

The Importance of Digital Literacy Skills in the Context of Learning English for Specific Purposes: A Systematic Review

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ABSTRACT

Keywords: digital literacy, ESP, language learning.

In today's landscape of language education, the integration of digital literacy (DL) with English for Specific Purposes (ESP) has gained significant importance. In an increasingly digitised world, proficiency in digital literacy is becoming indispensable for effective communication and language acquisition. This article presents a systematic review synthesising insights from various scholarly publications to clarify the crucial importance of digital literacy skills in enhancing the effectiveness of ESP instruction and improving learning outcomes. Drawing upon a range of empirical studies and theoretical frameworks, the researcher explores the multifaceted impacts of digital literacy on ESP learners, educators, and instructional practices. The analysis highlights the significant impact of incorporating digital tools, resources, and teaching methods into ESP programs. It emphasises how they contribute to authentic language application, improved communication skills, and the advancement of professionals in specialised fields. By considering various viewpoints and empirical data, studies consistently demonstrate the effectiveness of integrating digital literacy into ESP programs. This fosters strong information literacy, digital tool proficiency, and effective communication and collaboration skills in ESP learners.



Introduction

In the 21st century, the ability to navigate the digital world has become an essential life skill. The rapid improvement of information, communication tools, and specialised software people encounter daily necessitates a high level of digital literacy (Thornhill-Miller et al., 2023). This involves both the technical skills needed to operate these tools and the critical thinking necessary to assess information, discern trustworthy sources, and engage responsibly in the online environment. The critical competency of digital literacy directly impacts the field of English Language Learning (ELL), particularly within English for Specific Purposes (ESP) programs (Isnaniah & Ningsih, 2022). While

mastering the complexities of the English language remains a cornerstone of ESP, the digital revolution has significantly altered the learning landscape. ESP programs now face the unique challenge of integrating essential digital literacy skills alongside traditional language instruction.

Digital literacy needs to be adapted and applied in teaching ESP (Surani, Umalihayati, Septiyani, & Holilah, 2023). In this statement, students in ESP must be capable of using the device to support their study process. These days, teaching English for Specific Purposes (ESP) requires a stronger focus on integrating technology. This means keeping students actively involved in the learning process. ESP tailors itself to learners' specific needs, making technology a perfect source of authentic learning materials. However, students need to be comfortable using technology to get the most out of it. In short, the better their digital literacy skills, the more effectively they can leverage technology for their ESP learning. This comprehensive review has culminated in a clear understanding of the critical role digital literacy plays in empowering ESP learners. The review has explored how these skills equip learners to not only navigate the complexities of the English language but also navigate the ever-evolving digital environment specific to their chosen field. Through examination of current research and identification of critical areas for integration, the review has aimed to illuminate a path towards a more holistic and practical approach to ESP learning in the digital age. As technology continues to reshape the learning landscape, fostering robust digital literacy skills alongside traditional language instruction will be paramount in preparing ESP learners to thrive in today's information-driven world.

Research Methods

A study (Istiani et al., 2023) found that Systematic Literature Review (SLR) is a robust methodology for crafting well-grounded research articles. In line with that, (Booth, Thom, & Alavi, 2009) mention that systematic review shines through in its clearly defined stages. These stages typically involve formulating a focused research question, developing a detailed search protocol, conducting a comprehensive search across multiple databases, applying rigorous selection criteria to identify relevant studies, meticulously extracting data from these studies, and finally, synthesising the extracted information to draw meaningful conclusions. A targeted search strategy was employed within the field of English for Specific Purposes (ESP) literature. This focus ensured an exploration of Digital Literacy (DL) integration within ESP. For transparency and accurate documentation of the selection process, a PRISMA flow diagram was utilised to track the inclusion and exclusion criteria applied to each potential study.

Research Questions

To fulfil the purpose of this study, which is to explore the importance of digital literacy skills in the context of learning English for specific purposes, two research questions (RQ) were formulated:

1. RQ 1: To what extent do digital literacy skills influence English language learning for specific purposes (ESP)?

2. RQ 2: How do different types of digital literacy skills contribute to the learning process within English for Specific Purposes (ESP)?

Systematic Literature Review Method

This study adheres to rigorous methodology, combining established guidelines from (Meinck et al., 2023) with the widely recognised and updated PRISMA framework modified (Meinck et al., 2023) for systematic reviews. Moreover, the search strategy was applied to Extract keywords from research questions that can be used to address your specific research goals. The critical terms chosen for inclusion criterias are “digital literacy” and “ESP”. To capture a broader range of relevant information, the key terms were identified by applying synonyms and variations in spellings for the search terms. This is a more technical and specific way to phrase it. The search term digital literacy was searched by using alternative words: information literacy, 21st-century skills, digital pedagogy, digital learning, technology learning, and technology integration. At the same time, the terms of ESP were searched with skill-based language teaching and English for academic and occupational purposes.

Study Selection

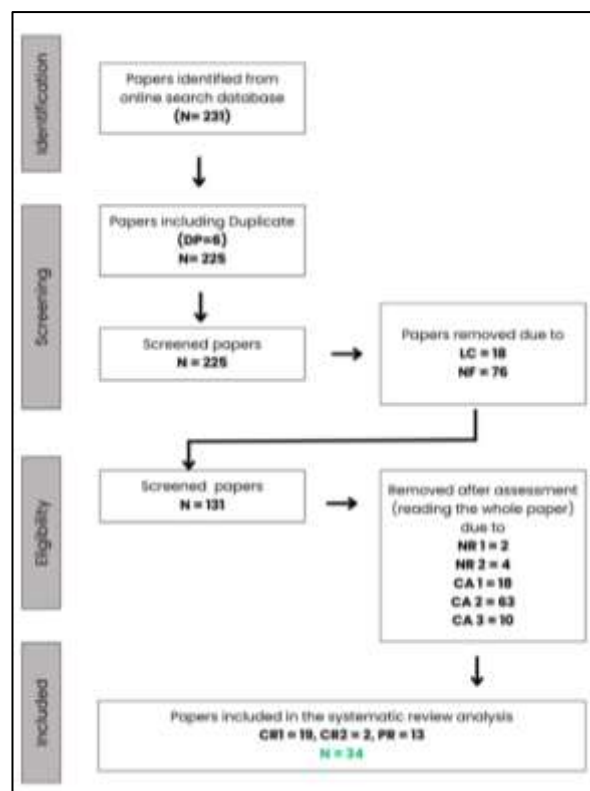


Figure 1
Systematic literature review using PRISMA flow diagram (Meinck et al., 2023)

The study used a two-step process to identify relevant studies for this review. To begin, the researchers cleaned the data by eliminating duplicates and removing any papers not written in English. However, they did keep the title, abstract, and keywords even if

the full text was not in English. The second step focused on the content of the papers. Studies were excluded if they were not peer-reviewed academic articles, did not address both digital literacy and ESP, or used these terms vaguely. Additionally, papers that explored digital literacy but not ESP teaching or ESP unrelated to digital literacy implementation were removed. After applying the exclusion criteria, the remaining papers were categorised based on their focus. Three categories emerged in the papers that discuss digital literacy and English language learning but do not specifically address ESP, directly investigate the digital literacy skills needed for effective ESP instruction, and focus on teaching methodologies for ESP.

Results and Discussion

Technology in English Language Learning

Technology has revolutionised language learning, offering a treasure trove of tools and resources that were unimaginable just a few decades ago (Sukmawati, Syam, Jubhari, Mardiani, & Sasabone, 2023). In the same way (Sukmawati Sujarwo & Yahrif, 2019), it was mentioned that the whole world's gone digital, and science keeps making leaps and bounds; teaching techniques and models are changing, too. Teachers are finding that using technology like computers and the internet can be a game-changer in the classroom. These tools are like super helpful assistants for learning in the modern age. While the technology is impressive, it can also be tricky for young minds to handle. All that digital stuff can be overwhelming, especially for kids who are still figuring things out. Therefore, it is super important for parents, teachers, and grown-ups to jump in and help them navigate the online world by guiding them to use technology wisely.

It aligns with (Sujarwo Sujarwo et al., 2023) conducting pre-experimental research for young learners in comparing the pre-test and post-test, focusing on building well-rounded young learners by creating a fresh approach to English language learning that leverages digital literacy skills. The study explored how using a digital literacy-based learning model could help shape students' character. As a result, the study compared students' speaking skills before and after using technology in the classroom. They found that using programs like Canva, Sparkol, Video Scribe, and Wordwall led to a noticeable improvement in speaking ability. Similarly, it was (Rokhayati & Widiyanti, 2022) found that using technology-based media such as YouTube, the British Council, or the Relo website can be a powerful tool for improving speaking skills for young learners in intercultural schools. Based on those results, integrating the use of technological tools can be a valuable innovation for teaching English to young learners.

On the other hand, (Sukmawati et al., 2023) it analysed the use of technology for adult learners, specifically in teaching ESP for Midwifery students. It was found that 90% of students strongly support the inclusion of technology-based teaching methods in ESP programs. This reflects the growing importance ESP teachers place on technology in their classrooms and their eagerness to learn more about using technology effectively in ESP teaching. Some of the results of studies recognise that today's students are digital natives, comfortable and adept at using technology in various aspects of their lives. By integrating

technology strategically into ESP programs, educators can cater to these student needs and create a more engaging and practical learning experience. This can involve using technology-based resources tailored to students' specific fields of study, such as industry-specific software or online communities for targeted language practice. Furthermore, researchers point to the potential of technology to personalise learning in ESP. Adaptive learning platforms and interactive applications can provide students with individualised learning paths that cater to their strengths, weaknesses, and learning goals.

In conclusion, the rise of technology has completely transformed how people learn languages. It has opened up a vast chest of exciting tools and made the learning process much more interactive and connected. From interactive apps and personalised learning paths to real-time conversations with native speakers, technology empowers learners to become active participants in their language acquisition journey. The integration of these technological advancements into the educational domain empowers both educators and students to leverage technology as a potent instrument for learning.

Digital Literacy in ESP Class

While developed countries have been integrating technology into education for over two decades, this is (ERYANSYAH, ERLINA, FIFTINOVA, & NURWENI, 2019) a new trend in developing countries like Indonesia. This gap can be attributed to several factors, including limited access to technology infrastructure, such as reliable internet and devices, as well as a need for professional development to equip educators with the skills to integrate technology into their curriculum, as mentioned effectively (Purmayanti, 2022). Modern life is intertwined with technology, and even basic tasks now involve the use of digital tools. The explosion of digital technologies in the 21st century has completely changed the way we navigate life, from education to careers and even our daily routines (Mardiah, 2022). To keep up in this digital era, everyone needs to be digitally literate. This means that being good at using technology is not enough with computer skills. In addition, need to find information, analyze it critically, and then use it to create and share ideas (Naseer, Zafar, & Riaz, 2022). This resource sheds light on how people interact with technology, outlining strategies for problem-solving and effective communication within the digital landscape.

Digital literacy has transcended its initial focus on technical skills to become an essential component of effective communication in today's world. A recent study (Murray et al., 2022) highlights this shift, emphasising the importance of "information literacy" within the broader digital literacy framework. This expanded perspective recognises that navigating the digital realm requires not just the ability to use technology but also the critical thinking skills to evaluate information sources, assess credibility, and identify potential biases. Furthermore, as highlighted, (Vilde, 2022) digital literacy empowers individuals to become active participants in the digital world. This includes the ability to create and share information effectively, fostering communication and collaboration across diverse online communities. By integrating digital literacy skills into general English language education, educators can equip students with the tools they need to not

only comprehend information online but also to express themselves thoughtfully and responsibly in this dynamic digital landscape.

In the realm of English for Specific Purposes (ESP), digital literacy takes on a specialised dimension. While core digital literacy skills remain crucial, ESP instruction delves deeper, equipping learners with the tools and knowledge to navigate the specific online environments and resources relevant to their professional fields. A study from (Asmali, 2018) emphasises this focus, highlighting the need for ESP programs to tailor digital literacy instruction to the specific digital tools and platforms used in a particular profession. This targeted approach to digital literacy in ESP fosters not just information consumption but also the creation and dissemination of domain-specific knowledge. As underscored by (Farahsani & Harmanto, 2022) ESP, learners can leverage digital tools to create presentations, reports, and other professional documents specific to their fields. Furthermore, online platforms can facilitate collaboration with colleagues and participation in professional online communities; as explored by (Simjanoska, 2022) nurturing these digital communication skills, ESP programs empower learners to not only function effectively in their chosen professions but also to actively contribute to their online communities and participate in the ongoing exchange of knowledge within their fields.

Digital Literacy Skills to English Language Learners in ESP

Digital literacy skills refer to the ability to access, analyse, utilise, and create information using technology, which plays a vital role in enhancing the learning process within English for Specific Purposes (ESP), as mentioned in the research conducted by (Mardiah, 2022) stated the integration of digital literacy skills into ESP curriculums empowers learners to not only excel in their chosen professions but also to navigate the vast digital landscape effectively. This includes the ability to evaluate online information critically, utilise digital tools for research and communication, and participate productively in online communities related to their specific field. These skills equip students with the tools and strategies to navigate the digital world effectively and enrich their ESP learning experience.

In this rapid information age, information literacy is no longer a luxury but a necessity for ESP students (Kustini, Suherdi, & Musthafa, 2020); the impact of information literacy on ESP learners' academic performance and employability. Supported by (Alcalde Peñalver & Santamaría Urbieto, 2021) a direct correlation between solid information literacy skills and both academic success and employability in ESP fields, information literacy equips students to find the most relevant and credible sources, a crucial skill for research projects, presentations, and, ultimately, informed decision-making in their chosen profession. Furthermore, the ability to critically evaluate online sources fosters a discerning approach to information consumption. Students learn to identify potential bias, verify facts, and differentiate between reliable and unreliable sources, a vital skill in a world rife with misinformation. Therefore, information literacy empowers ESP students to become independent lifelong learners, allowing them to stay

current with industry trends and developments through continuous exploration and evaluation of online information.

Digital communication tools facilitate effective online interaction between ESP learners, instructors, and experts in the target field (Kirovska-Simjanoska, 2022). These tools include email, online discussion and video conferencing platforms, and social media groups, allowing learners to participate in discussions, collaborate on projects, and enhance their professional communication skills in English. In addition, both teachers and students require a deeper understanding of technology to leverage its full potential for the learning process. Proficiency in using various digital tools and platforms specifically relevant to the ESP field empowers both teachers and students to engage with interactive learning materials, and this involves creating presentations, infographics, or blog posts in English, promoting creativity, knowledge retention, and potentially honing their professional communication skills.

The ability to communicate and collaborate effectively with people from different backgrounds and communication styles is essential in this 21st century in many aspects. Clear communication is crucial for ESP students to share ideas, explain complex concepts, and present their work effectively. In addition, the ability to collaborate effectively is critical for continuous learning and professional development. Many ESP fields are inherently collaborative, such as scientific research, law, and business, and also require a high degree of collaboration to achieve success. (Ekaputra, 2023) A significant correlation between communication and collaboration skills was found in the implementation of the discovery learning model in practical learning, which is effective in enhancing communication and collaboration skills, particularly among students enrolled in inorganic chemistry laboratory courses. On the other hand, (Amaliah, Limbong, Syam, Room, & Bashar, 2023) it stated that incorporating educational technology tools in ESP courses offers a wealth of opportunities to improve students' speaking skills, from grammar and pronunciation to nonverbal cues like posture and eye contact; it's essential to build students' communication confidence. Therefore, strong communication and collaboration skills are not just add-ons for ESP students; they are essential skills for all students. By mastering these essential skills, ESP programs transform students from language learners into confident communicators and collaborators, ready to conquer collaborative environments.

Conclusion

In conclusion, this systematic review has highlighted the critical role digital literacy skills play in English for Specific Purposes (ESP) education. The findings underscore the importance of fostering strong information literacy, digital tool proficiency, and effective communication and collaboration skills in ESP learners. By integrating these skills into the curriculum, ESP programs can empower learners to not only acquire the targeted language proficiency but also thrive in a digital environment brimming with relevant resources and opportunities for professional development. This study has shown how critical digital literacy is for ESP learners, but that's just the tip of the iceberg! There's so

much more to discover. Future research could explore how things like a student's motivation, cultural background, and even the teaching methods used all play a role in how well ESP programs work.

Bibliography

- Alcalde Peñalver, Elena, & Santamaría Urbieto, Alexandra. (2021). Digital storytelling in ESP: Towards a new literacy in hybrid language learning. *Aula Abierta*.
- Amaliah, Nurul, Limbong, Sunarli, Syam, Nur Ina, Room, Fahmi, & Bashar, Khaliq. (2023). Using Technology as Learning Media to Enrich ESP Students' Speaking Skill for Indonesian Higher Education Students. *IJOLEH: International Journal of Education and Humanities*, 2(1), 43–51.
- Asmali, Mehmet. (2018). Integrating technology into ESP classes: Use of student response system in English for specific purposes instruction. *Teaching English with Technology*, 18(3), 86–104.
- Booth, George H., Thom, Alex J. W., & Alavi, Ali. (2009). Fermion Monte Carlo without fixed nodes: A game of life, death, and annihilation in Slater determinant space. *The Journal of Chemical Physics*, 131(5).
- Ekaputra, Firdiawan. (2023). Application of Discovery Learning Model in Practical Learning to Improve Students' Communication and Collaboration Skills. *EduLine: Journal of Education and Learning Innovation*, 3(2), 307–311.
- Eryansyah, Eryansyah, Erlina, Erlina, Fiftinova, Fiftinova, & Nurweni, A. R. I. (2019). EFL Students' Needs of Digital Literacy to Meet the Demands of 21st Century Skills. *Indonesian Research Journal in Education/ IRJE/*, 442–460.
- Farahsani, Yashinta, & Harmanto, Margaretha Dharmayanti. (2022). Teaching Esp Using Mykclass In Universitas Muhammadiyah Yogyakarta: Students' perception. *LLT Journal: A Journal on Language and Language Teaching*, 25(2), 639–650.
- Isnaniah, Isnaniah, & Ningsih, Rahma Pitria. (2022). Digital Literacy Level and English Language Proficiency of College Students in Banjarmasin to Support Independent Learning Campus in the Technological Era 4.0. *LET: Linguistics, Literature and English Teaching Journal*, 12(2), 286–306.
- Kirovska-Simjanoska, Daniela. (2022). Digital Literacy as a Tool for Fostering Engagement and Motivation in Online/Hybrid ESP Classes. *Journal of Teaching English for Specific and Academic Purposes*, 533–546.
- Kustini, Siti, Suherdi, Didi, & Musthafa, Bachrudin. (2020). Beyond traditional literacies: A multimodal-based instruction to fostering student digital literacy learning. *Jurnal Pendidikan Bahasa Dan Sastra*, 20(1), 37–47.
- Mardiah, Henny. (2022). Integrating Digital Literacy Into English As A Foreign Language (EFL) Class: A Cooperative Learning Approach. *ALINEA: Jurnal Bahasa, Sastra Dan Pengajarannya*, 2(2), 295–304.
- Meinck, Franziska, Neelakantan, Lakshmi, Steele, Bridget, Jochim, Janina, Davies, Lynn

- M., Boyes, Mark, Barlow, Jane, & Dunne, Michael. (2023). Measuring violence against children: A COSMIN systematic review of the psychometric properties of child and adolescent self-report measures. *Trauma, Violence, & Abuse, 24*(3), 1832–1847.
- Naseer, Z., Zafar, M., & Riaz, A. (2022). Exploring Autonomous Learning of English Language through Digital Literacy: A Study in Pakistani Context. *Global Language Review, VII*, 85–98.
- Purmayanti, Devi. (2022). The Challenges of Implementing Digital Literacy in Teaching and Learning Activities for EFL Learners in Indonesia. *BATARA DIDI: English Language Journal, 1*(2), 101–110.
- Rokhayati, Titi, & Widiyanti, Ana. (2022). Using technology-based media for teaching speaking in intercultural education. *Lingua Cultura, 16*(1), 9–15.
- Sujarwo, Sujarwo, Asdar, Asdar, Sabillah, Bellona Mardhatillah, Sukmawati, Sukmawati, Akhiruddin, Akhiruddin, & Syata, Wahyu Muh. (2023). Innovation In English Language Learning Model Based Digital Literacy To Construct Young Learners' Character. *Ethical Lingua: Journal of Language Teaching and Literature, 10*(2).
- Sujarwo, Sukmawati, & Yahrif, M. (2019). Improving Students' English Learning Outcomes through PQ4R (Preview, Question, Read, Reflect, Recite, Review) Learning Model at the Eighth Grade of SMP Tunas Bangsa Makassar. *Celebes Education Review, 1*(2), 48–55.
- Sukmawati, Sukmawati, Syam, Nur Ina Syam, Jubhari, Yuriatson Jubhari, Mardiani, Mardiani, & Sasabone, Luana. (2023). Implementation of Technology on English for Specific Purposes (ESP) Students in Communicative Language Teaching Approach. *Ethical Lingua: Journal of Language Teaching and Literature, 10*(1).
- Surani, Dewi, Umalihayati, Umalihayati, Septiyani, Rini Dwi, & Holilah, Holilah. (2023). Integrating Digital Literacy in English for Specific Purposes (ESP) Instruction Via English for Law e-module. *Journal of English Teaching and Learning Issues, 6*(1), 57–64.
- Thornhill-Miller, Branden, Camarda, Anaëlle, Mercier, Maxence, Burkhardt, Jean Marie, Morisseau, Tiffany, Bourgeois-Bougrine, Samira, Vinchon, Florent, El Hayek, Stephanie, Augereau-Landais, Myriam, & Mourey, Florence. (2023). Creativity, critical thinking, communication, and collaboration: assessment, certification, and promotion of 21st century skills for the future of work and education. *Journal of Intelligence, 11*(3), 54.
- Vilde, Sniedze. (2022). Role-Based Learning: The Development Of Students'digital Literacy In Esp Courses. *Journal of International Scientific Publications: Language, Individual and Society*.