Next Scientists
European International Journal of Pedagogics

TYPE Original Research
PAGE NO. 67-71
DOI 10.55640/eijp-05-03-18



# Developing Digital Culture and Competencies in Future Educators Within Uzbekistan's Transforming Educational System

G.P. Narkabilova

Ferghana State University, Ferghana, Republic of Uzbekistan

OPEN ACCESS

SUBMITED 20 January 2025
ACCEPTED 16 February 2025
PUBLISHED 17 March 2025
VOLUME Vol.05 Issue03 2025



**Abstract:** This article reviews the development of digital culture and competencies among future educators within a rapidly changing educational landscape in Uzbekistan. This work is carried out in line with global digitalization and, accordingly, increased inclusion of information and communication technologies into the process of education, investigating how digital literacy, cybersecurity, and ICT competencies have grown to be an organic part of teacher preparation. This paper is based on the responses of students in university teacher education programs, exploring existing digital competencies among future teachers, problems related to digitally enhanced tools integration, and implications of projects such as the "One Million Programmers" program of Uzbekistan. Recommendations are made to improve the existing structure on digital literacy in teacher education so that future teachers may experience skills that will help them practice their profession in society in light of required technological advancements. Emphasis is laid on developing inclusive, safe, and flexible digital learning spaces in a manner that contributes to the professional development of teachers, taking into consideration socio-economic determinants of digitization.

**Keywords:** Digital culture, digital competencies, teacher education, ICT integration, digital literacy, cybersecurity, educational technology, Uzbekistan, "One Million Programmers" program, inclusive education, digital transformation, future educators, digital skills, primary education methodology, socio-economic factors, online learning, digital access, professional development, educational policy, information society.

**Introduction:** Digital technology in the present world

acts as the driving force in every segment of our life, work, and learn. The widespread use of information and communication technologies has been one of the great developments within societies, changing environments of everyday living and reconfiguring the life of diverse cultures. The way this change occurs depends to a large extent upon the reception accorded to new technologies by society, their intended use, and the rules and regulations that surround them.

At the 2022 World Government Summit, leaders were emphasizing digitalization, decarbonization, and reforms as three major forces that will be accelerating progress throughout the next decade [8]. Other mega-trends that may be expected until 2030-2050 include big data, cloud computing, the Internet of Things, and genomic technologies. At the same time, this spread of digital means and artificial intelligence challenges people in traditional fields where jobs are lost [7]. The change, however, puts a spotlight on the educational sector, wherein technology is still not in a position to remove humans. Rather, the attention is shifting toward new educational programs training for the needs of a digital world.

The pandemic underlined just how crucially important digital tools are in education. The teachers who feel confident about their skill in ICT can make full use of online resources, collaboration of students, analysis of information, and guidance to individual and group learning [6]. Mastery over these means for a teacher can help him/her in developing flexible and interactive learning opportunities that lay the ground for innovation and adaptiveness. In today's world, digital proficiency has grown from a specialized skill into an integral constituent of digital culture.

President Shavkat Mirziyoyev of Uzbekistan outlined ambitious targets for the country and positioned it as a potential future IT hub [9]. The President added that young people need to be provided with opportunities for career development in the field of IT, be supported in startup projects, and have more IT services exported by training personnel who can compete at the global level. In this direction, the government launched the "One Million Programmers" [10] program aimed at mass provision of youth with computers, assistance of those in need, and showing off the talent pool of Uzbekistan. IT parks, specialized training centers, and schools have been organized; young people are encouraged to show off their own talents through projects that would contribute to social, intellectual, and creative development.

Further developing digital culture, the free online courses on the portal "Uzbekcoders.uz" will allow youth to spend their summer time with social use and simultaneous development of skills [4]. These courses are included in the plans of further development for easier access to IT training in regions.

## METHODS

Currently, it is no longer necessary for educators to learn only basic software skills, such as a word processor or Microsoft Office; instead, they have to integrate new digital tools with confidence in their teaching to enable them to extend their approaches and differentiate lessons to the learning needs of each student.

Dynamic development of information and communication technologies in the sphere of education made digital literacy the core of student competencies, which concerns learning, monitoring, and assessment of educational quality with the help of digital tools, systematic organization of materials, and principles of teaching, balancing goals, results, and content with an efficient method and tools.

Research shows that most students are positive towards the concept of digital learning; they know it is part of their future. A recent review of courses in "Information Technology in Education" showed that the majority of such courses focused on basic digital skills, media literacy, and the critical evaluation and use of information. Students have identified the following as important: being able to analyze information from a number of sources; communicate well through email and video conferencing; solve problems in a creative manner with the help of subject-specific apps.

While students of education generally use computers and the internet daily, there is variation in intensity and frequency of use and in the types of digital tools they rely upon. These differences suggest variations in both the level of digital access and competency.

The role of digital culture increases with regard to the needs of society and governments. It is also hugely important in complex processes of preparation for the profession of a future educator. In this respect, attention to the development of digital competencies-a task of an educational institution-will provide a student with knowledge, skills, and abilities necessary for successful activity in the context of a digital society.

## RESULTS AND DISCUSSION

Different government policies and regulations also reveal that digital culture is on the increase due to the demands of society. In this respect, however, a survey conducted on first-, second-, and third-year students in teaching programs across universities gave us an insight into how these students use and perceive the use of digital tools in pursuing their studies.

First, we wanted to ascertain the frequency of use of computer and internet facilities for academic purposes.

Of those, about 83.5% claimed that they use these tools each and every day, while the remaining 16.5% said that they use it less than a few times a week. Students showed the following digital uses: books and textbooks, 24%; cloud storage services like Google Drive or Dropbox, 26.7%; digital whiteboards, 24%; video conferencing like Zoom and Skype at 3.5%. Curiously enough, 6.4% of students reported not using any digital tools, while others-7% in particular-used email, online courses, and other online platforms to help them study.

With a view to understanding how students believe digital technologies could play a role in their prospective professions, we asked the question, "How important is digital culture for your future profession?" While above half stated it's essential, about 10% expressed uncertainty.

Today's educators need skills beyond just the use of simple tools like word processors or Microsoft Office. Today, educators are increasingly expected to use digital tools in teaching with the aim of diversifying learning methods, enhancing presentation styles, and designing lesson formats that are more engaging and which meet the needs of individual learners.

Our survey suggests that most students generally have a positive attitude toward digitalization in education, it being a development viewed as inevitable. However, despite access to computers and the internet on a daily basis, many students do not use those tools nearly as often or deeply as they might.

Students also understand that in their future professional careers, being able to analyze and critically evaluate information from multiple sources, communicated effectively via email, messaging applications, social media, and video calls, represents all aspects of being digitally competent [2].

They further outlined that some other important skills acquired in this context were working with digital documentation and use of professional programs and applications, such as Photoshop or SPSS. These tools encouraged creative thinking and innovation in creating multimedia content, elaboration of digital projects, and even studying programming.

Some students also pointed out the benefits of creating online communities to share ideas and experiences and using digital tools to manage and schedule their studies. These competencies were actually considered crucial in joining work life and career building. Information literacy, or the ability to critically evaluate information, stay safe online, and uphold digital ethics, was also considered an important skill.

The findings did, however, indicate that a number of students in this population are uncertain about their digital skills: about 40% rated their digital literacy as high, but many were not sure. This certainly lends credence to the need for more intensive educational programs in order to better prepare students for the digital skills and cultural competencies of today's workforce.

**Social Media for Professional Growth**

Social media became a powerful tool in teachers' professional growth-a means to join professional communities, to share and get some experience, and be in the epicenter of educational news. Forums and chat groups open the opportunity for teachers and students to take part in substantial discussions, ask questions from experts, and share ideas. A social media portfolio online allows the teachers to showcase their work and reflect on personal growth. The use of social media in education enhances cross-cultural relations where the sharing of information and a global perspective are fostered.

However, educational use of social media presumes attention to privacy, participant safety, and clear guidelines. Teachers are guides that can also offer support for students on such platforms so that the experience becomes productive and attuned with educational goals.

In an attempt to assess the usage of social media in students, we conducted a survey on the measurement of its role in the life of respondents and its frequency. The findings reflected that a great number of students acknowledged the use of social media and used it daily, while others were neutral. For the purpose of research, students compiled their lists for the following social networks: Instagram, Facebook, VKontakte, LinkedIn, Twitter, TikTok, and Odnoklassniki. Among them, the most notable ones are Instagram and Facebook. Then, it also becomes clear that 36% of students do not use social media for educational purposes because of either the lack of necessary skills or lack of awareness regarding its huge potential in learning.

**Challenges of Digital Learning During COVID-19**

With this shift, most digital challenges came to the fore: poor internet connections, low computer performance, and students unaccustomed to certain digital tools and platforms also reported difficulties in submitting assignments.

Now, in our contemporary world, almost every type of communication—television, music, film, and now merging into the internet, web, and gaming as one single entity—has been influenced by digital technology. As scholar Charlie Gere holds, if the

presence of digital technology in everyday life is ubiquitous, then there exists something like "digital culture," which includes both technical tools and systems of communication that distinguish our time from previous epochs[3].

With the fast development of digital technologies, youth connect their identity with digitality, and the life without it is impossible to imagine. This indicates the need to link digital technology with teacher training programs so that future teachers can regard technology as a key learning resource. According to T. Bates, this addition of technology in education does not automatically make education better; instead, what is necessary is that the digital tool should satisfy the needs of students[1]. M.Prensky also indicates that in relation to this, teachers need to evolve because students indeed thrive in modern pedagogies corresponding to their rapidly changing digitally governed environment [5]. Entertainment and everyday needs have vastly influenced today's digital culture, which needs an evolution of pedagogy that nurtures creativity and fosters responsible usage of digital platforms.

**Educational Resilience and Digital Preparedness**

The COVID-19 pandemic showed how vulnerable traditional education is to sudden change, according to a United Nations concept note entitled "Education During the COVID-19 Pandemic". By mid-April 2020, about 1.58 billion students in more than 200 countries had faced disruption to their education, indicating the urgency within which schools needed to adapt to new challenges.

Most of the institutions faced the switchover to online learning quite difficult due to a number of obstacles like inadequate digital infrastructure, a lack of technological resources, and limited digital literacy among teachers and students alike. The adaptation to new methods of communication, management of virtual classrooms, and coping with the lack of experience in teaching remotely led to lapses in communication and difficulties in sustaining student engagement.

The preparedness for online learning was, therefore, different across regions and institutions, depending on resources and technical support. Most teachers lacked training in digital technologies, and subjects requiring hands-on practice-which is crucial for learning-were difficult to conduct online; hence, the limited opportunity for students to apply knowledge in practice.

Moreover, online learning meant that assessing the progress and understanding of students was not as easy. This was because of the diminished ability to personally monitor the students and provide feedback on how well they grasp the concepts.

**Importance of Digital Culture and Cybersecurity**

Digital culture is not just the active use of technology but intelligent and responsible contact with online information. The digital world opens new opportunities, yet simultaneously it provides risks in the forms of cybercrime, hacking, and identity theft.

Cybersecurity could be thought of as the cornerstone of digital culture, protecting personal information, privacy, and financial data. While over half of the respondents were sure that their knowledge in cybersecurity matters was good, actually, many of them seldom updated their online passwords, thereby increasing security risks.

**CONCLUSIONS**

Digital culture among future teachers in modern conditions of globalization and rapid digital development is urgent. The COVID-19 pandemic underlined the effective use of ICT for further development and increase in education accessibility. Initiated projects, such as the "One Million Programmers" project by the government of Uzbekistan, create favorable conditions for the development of IT skills among young people to make them the basis for raising the quality of life and competitive labor resources on the international labor market.

Results of this study, however, indicated that even while students are very interested and engaged with digitalization, the level of digital competence still varies a lot. A large number of students have challenges in using digital resources and tools effectively, which shows evidence that targeted work in education is still needed.

In view of the facts mentioned above, digital literacy programs are recommended to be strengthened at all levels of teacher education. Digital literacy programs should include both theoretical instructions and practical work with modern technologies. Furthermore, elaboration of the training skills for knowledge application in the real educational settings of future teachers is highly necessary for their adaptation to the fast changes that happen in the technological area.

Besides that, it is relevant to highlight socio-economic factors that will contribute to the integration of digital culture in the educational process by guaranteeing equal opportunities of access to digital resources among all students. In this way, the creation of a digital gap will be avoided and will contribute to greater inclusion in the educational environment.

Improvement regarding digital security is one crucial development in digital culture. The courses of

cybersecurity are required to be part of the curriculum to let students know the way to work with digital technologies effectively and securely protect them online.

Digital culture is, in such a way, not just an instrument of reaching some educational goals but also a critical necessity of the full integration of future educators into the information society of today. It goes without saying that it is very important to develop and support such culture as part of the educational policy of Uzbekistan.

**REFERENCES**

Bates, T. Teaching in a Digital Age; Tony Bates Associates Ltd.: Vancouver, BC, Canada, 2015.

Dochkin S.A. ICT-Competence of Teachers as the Basis for the Modernization of Additional Professional Education // Siberian Pedagogical Journal. 2009. No.13. URL: https://cyberleninka.ru/article/n/ikt-kompetentsii-pedagogov-kak-osnova-modernizatsii-dopolnitelnogo-professionalnogo-obrazovaniya (accessed: 17.01.2023).

Gere Charlie, Digital Culture (London: Reaktion Books, 2002) (Miller, Vincent. “Understanding Digital Culture Second Edition - Introduction.” Understanding Digital Culture, 2020.)

Republic of Uzbekistan, Fergana Region, 16 May 2023. No. 06-7/1398, Fergana City.

Prensky, M. From Digital Natives to Digital Wisdom: Hopeful Essays for 21st Century Education (Corwin 2012)

Shtykhno D.A., Konstantinova L.V., Gagiev N.N. Transition of Universities to Distance Learning During the Pandemic: Problems and Possible Risks // Open Education. 2020. No.5. URL: https://cyberleninka.ru/article/n/perehod-vuzov-v-distantsionnyy-rezhim-v-period-pandemii-problemy-i-vozmozhnye-riski (accessed: 16.01.2023).

https://www.un.org/sites/un2.un.org/files/2020/09/policy_brief_-_education_during_covid-19_and_beyond_russian.pdf

https://www.un.org/sites/un2.un.org/files/our-common-agenda-summit-of-the-future-what-would-it-deliver.pdf

https://xs.uz/uzkr/post/prezident-it-mutakhassislar-bilan-muloqot-qildi

https://lex.uz/docs/6252503