



LSLP Micro-Paper 106:

Digital Ecosystems and Digital Literacy

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Defining the Term

A digital ecosystem in education is a network of learning platforms, tools, and systems that support the entire learning journey. Based on the natural world, this ecosystem has "biotic" components—active users like students and teachers and the dynamic digital content they create and interact with—and "abiotic" components, such as the foundational technological infrastructure and pedagogical theories that govern the environment. The quality and fluidity of these elements' interactions define the system, not their presence. In this sociotechnical environment, learners, educators, content, and interfaces determine the learning process's health and effectiveness.

The digital ecosystem integrates the Learning Management System (LMS), Student Information System (SIS), and third-party applications into a workable whole. The technical integration reduces administrative friction and streamlines user experience. Beyond its technical architecture, the ecosystem includes a vital human layer that fosters community and rich collaboration. It drives pedagogical innovation by enabling data-driven personalization, continuous formative assessment, and a shift from content dispenser to inquiry facilitator. The ultimate goal is a flexible, ubiquitous, learner-centered environment that meets each student's needs.

The nexus between the digital ecosystem and digital literacy is symbiotic and inseparable. The ecosystem is the authentic environment where digital age literacy practices are cultivated through practice. To navigate rich [multimodal](#) content and pursue inquiry-based learning, students must constantly identify, evaluate, and synthesize digital resources. The system's collaborative tools and creative platforms require digital communication and content creation skills, moving students from [consumption to active production](#). For equitable and safe ecosystem participation, digital literacy, particularly digital citizenship and responsible technology use, is essential. Thus, the digital ecosystem forges these essential skills and provides a meaningful context for their application, creating a cycle where literacy deepens engagement and literacy deepens engagement.

Connecting it to LSLP

LSLP's research has always kept digital literacies as one a key element of our research and advocacy. From exploring the culture of video games to looking at [social media](#) and [digital](#)

[cultures](#), our research has laid the groundwork to engage in deeper reflexivity about what it means to develop digital ecosystems in and out of schools.

A notion such as digital ecosystem complements our ongoing questions regarding [digital literacies](#), multimodal practices, and even the possibilities for [AI literacies](#) in today's social and educational landscapes, while remaining vigilant to the human factor that is present in these digital scenarios, as ideas such as smart schools become more ubiquitous in our local contexts.

Expanding Second Language Research

As questions related to digital literacy or the infusion of STEM (Science, Technology, Engineering, and Mathematics), to name two, overlap with language learning and teaching, it is important for second-language educators to discover how the idea of digital ecosystem reshapes their practice. From a pedagogical standpoint, this idea fosters multiple possibilities to engage with digital tools, apps, or podcasts to enhance language practice and create more interactive teaching possibilities.

From a research point, looking into digital ecosystems provides options to better understand how the interactions among human and more-than-human stakeholders affect language acquisition and use, thus providing more possibilities to engage with digital literacy from technical and critical perspectives.

References

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Declaration of Generative AI and AI-assisted Technologies in the Writing Process

The author worked with Gemini to draft some initial ideas for the first section, which he later revised, unassisted. The author wrote the last two sections completely unassisted. The author found two of the references; Gemini suggested a third, which the author read through and verified for accuracy. Before uploading the micro-paper, final edits were made using QuillBot. The author takes full responsibility for the publication's content.



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