

DEVELOPMENT OF PROFESSIONAL COMPETENCE OF THE HEAD OF A GENERAL SECONDARY EDUCATION INSTITUTION IN THE CONTEXT OF DIGITALISATION OF THE EDUCATIONAL ENVIRONMENT

РОЗВИТОК ПРОФЕСІЙНОЇ КОМПЕТЕНТНОСТІ КЕРІВНИКА ЗАКЛАДУ ЗАГАЛЬНОЇ СЕРЕДНЬОЇ ОСВІТИ В УМОВАХ ЦИФРОВІЗАЦІЇ ОСВІТНЬОГО СЕРЕДОВИЩА

The article notes that in the context of digitalisation of the educational environment, the development of professional competence of the head of a general secondary education institution is an extremely important aspect that determines the effectiveness of management activities and the quality of education. Modern challenges associated with the introduction of new technologies require managers not only a deep understanding of management processes, but also the ability to adapt to a rapidly changing information environment.

Managers need to have strategic planning, communication and innovative thinking skills to successfully integrate digital tools into the educational process. Their ability to motivate teaching staff to use new technologies, which in turn contributes to the formation of a modern educational space, is also important. By developing their professional competence, managers will be able to respond effectively to the challenges of the times, implement innovative solutions and ensure a high level of education for students in the modern world.

The article examines the development of professional competence of managers of general secondary education institutions in the context of digitalisation of the educational environment. Particular attention is paid to the importance of combining management skills with digital technologies, which is a key condition for the effective functioning of a modern general secondary education institution. The main aspects of the professional competence of managers are identified, including leadership qualities, managerial skills, communication skills, digital literacy, as well as the ability to innovate and adapt to change. The importance of digital skills as an integral part of the manager's competence is emphasised, which allows him/her to implement innovative solutions, ensure digital security and organise the educational process using electronic resources. The article analyses the challenges faced by the heads of general secondary education institutions that hinder the effective implementation of digital tools in the management of educational institutions.

Key words: professional competence, components of professional competence, digitalisation of the educational environment, digital tools, head of a general secondary education institution.

У статті зазначено, що в умовах цифровізації освітнього середовища розвиток

професійної компетентності керівника закладу загальної середньої освіти є надзвичайно важливим аспектом, що визначає ефективність управлінської діяльності та якість освіти. Сучасні виклики, пов'язані з впровадженням нових технологій, вимагають від керівників не лише глибокого розуміння управлінських процесів, але й здатності адаптуватися до швидко змінюваного інформаційного середовища.

Керівники мають володіти навичками стратегічного планування, комунікації та інноваційного мислення, щоб успішно інтегрувати цифрові інструменти в освітній процес. Важливим є також їхнє вміння мотивувати педагогічний колектив до використання нових технологій, що у свою чергу сприяє формуванню сучасного освітнього простору. Розвиваючи професійну компетентність, керівники зможуть ефективно реагувати на виклики часу, впроваджувати інноваційні рішення та забезпечувати високий рівень освіти для учнів у сучасному світі.

У статті досліджено розвиток професійної компетентності керівників закладів загальної середньої освіти в умовах цифровізації освітнього середовища. Особливу увагу приділено важливості поєднання управлінських навичок із цифровими технологіями, що є ключовою умовою ефективного функціонування сучасного закладу загальної середньої освіти. Визначено основні аспекти професійної компетентності керівників, серед яких лідерські якості, управлінські здібності, комунікаційні навички, цифрова грамотність, а також здатність до інновацій та адаптації до змін. Наголошено на важливості цифрових навичок як невід'ємної складової компетентності керівника, що дозволяє йому впроваджувати інноваційні рішення, забезпечувати цифрову безпеку й організовувати освітній процес із використанням електронних ресурсів. Проаналізовано виклики, що виникають перед керівниками закладів загальної середньої освіти, що заважають ефективному впровадженню цифрових інструментів у процес управління освітніми закладами.

Ключові слова: професійна компетентність, складові професійної компетентності, цифровізація освітнього середовища, цифрові інструменти, керівник закладу загальної середньої освіти.

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Problem Statement in General Terms. In the current context of globalisation and rapid technological development, general secondary education institutions face numerous challenges related to the digitalisation of the educational process. One of the key aspects of successful

adaptation to these changes is the professional competence of the head of an educational institution, which should include not only traditional management skills but also the ability to effectively integrate digital technologies into management activities.

However, despite the importance of these competences, there is insufficient research on the mechanisms of developing the professional competence of managers in the context of digitalisation. There is a need to study the impact of digital technologies on managerial activities, as well as to identify barriers to their successful implementation.

The problem is exacerbated by the insufficient level of digital literacy of managers, which can lead to ineffective management of educational institutions and a decrease in the quality of education. Thus, it is important to investigate how digitalisation affects the professional competence of the manager, as well as to identify ways to overcome the existing challenges to ensure the successful transformation of the educational system.

Analysis of recent research and publications.

The study of combining managerial skills with digital technologies in education is a relevant area of research. John Dewey emphasised the importance of integrating theory and practice in education, as well as the need to prepare teachers to work with new technologies. Herman W. Davies explored the role of digital technologies in improving the efficiency of management processes in educational institutions. Andy Hager drew attention to the impact of digitalisation on the educational environment and the role of managerial competences in this process.

In Ukraine, a number of scholars are studying the issue of combining management skills with digital technologies in education. O. Kostenko studies the role of digital technologies in the management of educational institutions, focusing on the need to develop digital competencies in managers. S. Hryshchenko studies the impact of information and communication technologies on the management of educational institutions, as well as the digital literacy of teachers. O. Sachko researches management activities in the field of education and innovative technologies, studying their impact on the effectiveness of the educational process.

Identification of previously unresolved parts of the overall problem. Despite the numerous studies on this issue, it should be noted that there are aspects that require further study. This includes, in particular, defining and analysing the development of professional competence of general secondary education managers in the context of digitalisation, the impact of digital technologies on management activities, and the challenges that complicate the integration of digital technologies into the management process.

The purpose of the article is to study and substantiate the importance of developing the professional competence of the head of a general secondary education institution in the context of digitalisation of the educational environment, and

to analyse the impact of digital technologies on management activities.

The objectives of the article are to prove the relevance of this topic; to define the concept of 'professional competence', to identify the components of professional competence; to characterise the impact of digital technologies on management activities, to analyse the challenges faced by managers of general secondary education institutions in the context of digitalisation of the educational environment.

Presentation of the main material. The professional competence of the head of a general secondary education institution is of particular importance in the context of constant changes in the modern educational environment. This is due to such factors as the rapid digitalisation of education, the introduction of new educational standards, innovative teaching methods and the need to adapt to social, economic and political changes. The development of professional competence is becoming a key factor in ensuring the effective functioning of an educational institution and a high-quality educational process.

In today's world, education is constantly changing due to new requirements of society, updating of educational programmes and technological innovations. The head of a general secondary education institution as a leader of an educational institution must be flexible, able to quickly adapt to new conditions and respond to external challenges. Professional competence helps managers to understand these changes, integrate them into the development strategy of the institution, and motivate the teaching staff to implement them.

A competent leader is able to implement the latest management and pedagogical approaches that ensure the development of a modern general secondary education institution. In the context of the digitalisation of the educational environment, the management of the educational process requires the use of digital tools, such as electronic platforms, distance learning, and interactive methods. The manager should not only be proficient in modern technologies, but also help teachers adapt to new conditions, organise the effective use of digital resources in teaching and management.

The quality of the educational process largely depends on how effectively the head performs his or her managerial functions. A professionally competent leader is able to motivate teachers to improve their skills, introduce new teaching methods and be creative in their work. A leader with professional competence creates conditions for teachers' professional development, promotes their self-improvement and encourages them to achieve high results.

The professional competence of a manager includes the ability to manage change, which is critical in today's environment of constant reforms. The leader must be able to create a strategy for the development

of an educational institution focused on the future needs of society and education. This includes working with students, teachers, parents, authorities and local communities to ensure the sustainable development of the general secondary education institution. In the face of change, it is important not only to respond to challenges but also to initiate change, to be an active leader and to contribute to the development of an educational institution.

An important component of a manager's professional competence is the ability to resolve conflicts and problem situations. A leader with the necessary skills is able to prevent conflicts in the team and resolve them effectively, which is extremely important for maintaining a healthy working atmosphere and achieving educational goals. In addition, a competent leader is able to make informed decisions in the face of uncertainty, which is especially important in today's fast-paced world.

Modern educational reforms place new demands on the heads of general secondary education institutions. The manager must understand the changes in legislation, standards and regulations related to the organisation of the educational process. Professional competence allows a manager to effectively implement new requirements and standards in the management of a general secondary education institution, ensuring that the educational process meets national and international standards.

The digitalisation of education requires managers to have not only theoretical knowledge but also practical skills in using modern technologies. A professionally competent leader should understand the processes of digital transformation, support technological innovation and implement digital solutions to improve the quality of education, human resources management, communication with students and parents and other stakeholders.

Thus, the professional competence of the head of a general secondary education institution is a key prerequisite for the successful functioning of the institution in the face of constant change. This is a multifaceted concept that combines leadership, management, pedagogical, communication and digital skills necessary to ensure the effective management and development of a modern general secondary education institution. Leaders who are constantly developing their competence are able to create conditions for quality education, innovative development and increase the efficiency of the educational process in the context of digitalisation and other modern challenges.

The professional competence of a manager is a set of knowledge, skills, abilities, values and personal qualities that ensure the effective performance of managerial functions and the achievement of organisational goals, including in the educational environment. It includes the ability of a manager

to make informed decisions, organise teamwork, manage resources, ensure the quality of the educational process and adapt to changes in the external and internal environment.

V. Maslov considers the professional competence of the head of an educational institution as a system of theoretical and methodological, regulatory provisions, scientific knowledge, organisational, methodological and technological skills necessary for a person to perform job duties, as well as relevant moral and psychological qualities [1].

T. Sorochan considers the content essence of the professionalism of the managerial activity of the head of an educational institution through the following competencies: functional competence, which consists in reproducing the traditional management cycle for the school and possessing the ability to perform managerial functions; socio-pedagogical competence, which consists in managing the school as a social system; socio-economic competence, which consists in managing the school in market conditions, mastering management and marketing in education; innovative competence, which consists in focusing on the development of the school's pedagogical system by mastering innovations; facilitative competence, which consists in directing the creative activity of teachers to create original educational practice [3].

Scientists L. Danylenko and L. Karamushka distinguish the following components in the structure of the professional competence of the head of general secondary education institutions: knowledge required for a pedagogical speciality or position; skills and abilities necessary for the successful performance of functional and official duties; professional, business and personally significant qualities that contribute to the full realisation of their own strengths, abilities and capabilities in the process of performing functional and official duties; general culture necessary for the formation of a humanistic worldview, in the general culture necessary for the formation of a humanistic worldview, determination of spiritual and value orientations, moral and ethical principles of the individual; motivation of professional activity [2].

Thus, the key components of a manager's professional competence are

- managerial knowledge and skills: strategic planning, work organisation, team motivation, resource management;
- communication skills: ability to negotiate, establish contacts with staff, students, parents and other stakeholders;
- digital competence: knowledge of modern information and communication technologies and their application in the field of management;
- leadership skills: the ability to motivate a team, organise teamwork, resolve conflicts and make responsible decisions.

The professional competence of a manager is a multidimensional concept that combines both theoretical knowledge and practical skills necessary for the successful management of an educational institution.

In today's environment, when digitalisation covers all aspects of educational institutions, the integration of managerial skills with digital technologies is becoming extremely important. The use of digital technologies allows managers to optimise management processes, automate routine operations, improve communication with teaching staff, students and their parents, and effectively manage educational resources. Managerial skills, in turn, allow these technologies to be adapted to the needs of the institution, ensuring strategic planning, coordination and control. The combination of these elements makes a manager not only a leader, but also an innovator, able to apply modern digital solutions to improve the quality of education and effective management in the face of dynamic change.

The impact of digital technologies on management activities in educational institutions is one of the most pressing issues in modern education. With the emergence and rapid development of digital tools, approaches to management are changing significantly, requiring managers to adapt to new conditions and challenges. An analysis of the impact of digital technologies on management activities shows that they radically transform both the internal processes of the institution and external communications, contributing to increased efficiency and transparency of management decisions. These processes include:

1. Optimisation of management processes.

Digital technologies allow automating many routine operations, such as accounting for financial resources, planning the educational process, personnel records and document management. This significantly reduces the workload of managers and allows them to devote more time to strategic planning and making important decisions. For example, electronic management systems for educational institutions allow for real-time analysis of the institution's performance, adjustments to curricula, and monitoring of results.

2. Increase the effectiveness of communication.

Digital technologies are changing the way schools communicate with their management, teaching staff, students and their parents. The use of such tools as email, online communication platforms, and social media facilitates the rapid transfer of information, reduces bureaucratic procedures, and increases the openness and accessibility of management to all participants in the educational process.

3. Transparency and control.

Digitalisation contributes to the transparency of management processes, as modern systems allow

managers to quickly access any information related to the work of the institution. This applies to both financial reporting and monitoring of student performance. Electronic tools can also help to monitor teachers' implementation of curricula, student attendance and performance more effectively.

4. Innovation and development.

Digital technologies allow educational leaders to introduce innovative approaches to learning and management. For example, the use of digital platforms for distance learning opens up new opportunities for the educational process, making it more flexible and accessible. At the same time, managers need to integrate these new methods into the educational system, adapting them to the needs of the institution and individual students.

5. Adaptation to change and development of digital competence.

Given the rapid changes in the world of technology, managers of educational institutions must constantly improve their digital literacy. The ability to work with modern software products, master information technology, and respond to new trends in a timely manner are important components of effective management in the context of digitalisation. Adapting to technological changes is one of the main challenges for educational leaders, as success in implementing innovations is directly related to their ability to make new decisions and effectively use digital tools.

6. Improved decision-making.

The use of digital tools allows managers to make more informed and effective decisions. Analytical systems that collect data on the work of the institution help to better understand the situation and see the key problems. This allows managers to make decisions based on real data rather than intuitive assumptions, which improves the quality of management and the performance of the institution.

Thus, the impact of digital technologies on educational management cannot be underestimated. They not only optimise management processes but also expand opportunities for innovative development. At the same time, managers of educational institutions should be prepared for the challenges associated with the introduction of digital tools and adapt their management approaches to maximise efficiency in the new environment.

It is worth noting that in the context of the rapid digitalisation of the educational environment, general secondary education institutions face a number of challenges that complicate the introduction of digital technologies into management activities. These challenges need to be addressed to ensure the effective functioning of educational institutions.

1. The introduction of digital technologies requires a change in traditional management approaches. Many educational leaders may not be ready to adapt new methods, which can lead to resistance to

change and inability to integrate digital tools into the management process.

2. Effective implementation of digital technologies requires an appropriate technical infrastructure, including fast internet, modern computer labs and software. Many educational institutions, especially those in remote or rural areas, face difficulties in providing adequate technical facilities.

3. The lack of qualified staff with the necessary digital skills is another major challenge. Managers and teaching staff may not have sufficient training in the use of new technologies, which limits their ability to manage digitalisation processes.

4. The introduction of new technologies requires significant financial expenditure on hardware, software and training. Due to limited budgets, education institutions may face difficulties in financing digitalisation initiatives.

5. As the use of digital technologies increases, new threats to the security of student and teacher data are emerging. Educational institutions must develop and implement policies to protect information, but not all leaders have the knowledge and resources to ensure adequate cybersecurity.

6. The constant change in technology requires managers to be constantly learning and developing. The absence of a system of continuous professional development can lead to the rapid obsolescence of managers' skills and knowledge.

7. The introduction of digital technologies requires the active participation of all stakeholders - students, parents, teachers and administrators. Organising such interaction can be challenging, especially in the context of different views and needs of the participants in the educational process.

8. The introduction of digital technologies requires the adaptation of curricula and teaching approaches, which may cause resistance from teachers accustomed to traditional teaching methods.

These challenges require a comprehensive, integrated approach to overcoming them and close cooperation between all participants in the educational process. Only in this way can we ensure the successful integration of digital technologies into educational management. This comprehensive approach may include the following measures:

- development of managerial competences for digitalisation. As the introduction of digital technologies changes traditional management approaches, managers need to be trained in new management models that support digital integration. Digitalisation requires not only an understanding of the basics of information technology, but also the ability to effectively manage change, plan strategies and integrate new technologies into organisational culture. For example, it is important for management development programmes to include modules on digital tools, data analysis for educational

management and basic cybersecurity. Practical training or participation in workshops that share the experience of other institutions is also an important step in building sustainable management skills in the digital environment. Expanding opportunities for cooperation between educational institutions through the exchange of experience and interaction with specialists and organisations specialising in the digitalisation of educational processes is an important element of managerial competence development. This allows managers to share successful practices and innovative approaches;

- investments in technical infrastructure. Ensuring adequate technical infrastructure is the basis for successful digitalization of the educational process. State and local governments can contribute to this by funding or subsidizing schools, particularly in rural areas. It is also important to provide stable internet access, technical support, and equipment upgrades, which will make educational institutions more flexible and technologically ready for change. An important aspect is to provide educational institutions with modern computers, tablets, and other devices that allow for the integration of digital tools into the educational process. This includes both equipment for students and teachers, allowing them to conduct online lessons, use learning platforms, and respond flexibly to changes in curricula. Due to limited budgets, private investment and partnerships with IT companies can be an important source of funding, allowing institutions to access modern technologies and attract external resources to support infrastructure. Cooperation with companies from the technology sector also facilitates access to the latest developments, innovative platforms, and programs for the development of digital skills;

- development of digital skills among teachers and administrators. To implement digital technologies, administrators and teaching staff need the necessary digital skills. The ability to understand, integrate, and effectively use digital tools is a basic prerequisite for integrating technology into the educational process. Teachers and administrators need knowledge about working with online platforms, interactive tools, and basic cybersecurity principles. This includes an understanding of the principles of working with distance learning tools such as Zoom, Microsoft Teams, as well as with educational platforms such as Moodle, Google Classroom, etc. Curricula for digital skills development should include practical components such as project work with digital tools, simulation of situations for interactive learning, and practice in creating multimedia content. Practical trainings help teachers not only learn the techniques, but also use them in a real educational environment. In order to keep digital skills up-to-date, teaching staff should have access to regular training programs that are updated to reflect new technological solutions.

For example, many universities and schools organize continuing professional development programs where employees can regularly learn about the latest technological innovations related to educational activities;

- securing financing for digitalization. The solution to financial difficulties can be achieved by attracting grant programs, private investment, and cooperation with international organizations. This will help to cover the costs of updating the technical base and training necessary for the effective digitalization of educational institutions. Collaboration with IT companies and educational technology companies can significantly ease the financial burden on educational institutions. For example, technology companies often offer educational institutions access to specially priced programs or free versions of their software, which can save money. Some companies can also invest in creating learning platforms, provide training for teachers, and offer technical support.

To be successful in obtaining grants and other types of financial assistance, educational institutions need to have qualified staff who can prepare the appropriate applications. Investing in the development of internal procedures for writing grant applications and seeking funding from external sources will help ensure stable funding for digitalization in the long term. Educational institutions can also consider raising additional revenue by providing paid educational services or organizing professional development courses. For example, universities can create online courses or short-term certification programs that will become a source of additional revenue for the institution, and the funds can be used to digitalize the educational process;

- developing a cybersecurity system. To protect student and educator data, a cybersecurity policy is needed that takes into account both technical and organizational aspects. This includes the implementation of modern information security standards, regular cybersecurity training for employees, and the use of secure digital tools. Particular attention should be paid to the safety of information transmitted through digital platforms, especially in the process of blended or distance learning. Educational institutions should develop a comprehensive policy for managing access to data, restricting access rights based on roles, and periodically reviewing access. It is important that all participants in the educational process are aware of the risks associated with cybersecurity, so regular cybersecurity training for teachers, administrators, and students should be conducted, including instructions on how to maintain data confidentiality and work safely with digital platforms. Conducting regular security audits and evaluating the effectiveness of cybersecurity policies helps identify weaknesses and ensure that they are improved. This may include

verifying compliance with cybersecurity standards, conducting penetration testing, and evaluating new technologies to improve overall security;

- a system of continuous professional development, which may include access to online courses, participation in seminars and webinars, and expanded opportunities for self-development within educational institutions. In addition to technical knowledge, teachers should be supported in developing an innovative approach to teaching. This may include training in design thinking, project-based learning, and active student engagement in the educational process. Such training enables teachers to constantly look for new methods and approaches that contribute to more effective work with digital technologies and interactive platforms. Technologies and pedagogical methods are constantly changing, so it is important to keep CPD programs up-to-date by integrating new teaching approaches and the latest advances in educational technology. This allows educators to stay up-to-date with the latest changes and adapt to the modern challenges of the educational environment;

- establishing interaction between stakeholders. For the successful implementation of digital technologies, it is important to involve all participants in the educational process - students, parents, teachers, and administrators. This can be realized by creating working groups to discuss the different views and needs of each group, as well as to develop strategies for effective communication and support. Regular meetings involving different stakeholder groups help to solve problems together, build consensus and generate new ideas. For example, pedagogical councils, meetings with parents, student forums, and advisory councils involving administration, teachers, and students allow for open discussion of current issues and the formation of a common development strategy. The use of digital platforms and communication tools, such as educational portals, mobile applications for communication with parents and students, and video conferencing platforms, facilitates the quick and convenient exchange of information between stakeholders. Technology also makes it possible to organize education and training online, which gives all participants access to materials and the opportunity to join the processes even from a distance. Cooperation with public and professional organizations provides access to new resources, training, certification programs, and financial support. For example, cooperation with companies that specialize in educational technologies allows us to bring innovations to the educational process;

- adaptation of curricula and methods. Changes in curricula should take into account the needs of digital education and the integration of modern technologies, in particular to develop students' digital competencies.

These changes need to be accompanied by support for teachers to help them master innovative teaching methods, such as blended and flexible learning, which will effectively engage students in the educational process. Modern programs need to be flexible, relevant and able to adapt to the rapidly changing demands of the labor market. This implies regular review of course content, incorporation of the latest research, innovative technologies, and consideration of socio-economic changes. To this end, it is important to maintain a constant dialog between educational institutions and the industries in which graduates will work. Programs can also include interdisciplinary courses that allow students to integrate knowledge from different fields and apply it to complex situations. To ensure students' active engagement, curricula should include interactive methods, such as group projects, problem-based learning, discussions, simulations, and case studies. This allows students to apply knowledge practically, developing analytical thinking, communication skills, and teamwork. For example, project-based learning promotes a deeper understanding of theoretical material through the development of real projects that can be useful in a future career. Along with theoretical knowledge, curricula are increasingly focusing on the development of so-called "soft skills" - communication, leadership, teamwork, emotional intelligence, and adaptability. This is especially important as soft skills play a crucial role in students' ability to successfully integrate into the work environment.

Implementation of these measures will contribute to the effective implementation of digital technologies in the educational process, which will improve the quality of education and ensure the development of the necessary skills of future professionals.

Conclusion. The impact of digital technologies on management activities in the field of education is extremely significant and multifaceted. Digitalization creates new opportunities for effective management of educational institutions by providing access to information, increasing transparency of processes, improving communication and adaptation to change. In particular, digital technologies enable managers of educational institutions to respond quickly to the challenges of our time by integrating innovative solutions into the educational process, but at the same time require new skills and knowledge from managers to effectively cope with new challenges that arise in the process of digitalization of education.

Prospects for further research. Despite the importance of digital technologies, many managers of general secondary education institutions do not have sufficient knowledge and skills to use them effectively. This indicates the need to develop training and professional development programs that take into account the latest trends in education management. Many educational institutions face difficulties in integrating digital technologies due to the lack of clear strategies and action plans. It is necessary to explore how comprehensive strategies can be developed to integrate digital tools into management processes.

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