

INSIGHTS CONCERNING HOW STUDENTS VIEW THE IMPACT OF TECHNOLOGY IN LIFELONG LEARNING**

***Abstract.** Technology has transformed education into a lifelong journey on which learners' knowledge and adaptability is vital. Embracing technology enables learners to navigate a world of information, fostering continuous exploration and growth. This qualitative case study analyses reflective essays to explore the experiences of 15 Kosovo university students with technology in the context of lifelong learning. In addition, seven students were interviewed to gather more in-depth insights. Thematic analysis of the data revealed several key findings, including the influence of technology on approaches to lifelong learning, the challenges faced while using technology for learning, the skills and knowledge acquired through technology, differences in technology use among peers, and the future evolution of technology. Overall, the study helps to better understand how technology shapes lifelong learning and the implications it holds for the professional development of university students.*

Keywords: technology, lifelong learning, reflection, university students.

INTRODUCTION

Continuous education during one's life is proving to be ever more essential, framing life paths as lifelong learning journeys in contemporary societies (Ule and Zidar 2011, 1414). Technology has a significant impact on lifetime learning because it changes the ways students learn throughout their lives (Candy 2004, 43–44; Jones and Issroff 2007, 248; Kahu and Nelson 2018, 59). The use of technology in lifelong learning, notably artificial intelligence and distance education, is emerging as a catalyst for change, breaking the confines of rote memorisation and routine tasks (Fidalgo et al. 2020). Technology encourages adaptable, varied, and lifelong learning opportunities, expanding education beyond traditional

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schooling. According to the American Institutes for Research (2015, 7), lifelong learning skills permit students to acquire essential knowledge and pursue various paths leading to college and career readiness and success. These skills provide the foundations for learning and working, broadly supporting student thinking, self-management, and social interaction, which in turn facilitates the pursuit of educational and career goals. According to Di Giacomo et al. (2018) and Adams (2007, 151), digital skills represent enhanced learning abilities where cognition and technology interact to model knowledge processes in ageing populations. While new generations, as digital natives, are tech-savvy and utilise improved learning capabilities, adults and older generations, despite not possessing native technological competence, are learning digital skills to improve their lives and age well in a digital world. The UNESCO's 2020 report states that the complexities of modern life call for adaptability, requiring populations to be resilient, open to change, and committed to lifelong learning. Factors such as increased mobility, population displacement, climate and technological change, threats to global health and democratic systems, and new economic patterns influence nearly every country in the world in various ways.

The present paper is an effort to explore how students view the educational use of technology and self-directed lifelong learning, pointing out the importance of students' insights for education practices and policymaking. While some research in this area can be found, namely, by Alt et al. (2021) there is a lack of understanding when it comes to students' views on the role of digital technology in facilitating self-directed, lifelong learning and how it influences their motivation, autonomy, learning outcomes and professional development. Specifically, the experiences of university students with digital technologies for education are related to their views and uses for supporting their self-directed lifelong learning in different learning settings. The paper thus seeks to fill this gap by directly engaging with students to obtain their views on the matter, identifying barriers confronted by students in accessing or being able to use digital technologies effectively, and showing opportunities for enhancing their learning through better technological support.

The study was guided by two research questions:

1. How do university students' experiences with digital technologies relate to their perceptions and use of these technologies to support their self-directed lifelong learning within formal, non-formal and informal learning environments?
2. Which implications are held by students' experiences with digital technology and self-directed lifelong learning for their professional development?

Lifelong learning and technology: enhancing self-directed learning

Nardin et al. (2010) relate lifelong learning to the use of technology. They define the concept of lifelong learning as life-wide learning whose success hinges on the potential held by distance education via computer-mediated communication. Educational resources and digital tools create an engaging classroom setting and make the teaching-learning process more compelling (Haleem et al. 2022). Morris and Rohs (2021) state that learners often lacked competence in using digital technologies for education and needed support in planning, reviewing and effectively harnessing them for self-directed learning. Lifelong learning empowers individuals who aim to develop themselves. Bolhuis (2003) claims that even though education embraces self-directed learning as one of the most important goals, its implementation involves tensions between school authority and its educational values and objectives. Self-directed learning is broadly defined as an individual's ability to manage, take responsibility for, and control their own learning process (Karataş 2017, 453; Karataş et al. 2021, 56).

According to the UNESCO Handbook (2020), lifelong learning encompasses all forms of learning, including formal, non-formal and informal modalities. The 1999 Lifelong Education Act assigns responsibility to all levels of government to promote lifelong learning, requiring the Ministry of Education to create comprehensive plans every 5 years to establish policy goals and provide lifelong learning opportunities to all citizens (UNESCO 2020). Monitoring lifelong learning opportunities not only helps countries to better address the needs of all individuals, especially those underserved by existing education systems, but also demonstrates a country's dedication to lifelong learning (Pryima et al. 2018, 4; UNESCO 2021). Approaches to monitoring and methodologies vary among nations. In Slovenia, for instance, a consultative body is tasked with monitoring and evaluating the country's annual plan for adult education, utilising data provided by seven ministries (UNESCO 2020).

The Education Strategy 2022–2026 of the Ministry of Education, Science, Technology and Innovation (MESTI) in Kosovo states that a strategic objective in support of lifelong learning is to harmonise education and vocational training with dynamic developments in technology and the labour market. According to MESTI (2022), actions to improve adult and lifelong education include accrediting institutions offering adult education, providing accelerated courses, developing training programmes for educators in this field, and enhancing the National Qualifications Authority's capacity to accredit adult education programmes. Although strategic documents exist, they lack specificity and clarity, and have not been effectively put into practice. At the same time, the lack of such policies and an articulated approach leave young people without access to quality-assured informal learning material and resources, causing unequal opportunities, a widening educational gap, and a lack of essential skills to evaluate and

exploit online learning devices. Structured support for self-directed learning not only fosters equity, but also helps learners develop the competencies they need for lifelong learning and critical thinking.

Impact of technology on lifelong learning: experiences and implications for professional development

Higher education institutions should incorporate lifelong learning skills into their educational goals to equip students for university learning and professional environments (Güven 2020, 11). As noted by Dorsett et al. (2010, 2), lifelong learning's importance has grown significantly, particularly its impact on individuals' employability. This means that even those who are currently employed must continuously improve or update their knowledge and skills to stay competitive in today's job market. Reflective practices are seen as valuable for adding to students' lifelong learning skills and their professional practice in higher education (Ryan 2011, 100). According to Alt et al. (2021, 2), "one active learning method designed to promote higher-order thinking skills is the reflective journals, also referred to as learning diaries/journals, or learning/response logs". Reflection plays a crucial role in the transformative integration of knowledge, skills and attitudes that defines learning in vocational settings (Alt et al. 2021; Baartman and de Bruijn 2011, 127). Facilitated opportunities for a structured reflection on their learning journey in a deep and insightful manner are missing. This outcome increases the need to understand how reflection can be used as a tool to enhance self-awareness, critical thinking and personal growth among university students.

An OECD report (2024) describes how in the realm of digital economies and societies a need is growing for specialist skills in information and communications technology (ICT), especially in low- and middle-income countries. Such demand is fuelled by the rapid expansion of global ICT industries, even in developing nations, with this trend being anticipated to continue. Further, there is considerable demand for core work skills, including empathy, creativity, collaboration, customer service, problem-solving, and the ability to learn, adapt and implement new methods and approaches. When combined with ICT skills, these core skills are highly valued and often lead to premium rewards in the job market.

According to Thwe and Kálmán's (2024, 410) systematic review of the literature, factors influencing lifelong learning include skills, competencies, tendencies, individual and organisational variables, external barriers, the professional learning environment, metacognition, and personality. Their review revealed research gaps, suggesting the further exploration of lifelong learning with variables such as new learning communities, advanced teaching techniques, learning styles, strategies, motivation, self-directed learning, personal learning environments, and educational technology.

In the contemporary era, education faces the challenge of preparing individuals for a society characterised by high mobility and driven by technology (Güven 2020, 4). The OECD's 2024 report stresses the need for immediate action to make sure people are equipped with the skills required to succeed in a rapidly changing world. Recent advancements in AI, including the widespread use of ChatGPT and similar generative AI technologies, show the speed of change. To assure that everyone can benefit from these trends, investments in agile and responsive skills systems are essential.

METHODOLOGY

Research design

This qualitative study employs a case study approach. Creswell (2017, 30) states that a case study allows for in-depth examination of a particular instance, situation or phenomenon within its real-life context. In this context, the study uses a case study design to delve deeply into the experiences of university students with technology in the context of lifelong learning with the aim to uncover rich and contextualised insights. The two qualitative approaches—reflective essays and semi-structured interviews—were selected because they complement each other: the reflective essays allowed participants to document the process of learning and personal growth they were experiencing, provided an individual level of insight, and answered the first research question, whereas the semi-structured interviews allowed a follow-up on those responses, providing flexibility to look at areas that seemed particularly important and ensure a more rounded understanding of the research questions.

Sample

Fifteen university students from the University of Prishtina (second-year Pedagogy students enrolled in the “Lifelong Learning” course) submitted reflective essays as part of their coursework. These reflective essays provide a rich source of data for understanding the students' experiences with technology. Moreover, out of the 15 students invited to participate, seven agreed to be interviewed. These students were selected for semi-structured interviews to gain deeper insights into their experiences (see Table 1). Each student is identified by a pseudonym to maintain anonymity. The table includes information on their gender, age, and years of experience with technology, providing a snapshot of the diverse backgrounds and technological proficiency levels among the participants.

Such a wide range of experiences with technology among the interviewees allows for a comprehensive exploration of how technology impacts their lifelong learning journeys.

Table 1: SAMPLE DEMOGRAPHICS

Name	Gender	Age	Experience with technology (in years)
Student 1	F	20	8
Student 2	F	20	6
Student 3	M	21	7
Student 4	F	20	10
Student 5	M	20	10
Student 6	F	21	6
Student 7	M	20	7

Source: Own data.

Instruments and procedures

The study utilises analysis of reflective essays and interviews to explore the experiences of university students with technology in the lifelong learning context. Clear instructions were provided to all students with respect to the reflective essays. The instructions outlined what was expected in terms of the content and format of their essays, ensuring consistency in the data collected. Students were assigned these tasks:

1. *Reflect on your experiences with integrating technology into traditional educational settings to support lifelong learning. Consider how technology has impacted your learning process and outcomes in these settings.*
2. *Describe how you have utilised technology in learning environments outside of traditional academic institutions. Reflect on the effectiveness of technology in facilitating your learning in these contexts.*
3. *Discuss your experiences with informal learning through technology. Reflect on how informal learning activities, supported by technology, have contributed to your personal and professional development.*

For the semi-structured interviews, students who had expressed a willingness to participate and engage in the discussion were selected. The interviews were conducted at a time and location convenient to the students, respecting their availability and assuring a comfortable environment for an open and honest conversation. Each interview lasted between 15 and 20 minutes.

Interview questions

1. How do you think technology has influenced your approach to lifelong learning?
2. Which challenges have you faced while using technology for learning, and how have you overcome them?
3. Can you discuss any specific skills or knowledge you have gained by using technology that you believe will benefit your future career?

4. Have you noticed any differences in how you and your peers employ technology for learning? If so, what do you think accounts for these differences?
5. How do you see technology evolving in the future, and what impact do you think this will have on lifelong learning?
6. Can you reflect on how your perceptions of technology and lifelong learning have changed over the course of your studies?

Data analysis

The analysis of reflective essays in the study employs a summative approach to qualitative content analysis. This method involves initially identifying and quantifying specific words or content in the text to gain insights into their contextual use. According to Potter and Levine-Donnerstein (1999, 271), this quantification is not intended to infer meaning but to explore usage patterns. Kon-dracki et al. (2002, 225) suggest that a summative approach goes beyond word counts to include latent content analysis. Latent content analysis, as described by Weber (1990, 9), involves examining underlying meanings and themes in a text.

For the interview data analysis, thematic analysis was undertaken to identify patterns and themes within the interview transcripts. The analysis process involved coding the data, categorising codes into themes, and interpreting the findings to acquire insights into the experiences of university students with technology in the context of lifelong learning.

RESULTS

Results From the Reflective Essays

Analysis of the reflective essays led to the identification of codes and descriptors for three items. These codes and descriptors capture the key themes and insights derived from students' reflections on integrating technology into traditional educational settings, utilising technology in non-academic environments, and engaging in informal learning through technology. In the analysis of the students' reflections, several key descriptors emerged regarding their experiences with technology in education. Mentioned by various students, these descriptors reveal the diverse ways in which technology is perceived to impact teaching, learning, and overall educational practices. For example, the descriptor "Set of predefined objectives" was mentioned by student S12. The descriptor "Incorporating technology into daily learning practices" was mentioned by student S11.

Integration of technology into traditional educational settings to support lifelong learning

The results shown in Table 3 (see the appendix) indicate that a structured curriculum and objectives were emphasised in the students' reflections. They stressed the importance of guided instruction and explanation, with references

made to predefined objectives, the integration of technology into daily learning practices, and the complementation of informal education. The use of technology was seen as advancing education and improving efficiency and effectiveness in teaching and learning processes. Students noted the increased productivity in classroom operations and the completion of predefined lessons and assessments within specified timeframes. They also mentioned the benefit of receiving instruction from instructors on the functionality of technology. In addition, students appreciated professors who incorporated more attractive activities into their teaching.

Utilisation of technology in learning environments outside of traditional academic institutions

The results given in Table 4 (see the appendix) show that students view technology as a valuable tool for their professional development. They highlighted the importance of flexible and accessible learning opportunities, such as online courses, workshops, seminars and Massive Open Online Courses (MOOCs). Students mentioned that these opportunities had helped them to develop new skills and improve existing ones linked to their profession. They also noted that technology had facilitated building professional relationships and connections, improving problem-solving skills, and obtaining certifications or qualifications. The students also appreciated the self-paced learning options, online platforms, blended learning approaches, and mobile learning opportunities for their professional development.

Informal learning through technology

The results point to the significance of informal learning through technology, emphasising self-directed and flexible learning approaches (see Table 4 in the appendix). Students appreciated the accessibility, flexibility and affordability of the informal learning opportunities facilitated by technology. They noted that individuals can learn at their own pace and convenience, leading to engaging and enjoyable learning experiences. Informal learning via technology was seen as a way to stay updated with new technologies and enhance one's professional skills and competencies.

Moreover, students mentioned that informal learning can occur anywhere, anytime, fostering a love for learning. They also noted that informal learning experiences complement formal education by providing additional knowledge and skills. Students reported having discovered new information and skills independently outside of a formal classroom setting. They mentioned having used online tutorials, such as those on YouTube, to acquire new skills applicable to professional settings.

Further, students stressed the role of technology in improving access to relevant resources and information, facilitating learning and skill development. They noted that informal learning through technology often occurs unintentionally,

by way of informal exploration or exposure to new ideas and concepts. Overall, students viewed informal learning through technology as a valuable and enriching experience that complements formal education.

Results from the interviews with students

The results of the interviews revealed several key themes: the influence of technology on lifelong learning approaches, challenges encountered while using technology for learning, skills and knowledge acquired through technology use, differences in technology use among peers, and the anticipated future evolution of technology in education (see Table 5 in the appendix).

Theme 1: Influence on students' approach to lifelong learning

Students described how technology has expanded their access to a wide range of resources and information, making it easier for them to explore new topics and deepen their understanding. *"Technology has opened up a world of information and resources that were previously inaccessible to me"* (Student 2). *"With technology, I have easily found and accessed a wide range of resources to deepen my understanding of various topics"* (Student 6).

Technology had enabled students to engage in self-directed learning, allowing them to pursue their interests at their own pace and convenience. Students outlined how technology enhances collaborative learning experiences by enabling them to connect and work with peers from diverse backgrounds. *"Technology empowers me to take control of my learning journey and pursue knowledge in areas that I'm passionate about"* (Student 3); *"Through technology, I have collaborated with classmates and peers from different parts of the world, which has enriched my learning experience"* (Student 1).

Students emphasised that technology provides access to various online resources and tools, permitting students to stay up to date in their field and adapt to new developments. This aspect of technology was crucial for helping them remain competitive and informed in an ever-evolving world. *"I can access online courses and tutorials that help me develop new skills and stay updated in my field"* (Student 2); *".... I have gained knowledge in the field of programming, I have learned and continue to learn words in foreign languages, and I receive advice on physical-health education and in other educational fields"* (Student 7). Students believe that technology adds to their career prospects by providing opportunities for continuous learning and growth. *"I believe that technology plays a key role in my professional development, helping me stay competitive in the job market"* (Student 4).

Theme 2: Challenges in using technology for learning

The challenges the students had faced while using technology for learning are multifaceted and impact their educational experiences. As shown in their statements, students encounter difficulties due to poor Internet connectivity

and compatibility issues between devices. *“A poor Internet connection has often hindered my ability to participate in online lectures and access course materials”* (Student 1). The abundance of information available online can be overwhelming for students, leading to challenges in identifying relevant and reliable sources: *“I often struggle to sift through the abundance of information to find what is most useful for my studies”* (Student 6).

Simultaneously, students express feeling overwhelmed by the rapid pace of technological advancements and sometimes lack the digital skills needed to navigate online learning environments or use specific software. *“There are times when I lack the necessary digital skills to effectively navigate online learning environments or use specific software”* (Student 4). Students express significant concerns about data privacy and security while using online platforms for learning, citing the risk of data breaches and cyberattacks. Student 4 stated: *“I’m concerned about the privacy of my personal data when using online platforms for learning”*. This statement reveals the students’ growing awareness and apprehension concerning the protection of their personal information in digital environments.

Theme 3: Skills and knowledge gained

Students stated that technology has enabled them to acquire specific technical skills that are directly applicable to their professional field. *“I’ve become proficient at using software like Photoshop, Canva and Excel, which are valuable skills in my field”* (Student 2); *“Knowledge on how to research and find reliable and accurate information in the shortest possible time”* (Student 5).

The results show that technology use has enhanced the students’ ability to critically evaluate information, indicating an improvement in their information literacy skills. *“I’ve learned to critically evaluate online sources to ensure the information I use is reliable and accurate”* (Student 4). On the other side, the results suggest that technology use has contributed to the students’ development of adaptability and problem-solving skills, yet has also heightened the students’ awareness of fake news and the importance of verifying information: *“I’ve learned to be more discerning about the news I consume online, verifying information before accepting it as true”* (Student 2).

Non-formal education, like online courses and webinars, provides students with valuable opportunities for lifelong learning. Such resources offer a wealth of knowledge and skills that extend beyond traditional classroom settings, enabling individuals to continue their education and personal development at their own pace and convenience. *“Through online courses and webinars, I’ve discovered a wealth of resources for lifelong learning, allowing me to continue my education beyond the classroom”* (Student 6).

The results show that technology has expanded the students’ access to resources for lifelong learning. They suggest that technology can facilitate continuous learning and personal growth outside formal education settings.

Theme 4: Differences in technology use among peers

The varying comfort levels with technology among peers underscore the wide spectrum of proficiency and confidence in utilising digital tools. This diversity can significantly influence how students engage with technology and their overall learning experiences. Students state the diversity in comfort levels with technology among peers. *“Some of my peers are very comfortable using technology, while others struggle with even basic tasks like sending emails”* (Student 1); *“Some of my colleagues encounter difficulties when it comes to composing their essays using Microsoft Word”* (Student 6). *“... they are not very interested in using technology, which they see as something complex”* (Student 7).

Students revealed they have different preferred learning styles, with some favouring visual and interactive methods. This suggests that technology can cater to diverse learning preferences and enhance student engagement and understanding. *“I prefer visual and interactive learning, so I find technology-enhanced resources more engaging and effective”* (Student 4); *“Some of my peers find it challenging to learn from online materials, preferring more traditional methods of instruction”* (Student 3).

Theme 5: Future evolution of technology

Students anticipate that the future evolution of technology in education will include the integration of artificial intelligence (AI) into education systems. They believe that AI will revolutionise teaching and learning processes by personalising learning experiences, providing immediate feedback, and adapting to individual student needs. *“I believe AI will revolutionise education by personalising learning for each student, making education more effective and engaging”* (Student 1). Students believe that as AI advances, *“professors will increasingly rely on tools like ChatGPT for tasks such as lecture preparation and other educational activities”* (Student 3).

DISCUSSION

The results from the reflective essays provide valuable insights into how university students' experiences with digital technologies relate to their perceptions and use of these technologies to support self-directed lifelong learning within formal, non-formal and informal learning environments. In a formal setting, the emphasis on a structured curriculum and objectives suggests that students value clear guidance and direction in their learning process, which directly influences self-directed learning by providing a framework for setting goals, selecting resources, and evaluating progress. A study by Faloye and Faniran (2023, 103) revealed that aligning technology integration practices with the expectations and objectives of policies and curricula led to enhanced support for teaching and learning in classrooms.

The focus on flexible and accessible learning opportunities through non-formal learning underscores students' recognition of the convenience and efficacy

of online courses, workshops and seminars. This reflects a larger trend towards lifelong learning whereby individuals strive for the ongoing development and enhancement of their professional skills. Paudel (2021, 71) reported in his study that the interviewed students expressed a readiness to enrol in online courses in the future, a sentiment echoed by Horváth et al. (2022, 10) who described their students' view of online platforms as efficient, along with an inability to envision their learning experience without them.

The importance of informal learning through technology underscores the value students place on self-directed and flexible learning approaches. This form of learning not only allows individuals to learn at their own pace but also fosters a love for learning by making it engaging and enjoyable. It additionally enables individuals to stay updated with new technologies and add to their professional skills and competencies. Ankiewicz (2020, 942) noted that technology plays a crucial role in addressing the diverse needs of students given their varied academic backgrounds and learning styles. Chisango and Marongwe (2021, 155) highlighted the confidence and empowerment students gain through self-directed learning, permitting them to make informed decisions about their studies. Likewise, Backfisch et al. (2021) discovered that students derive enjoyment from utilising technology, particularly for information retrieval and learning activities. They also found that this technology use fosters the development of digital skills essential for the workplace and active participation in the digital realm. Overall, these results suggest that encouraging students to reflect on their personal interests and career plans can enhance their engagement with digital technologies, making learning more enjoyable and meaningful. When students see how these technologies can support their individual goals, they are more likely to take ownership of their learning journey, leading to a more proactive and motivated approach to lifelong learning.

The findings from the interviews reveal understandings of student experiences with regard to digital technologies and self-directed lifelong learning that are linked to professional development. Students stated that technology has enabled them to acquire specific technical skills, enhance their ability to critically evaluate information, improve their information literacy skills, adaptability, and problem-solving skills while also making them more aware of fake news. Non-formal education through online courses and webinars provides valuable opportunities for lifelong learning, offering a wealth of resources that extend beyond traditional classroom settings and facilitate continuous personal and professional growth. This is vital since non-formal learning is generally self-guided, giving students the freedom to decide on their level of engagement and depending on their intrinsic motivation (Johnson and Majewska 2022). Advances in technology have a profound impact on students' ability to apply their learning to assess their standing in the global workforce (Zhang et al. 2022). Collaborative efforts, such as virtual universities and consortia, aim to share resources, improve educational services, and explore new markets while also preparing

individuals for the job market by offering relevant lifelong learning opportunities (Laal 2011, 472; Sherifi and Nikoçeviq-Kurti 2023, 544).

CONCLUSION

The results show that technology has a great impact on lifelong learning by enabling learners to access information, learn by themselves, and collaborate. While technology facilitates career skills development, it brings several challenges like technical problems, information overload, and inequity of access. Students must learn to use technology and secure their information. Technology supports the development of technical skills, problem-solving, and flexibility. Nevertheless, differences exist among the students in relation to comfort levels and access. Personalised learning in the future may also be enabled by AI and virtual reality. Although initially sceptical, the students now understand that technology is a core aspect of lifelong learning and stressed how collaboration can yield inclusive, innovative learning environments.

Accordingly, it is recommended that universities invest in technological infrastructure and embrace emerging technologies while providing professional development for teacher educators. Also emphasised is the importance of promoting collaboration and innovation, enhancing accessibility, supporting lifelong learning, and engaging with industry partners. In addition, universities should prioritise data privacy and security, encourage research and development, and continuously evaluate and adapt their approaches. A key limitation of this study is the challenge of achieving data saturation due to the small number of participants. Still, the focus was on capturing in-depth insights rather than broad generalisability. To add to the generalisability of the findings, future research should include a larger and more diverse sample of students from various academic disciplines and institutions. Conducting comparative studies across different universities and educational systems would also help to understand how contextual factors influence the integration of technology in lifelong learning.

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Appendix 1

Table 2: ITEM, CATEGORIES AND DESCRIPTORS DERIVED FROM THE REFLECTIVE ESSAYS

ITEM	CATEGORY	DESCRIPTORS
Integration of technology into traditional educational settings to support lifelong learning	A structured curriculum and objectives	"A set of predefined objectives" (S12) "Incorporating technology into daily learning practices" (S11) "Complementing informal education" (S2) "Advancing education through technology" (S3) "Improving efficiency" and "effectiveness in teaching and learning processes" (S2, S15) "Classroom operations; productivity has increased" (S9, S11)
	Guided instruction and explanation	"A predefined set of lessons and assessments to be completed within a few days or weeks" (S1) "Being told by an instructor what something does or how it works" (S5) "More attractive activities by professors" (S6, S8, S10)

Source: Own data.

Table 3: ITEM, CATEGORIES AND DESCRIPTORS DERIVED FROM THE REFLECTIVE ESSAYS

ITEM	CATEGORY	DESCRIPTORS
Utilisation of technology in learning environments outside of traditional academic institutions	Professional development	"Online courses", "workshops", "seminars", MOOC (S1, S3, S7, S10) "Developing new skills" (S2, S5, S11, S13, S15) "Improving existing skills related to profession" (S2, S6, S11, S14, S15) "Building professional relationships and connections" (S1, S2, S4, S7)
	Flexible and accessible learning opportunities	"Improving problem-solving skills" (S10, S12, S15) "Certifications" or "qualifications" (S2, S5, S7) "Self-paced Learning" (S5, S7, S9) "Online Platforms" (S1, S4, S14, S15) "Blended Learning" (S2, S7, S10, S12) "Mobile Learning" (S15)

Source: Own data.

Table 4: ITEM, CATEGORIES AND DESCRIPTORS DERIVED FROM THE REFLECTIVE ESSAYS

ITEM	CATEGORY	DESCRIPTORS
Informal learning through technology	Self-directed and flexible learning	<p>“Learning that is self-directed”, “accessible”, “flexible”, and “affordable” (S1, S3, S5, S9, S10)</p> <p>“Individuals learn at their own pace” and “convenience” (S2, S7, S9, S11, S13)</p> <p>“Learning through technology is engaging”, “enjoyable” (S1, S2, S5, S7, S10, S15)</p> <p>“Can occur anywhere, anytime”, “fostering a love for learning” (S5, S7, S9, S10, S13)</p>
	Informal and spontaneous learning opportunities	<p>“Staying updated with new technologies”, “enhancing professional skills and competencies” (S2, S7, S8)</p> <p>“Enhancing formal education with additional knowledge and skills gained through informal learning experiences” (S5)</p> <p>“Discovering new information and skills independently”, “outside of a formal classroom setting” (S14, S15)</p> <p>“Using online tutorials, like those on YouTube”, “to acquire new skills that are applicable in professional settings” (S2, S4, S7)</p> <p>“Using technology to access information and resources”, “enhancing informal learning experiences without replacing them” (S8, S10, S12, S13)</p> <p>Improving access to relevant resources and information through technology, facilitating learning and skill development (S14, S15)</p> <p>“Learning that occurs unintentionally”, “often through informal exploration or exposure to new ideas and concepts” (S11, S13)</p>

Source: Own data.

Table 5: THEMES AND CODES DERIVED FROM THE INTERVIEWS WITH STUDENTS

THEMES	CODES
“Influence on students’ approach to lifelong learning	Increased access to resources and information Facilitation of self-directed learning Enhancement of a collaborative learning experience Ongoing skill development and knowledge enhancement Enhancement of career prospects and professional development
Challenges in using technology for learning	Technical issues (connectivity, device compatibility) Information overload Digital literacy and skills gaps Data privacy and security costs The cost of acquiring and maintaining technology Access to technology
Skills and knowledge gained	Technical skills; proficiency in using specific software or tools Information literacy; evaluating online sources Adaptability and problem-solving skills Facts/fake news Knowledge on resources for LLL
Differences in technology use among peers	Varying comfort levels with technology Differences in preferred learning styles Variation in access to technology resources
Future evolution of technology	Integration of AI into education Shift towards personalised and adaptive learning technologies More interactive and immersive learning experiences, making learning more engaging and effective Greater accessibility to learning resources

Source: Own data.

VPOGLEDI V MNENJA ŠTUDENTOV GLEDE VPLIVA TEHNOLOGIJE NA VSEŽIVLJENJSKO UČENJE

Povzetek. Tehnologija je spremenila izobraževanje v vseživljenjsko pot, kjer sta znanje in prilagodljivost učencev ključnega pomena. Sprejemanje tehnologije omogoča učečim se, da se orientirajo v svetu informacij in spodbuja nenehno raziskovanje in rast. V pričujoči kvalitativni študiji primera analiziramo refleksivne eseje z namenom raziskati izkušnje 15 študentov s Kosova s tehnologijo v kontekstu vseživljenjskega učenja. Poleg tega smo intervjuvali sedem študentov, da bi pridobili še bolj poglobljen vpogled v njihova mnenja. Tematska analiza podatkov je razkrila več ključnih ugotovitev, vključno z vplivom tehnologije na pristope k vseživljenjskemu učenju, izzivi, s katerimi so se študenti soočali pri uporabi tehnologije za učenje, spretnostmi in znanjem, pridobljenimi s pomočjo tehnologije, medvrstniškimi razlikami v uporabi tehnologije in prihodnjim razvojem tehnologije. Študija na splošno pomaga bolje razumeti, kako tehnologija oblikuje vseživljenjsko učenje in kakšne posledice ima za strokovni razvoj univerzitetnih študentov.

Ključne besede: tehnologija, vseživljenjsko učenje, refleksija, univerzitetni študenti.