.
- [9] Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, 204(6), 291–295.
- [10] Godwin-Jones, R. (2011). Emerging technologies: Autonomous language learning. *Language Learning & Technology*, 15(3), 4–11. <https://doi.org/10.125/44212>
- [11] Greenberg, L. (2002). LMS and LCMS: What's the Difference? *Circuits*. <https://www.learningcircuits.org/2002/dec2002/greenberg.htm>
- [12] Irzawati, I. (2021). The Utilization of Digital Platforms in Online Learning: EFL Students' Perspectives. *Indonesian EFL Journal*, 7(2), 131–138. <https://journal.uniku.ac.id/index.php/IEFLJ/article/view/4566>
- [13] Johnson, L., Adams Becker, S., Cummins, M., Estrada, V., Freeman, A., & Ludgate, H. (2016). *NMC Horizon Report: 2016 Higher Education Edition*. The New Media Consortium.
- [14] Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, 72(12), 2954–296
- [15] Khan, B. H. (2005). *Managing e-learning: Design, delivery, implementation, and evaluation*. Information Science Publishing.
- [16] Kincheloe, J. L., & McLaren, P. (2005). Rethinking critical theory and qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (3rd ed., pp. 303–342). SAGE Publications.
- [17] Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development*. Oxford University Press.
- [18] Liaw, S. S., & Huang, H. M. (2011). A study of investigating learners' attitudes toward e-learning. In *Proceedings of the 5th International Conference on Distance Learning and Education*, 12, 28–32. IACSIT Press.
- [19] Pappas, E. (2018). Integrating sustainable development into engineering education. *Journal of Cleaner Production*, 181, 629–637.
- [20] Reinders, H., & White, C. (2011). The theory and practice of online learning. In *The impact of digital technologies on language learning* (pp. 127–149). Routledge.
- [21] Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*, 2(1), 3–10.
- [22] Tsai, S. C. (2019). Integrating English into specific content-based instruction in a blended learning environment. *International Journal of Online Pedagogy and Course Design*, 9(3), 14–30. <https://doi.org/10.4018/IJOPCD.2019070102>
- [23] Viberg, O., Hatakka, M., & Mavroudi, A. (2020). The role of digital platforms in personalized learning.
- [24] Wang, S. (2020). Adaptive Learning System for EFL Learning. In *Proceedings of the 2020 6th International Conference on Education and Training Technologies* (pp. 23–27). ACM. <https://doi.org/10.1145/3392956.3392957>
- [25] Watson, W. R., & Watson, S. L. (2007). An argument for clarity: What are learning management systems, what are they not, and what should they become? *TechTrends*, 51(2), 28–34. <https://doi.org/10.1007/s11528-007-0023-y>
- [26] Yin, R. K. (2017). *Case Study Research and Applications: Design and Methods*. SAGE Publications.
- [27] Zhao, Y. (2005). The future of research in technology and second language education. In Y. Zhao (Ed.), *Research in Technology and Second Language Learning* (pp. 445–457). Information Age Publishing.