

Digital Technology: Threat or Opportunity for Slovak Libraries?

Digitálne technológie: hrozba alebo príležitosť pre slovenské knižnice?

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Abstract:

Our contribution addresses the impact of social paradigm on education. We outline the effect of digital technologies on the work of librarians in Slovak libraries, with insights on international cooperation, as well as the influence of new technologies on services provided by libraries in the field of education. The core of our contribution deals with the analysis and conceptualization of the theoretical framework, background and trends in non-formal learning. We list specific examples of practice in Slovak libraries. As a result, our work provides a partial overview of the current situation concerning non-formal learning in libraries in Slovakia with an emphasis on digital technologies.

Keywords:

Library; non-formal learning; social paradigms; digital technologies

Abstrakt:


V príspevku sa zameriame na dopady sociálnej paradigmy na edukáciu. Načrtujeme vplyv digitálnych technológií na prácu knihovníkov v slovenských knižniciach s presahom na medzinárodnú spoluprácu, ako aj na účinok nových technológií na poskytované služby knižníc v oblasti edukácie. Jadrom príspevku je analýza a konceptualizácia teoretického rámca, východísk a trendov v oblasti neformálneho vzdelávania. Uvedieme konkrétne príklady z praxe v slovenských knižniciach. Výsledkom práce je čiastkový prehľad o aktuálnej situácii v oblasti neformálneho vzdelávania v knižniciach na Slovensku s dôrazom na digitálne technológie.

Klíčové slová:

Knižnica; neformálne vzdelávanie; sociálne paradigmy; digitálne technológie

Background and definition of terms

The social paradigm encompasses a number dimensions within the society, including social construction, social intelligence, social work, social economy and health inequities. Social construction, as referred to by Longhofer and Winchester (2016), emphasizes the way in which reality is formed through social interactions and interpretations.

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Within the context of (adult) education/learning, the social paradigm affects how learning is perceived, structured and provided. The social paradigm contains norms and values that affect behaviours and interactions in the society; these norms often determine what is considered acceptable or unacceptable within a specific social context. It comprises social values attributed to education, the role of education in social mobility, as well as expectations concerning the results of adult learners' study efforts. In adult learning and lifelong learning, the social paradigm highlights the importance of continuous learning and improvement of skill sets in response to social changes and technological progress (Krystoň, 2011). It affects the accessibility of adult learning opportunities, recognition of prior learning experience and integration of adult learners in the educational environment.

Paradigms are deeply rooted in the cultural context and they are influenced by historical, political and economic conditions. Cultural values and traditions have a key role in shaping and sustaining the social paradigms. These are not static; they are subject to shifts as a result of new information, technological advancements and social movements. Paradigm shifts may lead to major social and cultural transformations.

Non-formal learning in the form of adult education in libraries

In addition to formal and informal learning, the Memorandum on Lifelong Learning (2000) also defines 'non-formal learning' which takes place outside of the traditional educational institutions and vocational training and usually does not involve any official certification. This type of education may be provided, among other, by institutions that have been established to complement the formal education system. This is where libraries in their role of educational institutions come in (Čornaničová, 2011). Within the scope of non-formal learning, personal interest-based adult learning can be identified as part of lifelong learning, comprising activities pursued repeatedly or just once by adults in their leisure time and involving knowledge acquisition, travel, well-being and other aspects (Veteška, 2016). These activities are focused around the meaningful use of leisure time and facilitate acquisition of knowledge and competences outside of the school system (in libraries, for example). Educational activities can take place individually or in groups. It is here that we see a window of opportunity for community learning in libraries in Slovakia. As mentioned further by Veteška (2016), the main functions of personal interest-based adult learning include self-improvement, education, well-being, compensation, popularisation, social integration, and adaptation. Personal interest-based adult learning creates a unique space for personal growth, mainly by meaningfully harnessing individual interests, and helps to shape one's personality and set of values.

The role of libraries as knowledge centres

Libraries have become important knowledge centres that support both formal and non-formal learning (Koncpe, 2020). By means of digital technologies, libraries can offer a broad range of educational programmes and resources adapted to the needs of various groups of users. This role of libraries as knowledge centres is key in the effort to further develop the knowledge-based society. As stated by Zábajník (2022, p. 27):

The status of libraries within the society creates the potential for their involvement in public health promotion. Authors studying these issues consistently identify libraries as suitable institutions since they are: 1) easily accessible to people, especially public

libraries (e.g., COVID-19, n.d.); 2) equipped with technologies and internet access (e.g., Bertot et al., 2006, adapted from Xie – Bugg, 2009); 3) generally perceived as trustworthy and helpful institutions (e.g., Whitney – Keselman – Humphreys, 2017).

Digital skills training in libraries can serve as a positive example, broadened to include education via videogames, even if they are still viewed with certain scepticism by the public... However, verified benefits of videogames have been highlighted, including their potential to educate, for example by presenting various historical events, as well as to enhance players' motor skills and social competences. The impact of videogames on motivation for reading is equally important, especially if a videogame is based on a book, or, reversely, has inspired a book to be written (Struháriková, 2023).

The impact of social paradigm on adult learning

This is a complex issue involving various aspects of teaching and learning. For the purpose of our outputs, we shall use the term *learning*, understood by Krystoň (2011) in a broader sense as education. “The concept of lifelong learning opens the space for a legitimate application of a variety of methods for acquiring knowledge, skills, habits and attitudes.” (Krystoň, 2011, p. 15) Adult participation in lifelong learning is essential in modern knowledge-based societies, reflecting an important characteristic of these societies (Kalenda, 2021a). The importance of evaluating the quality of instruction in adult learning programmes has been emphasized by research (Lukáč, 2023). In Slovakia, empirical findings on the quality of learning in secondary education are known to be lacking, pointing to the need for a better training of educators in adult education (Lukáč, 2023). According to Vančíková (2011), the boom in information and information technologies affects not only the quality and quantity of education in terms of growing numbers of skilled graduates, but also the duration of their training. Vančíková (2011, p. 57) lists the following reasons:

1. Pressure on information technology competencies introduces a certain inequality and discrimination in the job market.
2. Growing social disparities within the information society are linked to substantial differences in the cost of labour.
3. An increased need for lifelong learning also stems from the ever-growing amount of new findings in all fields of scientific research and human activity.

E-learning plays a key role in adult learning, especially in the context of lifelong learning, adult learning and increased use of information and communication technologies (Feszterová, 2018). The COVID-19 global pandemic presented and continues to present challenges to adult learning across the world, affecting, in particular, adults with lower education levels and those in lower-paying jobs, thus reducing the likelihood of their participation in adult learning (Polonyová, 2021). The decisions of individuals concerning their involvement in lifelong learning activities are greatly affected by their social environment (Kalenda, 2021b).

Selected positive impacts of the social paradigm on the implementation of innovative approaches in the field of non-formal learning in libraries

Digital technologies have produced a significant change in the functioning and roles of libraries in a modern society. Traditional libraries, previously centred mainly around physical media (catalogue units – books, periodicals, and, possibly, recorded media in

their music sections – LPs, CDs, videotapes, etc.), are being transformed into dynamic digital information and service centres. This transformation brings about numerous positive aspects, helping to improve access to education, increase efficiency and broaden the possibilities for the users (Konceptce rozvoje knihoven v České republice na léta 2021–2027, 2020, p. 8) (Libraries Development Concept in the Czech Republic for 2021–2027). The aim of introducing a variety of innovative elements as part of the digital transformation of educational events in libraries is to increase the effectiveness and attractiveness of existing activities which are a key component of librarians' work. Innovation in libraries takes different forms, such as the use of interactive applications, changes in the way content is presented at traditional professional seminars, travel costs reduction by holding shorter events online, greater outreach to users via streaming or uploading educational content online, overhead costs reduction and mitigation of space limits in smaller libraries, emphasis on attractive guests and speakers, internal training of employees for a seamless use of information and communication technologies, etc. (Kianicová, 2023).

Access to digital resources

Progress in information and communication technologies produces various, often conflicting, tendencies in the transformation of libraries. On the one hand, these technologies make it possible for libraries to greatly improve access to their collections and to provide their information services with increased efficiency. Digitized content and online access to databases make searching for and access to information easier for the readers in the comfort of their homes or from any place with internet connection. On the other hand, this progress simultaneously limits the reasons for people to physically visit a library. Whereas in the past the library was the only place for readers' contact with books and specialized literature, many of their needs can now be met through online resources, thus potentially reducing the number of visitors to libraries.

Among their principal goals, libraries aim to create and facilitate access to digital content comprising their own, as well as licensed databases. Consequently, they become not just places for reading books, but also gateways to numerous valuable electronic resources. Digital technologies allow libraries to provide access to a broad range of digital resources, such as e-books, audiobooks, scientific papers and databases (Metodické usmernenie MK SR, Art. 10, 2020) (Methodological Guidance of the Slovak Ministry of Culture). Libraries also provide new services based on the concept of hybrid library with a mix of traditional library services and modern technologies. Interactive and personalized services linked to social networks increase libraries' ability to address a broader community and offer content tailored to individual needs and preferences. This increased outreach makes information more accessible to a broader public, which in turn supports lifelong learning and facilitates peoples' access to current knowledge, regardless of their geographical location. For libraries, this is a global trend, laid down also in the IFLA Public Library Service Guideline which stipulates that a major function of the public library is to bridge the gap between 'the information rich' and 'the information poor'. This role includes providing access to the necessary electronic, computer and audiovisual equipment. Wireless access (Wi-Fi) should be provided throughout the library premises (UNESCO/IFLA, 2010). The IFLA Guideline must, naturally, be viewed in the light of considerable technological progress in Slovakia since 2010, allowing the assumption that a Wi-Fi network is available in all public libraries. Just as in other scientific, industrial and

economic sectors, libraries, too, hold online conferences or videoconferences and work with modern ICTs or library information systems.

Support for non-formal learning

According to Babjaková (2023), libraries are places where people can pause, immerse themselves in silence and understand complex information in a broader context. Indeed, this aspect has become even more important in the digital age with its information explosion resulting from a massive increase in available information. Besides their information potential, libraries can educate on almost every topic and area. The content, forms and methods of such education must be adapted to the target group. According to Zábajník (2022, p. 27) “the status of libraries within the society creates the potential for their involvement in public health promotion.” Furthermore, libraries organize community activities, such as readers’ clubs, discussion groups and cultural events, that support social interaction and community cohesion. Libraries work as digital skills training centres, offering programmes and services to promote digital literacy and skills. These programmes are often designed to offer access to all, regardless of their level of education or technical skills. Libraries run workshops and training aimed at digital skills improvement (basic computer skills, cyber safety and software application use). These programmes are particularly invaluable for the elderly, who tend to be less digitally skilled than younger generations. Libraries thus help reduce the digital divide and ensure that all community members have an equal opportunity to benefit from the digital age. Ultimately, libraries are not just places to borrow books from but dynamic centres of non-formal learning and community life. By employing digital technologies, libraries can broaden their services and contribute to lifelong learning, digital inclusion and social cohesion (Metodické usmernenie MK SR, Art. 14).

Inclusiveness and accessibility

Public libraries also play a key role in supporting social inclusion and community life. They provide a safe and accessible space for all members of the community, including those who may be marginalized or disadvantaged. By providing free access to internet and digital technologies, libraries facilitate their participation in the digital economy and society. Inclusiveness in libraries is enhanced by implementing digital technologies. Voice readers, screen magnifiers and other assistive tools facilitate access to information and learning materials for people with disabilities. In this way, digital technologies help provide equal opportunities for all users (Konceptce rozvoje knihoven v České republice na léta 2021 – 2027, 2020, p. 20). The implementation of the call for proposals by the Slovak Ministry of Culture as the intermediate body for the Integrated Regional Operational Programme “Supporting sustainability and resilience of cultural institutions in response to COVID-19 pandemic” under priority axis 7: REACT-EU can serve as an example of good practice. The aim of the call for proposals was to create a favourable environment with a view to maintaining and increasing the adaptability of the cultural and creative industries following the COVID-19 pandemic. Funds were allocated on procurement and upgrade of the material, technical and technological equipment in cultural institutions, as well as refurbishment aimed at increasing their technological and functional standards (the scope of the call included removal of barriers from library premises). In another example of the use of digital technologies in libraries to increase inclusiveness and accessibility, Verejná knižnica Mikuláša Kováča (Mikuláš Kováč Public

Library) used its projects supported by the SPP Foundation or the Orange Foundation to purchase voice readers, transistors and digital magnifiers for its visually impaired and blind readers. This improves the inclusiveness and accessibility of libraries for people with disabilities.

Innovation and creativity

Digital technologies are used by libraries to foster innovation and creativity. By providing access to technologies such as 3D printers, virtual reality and creative software, libraries make it possible for their users to build their own projects and develop new skills. These technologies open up new possibilities for learning and creativity, helping to boost the innovation potential of the community. The ongoing CVTI Smart Library project can serve as an example, bringing together libraries that will offer courses on Micro:bits and Ozobots under the umbrella of non-formal learning. In response to the need for digital skills training, Hornozemplínska knižnica vo Vranove nad Topľou (Upper Zemplín Library in Vranov nad Topľou) offers its Fablabik club where anyone can learn to use the 3D pen, 3D scanner or laser engraver. (Struháriková, 2023)

Digitization as a way to preserve the cultural heritage

Digitization of library materials is a key feature of modern libraries. Following their digitization, historical and cultural documents can be readily stored and accessed in digital format, which ensures their long-term preservation and accessibility for future generations. This process supports cultural heritage protection and facilitates access to important historical materials to a broader audience. Many libraries across the world have successfully implemented digital technologies and shown the ensuing benefits. The National Library of the Czech Republic, for example, partnered with Google to carry out a major project of digitizing its historical documents, which are now widely accessible and preserved for future generations.

Digital technologies improve cooperation between libraries and other institutions and organisations. Using digital platforms, libraries can share information, resources and best practice with partners across the world. This cooperation fosters innovative projects and initiatives which benefit the communities (Struháriková, 2023). To give a positive example of the digital technology paradigm applied by libraries in digitizing and preserving cultural heritage we can point to the digitization effort of Slovenská národná knižnica v Martine (Slovak National Library in Martin, SNK) and its modern digitization centre where the content of the SNK library materials is digitized every day by 20 employees. So far, 1 million catalogue units have been digitized.

Digital technologies (AI, VR, AR...) as a way to support non-formal learning

Digital technologies are constantly evolving and libraries must be prepared to accommodate these changes. Investment in new technologies, library staff training and permanent adaptation to new trends are indispensable for maintaining the relevance of libraries in the digital age. The future of libraries rests on their ability to innovate and respond to the changing needs of their users (Konceptce, 2020). Artificial intelligence (AI) has shown great potential in this context. AI can help personalize the learning experience

by tailoring the content to each reader's individual needs and capabilities. These technologies can also analyse large data sets and identify trends and patterns that may be useful for developing effective educational programmes. Virtual reality (VR) and augmented reality (AR) are equally relevant as important innovations. They provide new opportunities for education and for presenting information: using VR, libraries can offer interactive visits to historical sites or facilitate the study of complex scientific concepts in a 3D environment. Such experiences greatly enrich the learning process and make it more engaging and effective. Examples of their use in practice can mostly be found abroad, in libraries in the US, Japan, Hong Kong, Singapore or Denmark.

Innovation in operational processes

By implementing digital technologies, such as Google Workspace, libraries can improve their operational processes. These tools enhance efficiency and transparency in the management of public resources and improve the quality of services provided to readers. When routine tasks, such as emailing and email processing or lending data analysis, are automated, librarians can spend the saved time in personal contact with the readers, responding to their specific needs. In 2002, Verejná knižnica Mikuláša Kováča was the first library in Slovakia to introduce and implement the Google Workspace system and it has been using it successfully on daily basis. To embrace AI in their work, librarians had to change their way of thinking, topple their prejudices and find courage to replace ingrained work routines. For example, instead of being mailed between staff members, information is now shared.

Ethical aspects and critical thinking

Digital technologies in libraries also give rise to important ethical questions. Libraries have an important role in educating the public in the area of critical thinking and working with information. At a time when seemingly clear information can in fact be disinformation, the role of libraries in providing verified and reliable information is crucial. By promoting critical thinking and meticulous verification of sources, libraries help reduce the spread of disinformation. Disinformation, proliferating massively on social networks or some websites in particular, often has a great impact on society (Valko, 2021). Čuchor (2023) highlights the imperative need for verifying large amounts of information (not just on the web), together with simple ways for readers to distinguish between appropriate and inappropriate information contained in any text. He also emphasizes the need for libraries as a source of relevant information for the society not just in the 21st century. Workers of the I-Services Department at SNK (Čepčányová, Kytková, 2023, p. 7) emphasize: "Combining librarianship with non-formal education of the public opens up many possibilities for promoting critical thinking while also increasing readers' interest in reading and listening with comprehension."

Conclusion

The answer to the question of digital technologies being either a threat or an opportunity for Slovak libraries is clear. Digital technologies (as a component of the Fourth Industrial Revolution with the advent of AI) pose a challenge to libraries. If libraries fail to understand them, they will become a threat, but if they see them as helpful, they will produce numerous positive changes even beyond the area of social effects on education.

The task for the libraries is to actively respond to the changing needs of our times. They should find and preserve their place in today's dynamic world through their support of both formal and non-formal lifelong learning. Furthermore, they should focus on increasing their clients' reading and information literacy as a key competence in our age of information overload, when it is often difficult to distinguish relevant and quality information from unreliable information. Society-wide, we cannot afford to lose continuity in thinking and information verifiability – sources and ethics are essential.

Modern innovations and different projects have one common goal: to increase the number of satisfied registered readers. Libraries should focus on meeting the needs of their users while constantly striving to adapt to new trends and challenges. Their goal is to motivate as many people as possible to become members and actively use library services, and they can do so by offering relevant and attractive opportunities for personal development and meaningful spending of leisure time.

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