TESOL Faculty United for Ukraine

Digital Technologies for Teaching English as a Foreign/Second Language

a collective monograph

Zhytomyr

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Digital Technologies for Teaching English as a Foreign/Second Language: a collective monograph. Цифрові технології навчання англійської мови як іноземної/другої мови: колективна монографія / Антоненко Н., Коноваленко Т., Король Т., Подосиннікова Г., Прокопчук Н., Салюк Б., Шевченко М., Школа І. (кол.авт.); за заг.ред. Школи І., Салюк Б. Житомир: Видавництво "Євро-Волинь", 2024. 352 с.

Колективна монографія розкриває різні аспекти використання цифрових технологій у навчанні англійської мови як іноземної/другої мови (цифровий сторітелінг, мобільні застосунки, інтерактивне навчання і онлайн-ігри, тощо) та надає освітянам і дослідникам ресурс для збагачення їхньої професійної діяльності. Окрема увага приділена цифровим інструментам для впровадження соціально-емоційного навчання та інклюзивної освіти на уроках англійської мови.

Для вчителів англійської мови, методистів, викладачів вищих закладів освіти, науковців, здобувачів вищої освіти.

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Chapter 1.
INTRODUCTION TO DIGITAL LEARNING

1.1. Digital Transformation of Education: Challenges and Strategies

> Successful digital education is about creating more and better opportunities for learning and teaching for everyone in the digital age.
> *(European Commission, 2023)*

The digital revolution has significantly shaped social life, both globally and locally. It's propelled the shift from analog to digital platforms, seen in the transition to digital TV and the rise of apps for different purposes like booking tickets or learning languages. The COVID-19 pandemic highlighted what has already existed for a decade in a new era, speeding up the digitization process and its formal recognition in many, if not all, fields of social life, including education.

The results of the survey conducted by the European Commission (2023) and shown in the "Proposal for a Council Recommendation on the Key Enabling Factors for Successful Digital Education and Training" have witnessed that during COVID-19 lockdowns, educators' digital competence significantly impacted learning quality. Less than half of EU teachers (49.1%) had ICT training, with only 39% feeling prepared to use digital technologies for teaching. It is mentioned in the Proposal that equipping educators with digital pedagogy skills is crucial. Authorities and stakeholders must empower teachers, enabling them to optimize technology for effective teaching and learning).

Digitization is ubiquitous and irreversible, and education is no exception in this process. As Neil Selwyn (2011) claims, digital change in education is justified in two ways: internal improvement, as technology enhances education, and external influence, driven by society's overall digitization. Thus, both factors emphasize the increased necessity of digital technology within educational settings due to its potential for positive change and alignment with broader societal trends.

Digital literacy is a must-have competence for 21st-century educators and researchers as it opens the doors not just for digital teaching as a necessity of modern times but for cooperation and professional development.

In 2020, the International Science Council (2020) highlighted the pivotal role of digital tools in fostering international scientific cooperation and access to crucial data. This accessibility extends to policy-makers and citizens alike, with far-reaching implications for science and society, extending beyond the pandemic crisis. The Council prioritizes establishing robust infrastructure to enhance digital technology use in the scientific community and worldwide.

There are some steps already taken within the education policy regarding digital education (for all participants of the educational process – learners, teachers, researchers, and authorities) in the European Union and Ukraine in particular, which has declared its European integration.

For instance, the proclaimed goal of the UNICEF Regional Digital Learning and Transformation of Education Strategy (RDLS) for Europe and Central Asia (ECA) is "to unlock the potential of edtech[1] to transform learning opportunities, make education systems more resilient, and ensure effective education delivery to achieve inclusive, equitable and lifelong learning for all children". This Strategy centers on three core

[1] "EdTech (Education Technology): includes a wide range of technologies, hardware, software, services and digital resources used to conduct, support or enhance teaching and learning, and facilitate education management and operations." (UNICEF, 2023, p. 4).

objectives: bridging the digital gap for equitable access for all children; optimizing educational technology for enhanced learning outcomes; and fortifying edtech governance and readiness to build quality education systems. So, UNICEF prioritizes eight key areas in the ECA region: connectivity and devices, accessibility, diverse learning paths for marginalized children and youth, learners' digital literacy, teacher training, digital learning content and platforms, personalized learning, and edtech governance. The Strategy harmonizes with UNICEF's global and regional Education Strategies, the Reimagine Education initiative, and UNICEF's global digital learning principles (UNICEF, 2023, p. 10).

Figure 1. UNICEF's global digital learning principals

The European Commission (2023) proposes the Digital Education Action Plan 2021-2027 mentioned in the "Proposal for a Council Recommendation on the Key Enabling Factors for Successful Digital Education and Training". The Plan outlines two strategic focuses to attain digital readiness for education and training systems: nurturing a high-performing digital education ecosystem and boosting digital skills and competencies for digital transformation.

The Ministry of Education and Culture of Ukraine (2021) pinpointed digital transformation in education and science as a key objective for 2021 and afterward. Concrete steps, such as

approving the Concept of Digital Transformation of Education and Science of Ukraine, providing electronic learning resources, and participating in initiatives like the European Open Science Cloud (EOSC), are in the pipeline to develop and implement.

Adapting education to technological advancements, especially in the face of recent challenges like the COVID-19 pandemic and the Russian invasion of Ukraine, is crucial. This urgency emphasizes the need to integrate digital technologies into education promptly. For example, distance schools like the All-Ukrainian online school, which has performed well during quarantine periods, or SchoolToGo, which proposes online education according to Ukrainian state standards for refugee students of grades 1-11 with the possibility of obtaining state-standard education documents.

The global transition towards digitalization has irrevocably altered societal dynamics. Education is obliged to be current and, as a result, integrated within the digital world. As evidenced by initiatives like the UNICEF Regional Digital Learning and Transformation of Education Strategy and the European Commission's Digital Education Action Plan 2021-2027, the urgent need to equip educators and institutions with digital competencies is paramount. In a world facing challenges like the pandemic and geopolitical tensions, adapting education swiftly to technological advancements is not just a necessity but a means of resilience. With the proactive integration of digital tools into education, it stands poised to overcome difficulties, foster inclusivity, and empower learners in an increasingly digitized world. Consequently, educators increasingly focus on using digital technologies and tools across various levels to meet these evolving demands.

1.2. 'Digital' Terminology and Digital Competencies

Every new approach, whatever field of scientific thought is taken, requires clarification of its terminology which, in turn, requires time and fruitful discussion. For instance, the variety of 'technology' terms (digital technology, educational technology, information technology, information, and communication technology) highlights the practice of using technologies in the educational process by educators.

Neil Selwyn (2011) suggests, that most of the discussions are on what was once denoted as 'information and communications technology', 'computerized technology', and other variations of 'information technology'. Technically, these terms encompass computer-based systems, specifically software applications and computerized devices. Their functions include the generation, manipulation, storage, transmission, and distribution of data. To simplify, Selwyn insists on using the overarching term 'digital technology' which encompasses various facets of modern technology application within educational settings (devices, software, applications, World Wide Web content, services, and applications, etc.).

While terminology is still under discussion, in this respect, it is better to rely on official documents and their glossaries.

Thus, according to the UNICEF Regional Digital Learning and Transformation of Education Strategy, **digital learning** is a "teaching and learning process that entails the use of digital technologies, including in online or offline environments, using distance, hybrid or in-person modalities" (UNICEF, 2023, p. 4). The key word is *digital*, which means that digital learning utilizes digital technologies, tools, and resources for educational purposes. It encompasses online courses, e-books, websites, multimedia presentations, mobile apps, and so on that are created, distributed, and accessed digitally and can be used by teachers and learners.

In the European Framework for the Digital Competence of Educators, we find the definitions of digital technology and digital tools.

So, **digital technology** is considered "any product or service that can be used to create, view, distribute, modify, store, retrieve, transmit, and receive information electronically in a digital form". Christine Redecker, the author of the Framework, states that "digital technologies" serves as the umbrella term encompassing computer networks such as the internet, along with the array of online services they support (e.g., websites, social networks, online libraries), diverse software types (e.g., programs, apps, virtual environments, games), whether accessed online or locally installed. This also includes a broad spectrum of hardware or "devices" (e.g., personal computers, mobile devices, digital whiteboards), along with all forms of digital content, such as files, information, and data. According to this, digital technologies are categorized into digital devices, digital resources (=digital files + software + online services), and data (Redecker, 2017, p. 90).

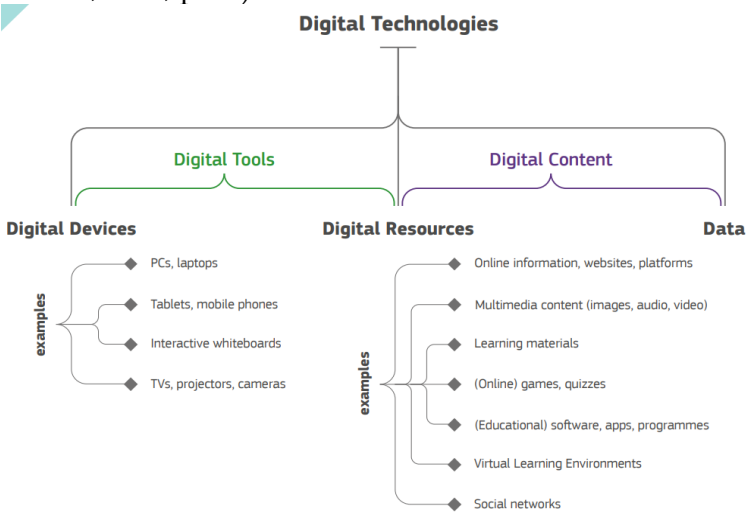

Figure 2. Key concepts used in DigCompEdu

Such categorization makes the process of understanding all the "digital" terms more sensible and logical. In our book, we take this scheme as a working version, where digital technologies include digital content (resources and data) and digital tools.

Digital content is considered all forms of content stored in digital data, enabling creation, distribution, modification, and storage through digital technologies. It includes web pages, social media, data, audio (like mp3s), e-books, images, videos, games, and software (Redecker, 2017, p. 90).

One more term that is necessary to clarify is **digital tools**. Redecker defines it as "digital technologies used for a given purpose or for carrying out a particular function of e.g. information processing, communication, content creation, safety or problem-solving" (Redecker, 2017, p. 90). For example, online storytelling dice is a digital tool for making stories by learners to enhance their speaking skills.

Digital tools centered around the user can revolutionize education, alleviating teachers' administrative tasks. Moreover, these tools aid educators in adjusting their methods and educational systems to disruptive technologies like generative artificial intelligence and other rapidly emerging innovations, which are swiftly integrated into learners' environments, carrying both potential opportunities and risks (European Commission, 2023, p. 2).

So, digital learning (as teaching and learning itself) requires using a variety of digital technologies (digital tools and digital content) for specific educational purposes. But, in any case, the role of a teacher (as a moderator, a facilitator, an educator) in this process is difficult to overestimate.

As mentioned in the Digital Education Action Plan 2021-2027, teachers play a pivotal role in the successful integration of digital technologies in education and training. Given their unique position in shaping future generations, teachers require specific support, from their establishment in particular and

authorities in general, to seamlessly incorporate digitalization into their teaching methods, ensuring it serves students and fosters inclusive and accessible learning environments (European Commission, 2023, p. 5).

The importance of educators' digital competencies underscores their crucial role in navigating the integration of technology within education, ensuring it optimally benefits students and fosters inclusive learning environments. So, this issue has to be highlighted.

The Joint Research Centre (JRC), the European Commission's science and knowledge service, has presented the European Framework for the Digital Competence of Educators by Christine Redecker (2017). The proposed framework breaks down a teacher's digital competence into six primary components, each encompassing 22 competencies. The six components are professional engagement, digital resources, teaching and learning, assessment, empowering learners, and facilitating learners' digital competence.

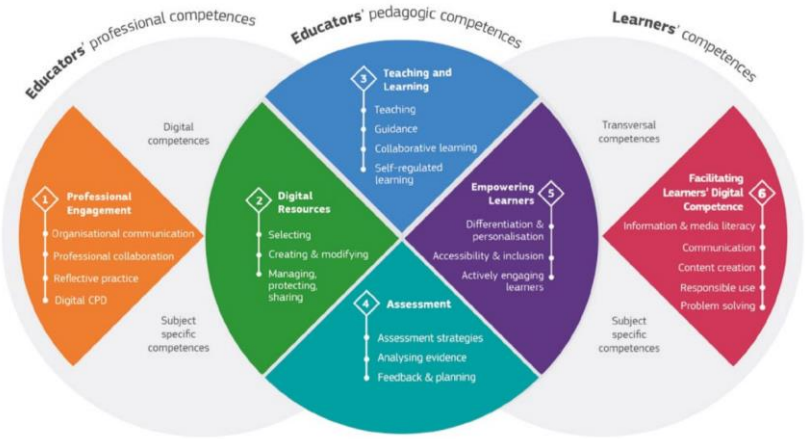

Figure 3. Synthesis of the DigCompEdu Framework

In this framework, 22 educator-specific digital competencies are explained and described within 6 areas, whereas developing each is important for implementing digital

learning in general. Thus, Area 1 (Professional Engagement) focuses on the expansive professional sphere: educators utilize digital technologies to interact with colleagues, learners, parents, and other stakeholders. It serves both individual professional growth and contributes to the collective advancement of the organization. Area 2 (Digital Resources) examines the essential skills required to responsibly use, craft, and distribute digital materials for educational purposes. Area 3 (Teaching and Learning) specifically concentrates on coordinating and overseeing the integration of digital tools in educational practices, both teaching and learning. Area 4 (Assessment) delves into leveraging digital methodologies to improve assessment techniques. Area 5 (Empowering Learners) centers on harnessing the capabilities of digital technologies to support learner-centered teaching and learning methods. Lastly, Area 6 (Facilitating Learners' Digital Competence) outlines the pedagogical skills necessary to cultivate students' digital proficiency (Redecker, 2017, p. 8-9).

The list of possible activities is given for every competence. For instance, competence 2.1. (Selecting digital resources) activities might be: "to formulate appropriate search strategies to identify digital resources for teaching and learning; to select suitable digital resources for teaching and learning, considering the specific learning context and learning objective; to assess the usefulness of digital resources in addressing the learning objective, the competence levels of the concrete learner group as well as the pedagogic approach chosen" (Redecker, 2017, p. 44).

The European Framework for the Digital Competence of Educators can be considered a real roadmap for teachers and researchers in order to understand digital competencies correctly and, as a result, enhance them.

For example, Kozlitin et al. (2020) have developed a model for training pre-service primary school teachers for project activities using digital technologies. The model involves

the development of electronic resources for conducting a formative experiment in two stages: 1) usage of e-courses (e.g., "Project activities in educational institutions", "Integrated thematic project learning") that form a general digital competence and prepare participants for the use of the project method; 2) pre-service educators choose a variety of courses to master further specific digital tools, such as "Using Scratch at Elementary School Lessons", "Lego-Mindstorms and Arduino Research Projects", "Virtual Elementary School Classes", and "Video Blogging for Educators". So, such systematic preparation of teachers' digital competence is beneficial for further implementation of digital learning in their work.

This monograph deals mostly with enhancing competencies from the second and third areas of the Framework as one of the key competencies for educators is "to effectively identify resources that best fit their learning objectives, learner group, and teaching style, to structure the wealth of materials, establish connections and to modify, add on to and develop themselves digital resources to support their teaching", and fundamental one is teaching that "refers to designing, planning and implementing the use of digital technologies in the different stages of the learning process" (Redecker, 2017, p. 20).

To sum up, developing educators' digital competencies becomes pivotal for leveraging technology effectively, thus ensuring it caters to students' needs and fosters learning environments. This monograph primarily focuses on augmenting competencies aligned with effectively identifying and utilizing digital resources for optimal teaching strategies.

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