

**MENTAL ENLIGHTENMENT SCIENTIFIC –
METHODOLOGICAL JOURNAL****MENTAL ENLIGHTENMENT SCIENTIFIC –
METHODOLOGICAL JOURNAL**<http://mentaljournal-jspu.uz/index.php/mesmj/index>**THE LEVEL OF MEDIA LITERACY OF FACULTY AND STUDENTS IN THE FIELD
OF INFORMATION AND CYBERSECURITY IN HIGHER EDUCATION: A
COMPARATIVE ANALYSIS*****Dilfuza Allayorova****Jizzakh State Pedagogical University**Faculty of History, Department of Social Sciences**Jizzakh, Uzbekistan*

ABOUT ARTICLE

Key words: media literacy, information security, cybersecurity, higher education, faculty members, students, digital literacy, critical thinking, comparative analysis, information culture.

Received: 05.08.26**Accepted:** 06.08.26**Published:** 07.08.26

Abstract: This article presents a comparative analysis of the level of media literacy among faculty members and students in the field of information and cybersecurity within the higher education system. The growth of information security threats and the spread of misinformation and manipulative content in the digital environment require a high level of media literacy and cybersecurity culture among all participants in the educational process. Based on an analysis of foreign and domestic scholarly sources, the article identifies differences in knowledge, skills, and behavior between faculty and students, explains their underlying causes, and develops practical recommendations for enhancing media literacy and information-cybersecurity culture in higher education institutions.

Introduction. In the modern digital society, alongside the steadily expanding use of information resources, information and cybersecurity threats are also becoming increasingly complex in both qualitative and quantitative terms. The spread of phishing attacks, social engineering techniques, deepfake technologies, and fake content generated with the assistance of artificial intelligence is directly affecting the activities of higher education institutions.

In particular, educational institutions are increasingly becoming primary targets for cybercriminals because they possess large databases containing students' and academic staff members' personal and financial information; cases of fraud involving the imitation of teachers' or administrators' voices through artificial intelligence-based tools have also been reported[1].

Under these circumstances, media literacy—that is, the ability to critically perceive information, assess its authenticity, distinguish reliable sources from unreliable ones, and use information responsibly—is becoming an essential competence not only for students but also for professors and teachers who manage the educational process.

It should be emphasized that the development of media literacy has currently become a priority not only in the international scientific discourse but also within the Development Strategy of New Uzbekistan. In the processes of digitalization and the formation of an information society being implemented in the country, media literacy is regarded not merely as a “skill for working with information,” but also as a factor of strategic security, civic engagement, and the development of intellectual capital[2]. This approach requires increasing the level of media literacy among professors, teachers, and students in the higher education system to be considered not only a pedagogical task but also a task of national development strategy.

The theoretical foundations of the concepts of media literacy and information culture, their historical evolution, as well as issues related to the development of media competence among teaching staff have also been extensively examined by local researchers[3][4].

The purpose of this article is to comparatively analyze the level of media literacy of professors, teachers, and students in the field of information and cybersecurity within the higher education system, identify the causes of differences between them, and develop practical recommendations aimed at improving this level.

In recent years, the number of studies devoted to the comparative investigation of cybersecurity and information security awareness across different social groups has increased significantly. In particular, a study conducted by Zwillig et al. revealed significant differences between respondents' cybersecurity knowledge, awareness, and actual behavior across different countries, indicating that the level of theoretical knowledge is not directly proportional to practical behavior[5]. This finding serves as an important methodological basis for analyzing differences between professors, teachers, and students.

The study conducted by Taha and Dahabiyeh[6] demonstrated that students' information security awareness differs depending on the type of device used (smartphone or computer), with less attention being paid to security measures when using mobile devices. This

indicates that secure digital behavior habits have not yet been firmly established in the everyday digital practices of the younger generation.

In a comparative study conducted by Hong and co-authors[7], the relationship between educational level (undergraduate, graduate, and working graduates) and cybersecurity knowledge, behavior, and attitudes was examined. The study found that theoretical knowledge improves as educational level increases, whereas indicators of practical secure behavior do not necessarily demonstrate a consistent increase.

In their systematic literature review, Ulven and Wangen[8] systematized the specific cybersecurity risks faced by higher education institutions, including open network infrastructures, the diversity of users (students, professors and teachers, and administrative staff), and the lack of centralized security policies.

In a study examining students' information security awareness on mobile devices, Moletsane and Tsibolane[9] found that a significant proportion of students did not fully utilize basic security settings, such as two-factor authentication and regular password updates.

In a comparative study conducted among students in two different countries, Hungary and Vietnam, Mai and Tick[10] demonstrated that cultural and national contexts have a significant influence on cybersecurity behavior, thereby substantiating the need to adapt media literacy enhancement programs to local contexts.

In a study conducted in universities in developing countries, Garba et al.[11] found that students' cybersecurity awareness was at a moderate level, with particularly noticeable deficiencies in knowledge concerning password management and the protection of personal information on social networks.

In their systematic review, Corallo and co-authors[12] emphasized that the combined implementation of continuous education, practical training, and institutional policies represents the most effective approach to increasing cybersecurity awareness.

In a comparative study conducted among different social groups, Shukla et al.[13] demonstrated that cybersecurity competence varies depending on age, professional experience, and the frequency of technology use.

Elrayah and Jamil[14] found that digital literacy and privacy concerns have a positive influence on cybersecurity behavior; in other words, users with higher levels of media literacy tend to demonstrate safer online behavior.

Wiley et al.[15] examined the relationship between organizational culture and information security awareness and demonstrated that the exemplary behavior of educational institution administrators and professors and teachers directly influences students' behavior.

In local studies, Normatov and Eshqobilov[16] noted that teachers' knowledge and skills related to information security were lower compared with those of the younger generation, particularly highlighting the difficulties experienced by older-generation teachers in mastering new digital technologies. This situation is also relevant to the higher education system of Uzbekistan and demonstrates the need to bring the level of digital and media literacy among professors and teachers into closer alignment with that of young people.

Research methodology

The study employed analytical-comparative methods, a systematic literature review, and content analysis. Foreign and local scholarly sources published between 2020 and 2025 were selected, including journal articles, conference proceedings, and educational and methodological literature. The following criteria were used for source selection: 1) direct relevance to the research topic; 2) publication after 2020; and 3) scientific validity of the research methodology. The results of the analysis were generalized, and a comparative description of media literacy and cybersecurity indicators among professors and teachers and students was developed.

Results and discussion

Based on the analysis of the scholarly sources reviewed, the level of media literacy of professors and teachers and students in the field of information and cybersecurity can be compared according to the following key criteria:

Criterion	Professors and Teachers	Students
Level of theoretical knowledge	Relatively stable due to professional experience and institutional training; however, some lag is observed in keeping up with emerging technological threats.	As a generation born into the digital environment, they acquire technical knowledge rapidly, but a systematic theoretical foundation is often insufficient.
Practical security behavior	Relatively higher level of caution in password management and the use of official email accounts.	More frequent instances of publicly sharing personal information on social networks and clicking on unfamiliar links.

Criterion	Professors and Teachers	Students
Adaptability to new technologies	Lower among some, particularly older, teachers due to a lack of time and motivation for learning.	High, but there is a tendency toward rapid adoption without sufficient critical evaluation.
Detection of misinformation (critical thinking)	The ability to assess source reliability is relatively well developed due to professional experience.	Difficulties are observed in critically analyzing content disseminated through social networks and messaging platforms.
Institutional responsibility and role-modeling	Plays a leading role in developing and promoting security policies at the department/faculty level.	Behavior is often shaped through compliance with teachers' guidance and institutional rules.

As can be seen from the table, the differences between professors and teachers and students are not one-sided: both groups have their own strengths and weaknesses. Although professors and teachers demonstrate relatively stable indicators in critical evaluation and secure behavior due to their professional experience and institutional responsibilities, they may lag behind students in adopting new technological tools[1]. This, as emphasized by Wiley et al., demonstrates the need to develop a security culture within educational institutions through both top-down (institutional) and horizontal (among colleagues and students) approaches[2].

Students, in turn, possess the ability to rapidly master technological tools; however, this ability is often not proportionate to critical thinking and long-term security habits[3][4]. This discrepancy makes students particularly vulnerable to misinformation and phishing attacks disseminated through social networks and messaging platforms[5].

At the same time, the importance of cultural and national context should also be taken into account: comparative studies conducted in different countries demonstrate that cybersecurity behavior depends not only on age or position but also on the organizational characteristics of the education system and the national digital infrastructure[6]. This supports the need to consider local conditions when developing programs aimed at enhancing media literacy within Uzbekistan's higher education system.

Conclusion and recommendations

According to the results of the analysis, the level of media literacy in the field of information and cybersecurity among professors and teachers and students in the higher education system differs qualitatively: critical thinking and institutional responsibility are more prominent among professors and teachers, whereas students demonstrate higher technological adaptability, but their security habits are less stable. In order to overcome these differences and establish an integrated information and cybersecurity culture at the institutional level, the following recommendations have been developed:

introduce a separate module or course on the fundamentals of media literacy and information and cybersecurity into the curricula of all areas of study at higher education institutions;

organize regular professional development training sessions and practical seminars for professors and teachers, particularly on emerging digital threats such as deepfakes and artificial intelligence-based fraud;

introduce practical activities, case studies, and simulation exercises aimed at developing critical thinking among students;

encourage the exchange of experience between professors and teachers and students through collaborative projects, webinars, and student clubs dedicated to information security;

implement a unified information and cybersecurity policy and monitoring system at the institutional level, with its effectiveness evaluated regularly;

develop media literacy and information and cybersecurity programs in alignment with the digitalization and open information society reforms within the framework of the Development Strategy of New Uzbekistan, with particular attention to strengthening the civic engagement and institutional responsibility of professors and teachers.

In conclusion, improving the media literacy of professors and teachers and students should not be regarded as a one-time measure, but rather as a continuous and systematic process involving all participants in the higher education institution. Only through such an approach can information security be ensured within the digital educational environment and a sustainable culture of media literacy be developed among young people.

References:

1. Медиясаводхонлик ва ахборот маданияти: дарслик. – Тошкент: Ўзбекистон, 2024. – 260 б.

2. Норматов С.А., Эшқобилов С.Қ. Рақамли технологиялар даврида мактаб ўқитувчиларининг ахборот хавфсизлигига доир билим ва кўникмаларини ривожлантириш // Илмий тўплам материаллари. – 2025.

3. Таълимда ахборот хавфсизлигига сунъий интеллект таъсири // "New methods and innovations in the integration of disciplines of mathematics and information technology" халқаро илмий-амалий анжумани материаллари. – 2025-йил 18-апрел.
4. Ўзбекистон Республикаси Олий таълим, фан ва инновациялар вазирлиги. Медиа ва медиасаводхонлик тушунчалари бўйича илмий-услубий материаллар. – 2023.
5. Corallo A., Lazoi M., Lezzi M., Luperto A. Cybersecurity awareness in the context of the Industrial Internet of Things: A systematic literature review // Computers in Industry. – 2022. – Vol. 137. – Art. 103614.
6. Elrayah A., Jamil N. Impact of Digital Literacy and Online Privacy Concerns on Cybersecurity Behaviour // International Journal of Cyber Criminology. – 2023.
7. Garba A.A., Siraj M.M., Othman S.H. An assessment of cybersecurity awareness level among Northeastern University students in Nigeria // International Journal of Electrical and Computer Engineering. – 2022. – Vol. 12, No. 1. – P. 572–584.
8. Hong W.C.H., Chi C., Liu J., Zhang Y., Lei V.N.-L., Xu X. The influence of social education level on cybersecurity awareness and behaviour: a comparative study of university students and working graduates // Education and Information Technologies. – 2022.
9. Mai P.T., Tick A. Cyber security awareness and behavior of youth in smartphone usage: A comparative study between university students in Hungary and Vietnam // Acta Polytechnica Hungarica. – 2021. – Vol. 18, No. 8. – P. 67–89.
10. Moletsane T., Tsibolane P. Mobile information security awareness among students in higher education: An exploratory study // 2020 Conference on Information Communications Technology and Society (ICTAS). – IEEE, 2020. – P. 1–6.
11. Shukla S.S., Tiwari M., Lokhande A.C., Tiwari T., Singh R., Beri A. A Comparative Study of Cyber Security Awareness, Competence and Behavior // 2022 5th International Conference on Contemporary Computing and Informatics (IC3I). – IEEE, 2022. – P. 1704–1709.
12. Taha N., Dahabiyeh L. College students' information security awareness: A comparison between smartphones and computers // Education and Information Technologies. – 2021. – Vol. 26, No. 2. – P. 1721–1736.
13. Ulven J.B., Wangen G. A systematic review of cybersecurity risks in higher education // Future Internet. – 2021. – Vol. 13. – P. 39.
14. Wiley A., McCormac A., Calic D. More than the individual: examining the relationship between culture and information security awareness // Computers & Security. – 2020. – Vol. 88. – Art. 101640.

15. Zwillling M., Klien G., Lesjak D., Wiechetek Ł., Cetin F., Basim H.N. Cyber security awareness, knowledge and behavior: A comparative study // Journal of Computer Information Systems. – 2022. – Vol. 62, No. 1. – P. 82–97.