Safety as One of the Most Important Components of the Digital Competence System in Wartime Conditions

Objective. To determine the place of safety skills in the system of digital competences and the role of the university library in their formation among users. The acquisition of safety skills in working with information will allow users to level out and control the negative impact of external information factors. Among the factors that negatively affect a person, there is a colossal amount of information, consisting of actual, relevant, and useful information, as well as garbled, fake, manipulative, and destructive ones. Methods. Empirical methods have been used in the investigation. The practical experience and recommendations of international and national experts in the direction of the formation of safety skills in working with information have been analyzed. The level of their implementation by the library at this stage has been monitored. Result. It has been determined that for the qualitative and integral formation of users’ safety skills in working with information, it is necessary to expand the list of activities and topics in the direction of their popularization and training. The acquisition of safety basics of working with information will allow users to restore and maintain control over physical and psychological health. Conclusions. So, the ability to safely interact with information is one of the most important components of the digital competence system of users, which is especially important in wartime conditions. Teaching such competences will help users to realize, control, and level out the negative impact of external information factors, and that's why it can be considered an urgent task for libraries as institutions that are competent to work with information.

Keywords: digital competences; safety; media literacy; information hygiene; psychological health

Introduction

Target audience

General digitalization contributes to the closeness of society and computing (information and communication technologies) in such a way that people have the opportunity to use computers and the Internet not only to complete tasks at work or at home, but even for relaxation and entertainment (Allmann & Blank, 2021).

Information and digital technologies at the current stage of society’s development are rapidly improving and contribute to the generation of a significant amount of information of various types, formats, and content. Anyone and any organization have the ability to generate and publish information on the Internet. At the same time, the purpose of publications on the Internet can be different and have negative consequences both for an individual user and for certain users’ communities. That’s why a mastery of digital competences allows everyone to use efficiently and profitably information resources and is a mandatory skill for any information consumer.

Tinmaz, Lee, Fanea-Ivanovici and Baber (2022) present the results of a literature review (WoS/Clarivate Analytics, Proquest Central, Emerald Management Journals, Jstor Business College Collections and Scopus/Elsevier). It is determined that since 2013 there has been an
increase in the number of articles about digital literacy. Based on a qualitative analysis of the content in the investigated publications, four main topics were identified: digital literacy, digital competences, digital skills, and digital thinking.

The article examines the place of safety skills in the system of digital competences and the role of the university library in their formation among users. The safety skills in working with any information help to level out and control the negative impact of external information factors on a person. Such factors include a colossal amount of information, consisting of actual, relevant and useful, as well as garbled, fake, manipulative, and destructive ones. In modern society, it is extremely difficult to avoid information flows. They affect the mental and psychological state of a person. People who are brought out of a state of psychological suffering from lack of an active creative position, low adaptability to the environment, lack of strength to overcome stressful situations, chronic fatigue, pessimism, negativism, irritability, etc. These facts have a negative impact not only on a person’s lie but also on the performance of professional duties at the workplace or during studies.

While determining the basic digital competences that users should master, the specifics of the academic environment and target groups should be taken into account. We can figuratively divide the users of the library of the higher educational institution into the following target groups:

- scientific-pedagogical and research staff;
- applicants for education at all levels;
- university employees (support staff);
- external users.

A similarity between all groups is what aim the information is used for: education, science, and self-development. The main directions of information use are presented in Figure 1.

Fig. 1. The Main Directions of Information Use

Distinctive for the target groups is the priority direction in which the largest amount of information is processed. The priority direction for the applicant for education is the educational direction, and for the scientist is the scientific direction. But all groups use the information for self-development. Analyzing this information requires users’ critical perception.

Objective

So, safety skills in working with information that users consume independently are critically needed. These skills will allow them to level out and control the negative impact of external informational factors, especially those that are not related to education or science. Among the factors that negatively affect a person is a colossal amount of information, which consists of...
actual, relevant, and useful, as well as garbled, fake, manipulative, and destructive ones. The article aims at analyzing the current situation of teaching digital competences at the university and identifying actions that contribute to developing users' safety skills:

- identifying digital competences related to safety;
- determination of their place in the general system of digital competences;
- analyzing the possibilities of effective implementation of the role of library staff as experts in working with information, for acquiring by users of safety skills in working with information.

Methods

When conducting a study, empirical method was applied. The university librarians should analyze their users’ information needs. Well-established communication with users contributes to this. For example, according to the Scientific and Technical Library of NTU «KhPI» reports, only 64 833 individual consultations and references were carried out during 2019-2021. Active communication provides an opportunity to better understand users’ information needs and take this information into account while planning the library work.

Digital Competence in the Academic Environment

The Law of Ukraine «On Education» sets out information and communication competence as one of the key competences necessary for every modern person for a successful life. Qualitative information and communication skills ensure not only educational activities but also conducting of scientific research, including international cooperation (Verkhovna Rada of Ukraine, 2022).

The concept of «digital competence» has many definitions. The concept of the development of digital competences (approved by the Decree of the Cabinet of Ministers of Ukraine dated March 3, 2021, No. 167-r) defines digital competence as a dynamic combination of knowledge, abilities, skills, ways of thinking, views, and other personal qualities in the field of information, communication and digital technologies, which determines a person's ability to successful socialization and conducting professional or further educational activities using such technologies (Verkhovna Rada of Ukraine, 2021).

The library traditionally develops the users’ skills in working with information. That's why it is very important to do this work systematically and comprehensively, taking into account legal documents that explain the general strategy of the state.

Information specialists have developed a significant number of methodological recommendations on digital competences and information skills adapted to a certain target audience. Van Laar, van Deursen, van Dijk and de Haan (2019) confirmed the importance of 21st-century digital skills for professionals in creative industries. These are the seven basic skills supported by the use of information and communication technologies: technical skills, information management, communication, collaboration, creativity, critical thinking, and problem-solving.

The recommendations of international and national experts in the general direction of digital competences have been analyzed to form a basic understanding of the safety skills of working with information.

Firstly, it’s the digital competence system The Digital Competence Framework is presented on the EU Science Hub portal (The Digital Competence Framework, n.d.; Hlavcheva, 2021). The system of digital competences consists of components at five levels (Figure 2).
The structure of the Digital Competence Framework defines the main components of digital competence at five levels. One of them is the «Security» component, which is considered a key component of the digital competence system.

Fig. 2. Components of The Digital Competence Framework

Secondly, it is the Digital Competence Framework for citizens of Ukraine. The «Description of the Digital Competence Framework for Citizens of Ukraine» notes that the term «digital competence» includes confident, critical and responsible use and interaction with digital technologies for education, employment, work, leisure, and participation in public life. It includes such concepts as information and media literacy, communication and collaboration, digital content creation (including programming), safety (including protection of personal data in the digital environments (digital privacy and cybersecurity), as well as problem-solving and lifelong learning. In the structure of the digital competence framework for citizens of Ukraine, the sphere «Safety in the digital environments» is highlighted, which includes the following competences (Ministerstvo tsyfrovoi transformatsii Ukrainy, 2021).

### Protection of devices and secure connection to the Internet
To protect devices and digital content, and to understand risks and threats in digital environments. To know about safety and security measures, and to have due regard to reliability and privacy.

### Protection of personal data and privacy
To protect personal data and privacy in digital environments. To understand how to use and share personally identifiable information while being able to protect oneself and others from damage. To understand that digital services use a «Privacy Policy» to inform about how personal data is used.

### Protection of the consumer's personal rights against fraud and abuse
To be aware of the most important legal provisions regarding the protection of the online consumer, the ability to identify dubious online stores, compare prices, and apply measures to protect consumer rights.

### Protection of health and well-being
To be able to avoid health risks and threats to physical and psychological well-being while using digital technologies. To be able to protect oneself and others from possible dangers in digital environments. To be aware of digital technologies for social well-being and social inclusion.

### Environmental protection
To be aware of the environmental impact of digital technologies and their use.

It should be noted that the safety digital competences from The Digital Competence Framework for citizens of Ukraine and The Digital Competence Framework completely coincide.
We consider that these competences should be used as basic ones when planning work with readers.

In addition to training, the issue of skill level assessment to prevent digital divides and more clearly describing the elements of skills are actively negotiated in the publications (van Deursen, Helsper, & Eynon, 2016). Li and Hu (2022) propose to develop a reliable and valid scale of digital skills for school-aged children, which will allow assessing the level of these skills mastering: operational skills (basic operations, information management, information navigation), mobile skills, social skills (social interaction), creative skills (content creation, content integration) and safety skills (privacy protection, risk prevention).

As for the organization of the work, it should be considered that among the areas of this Framework use it is noted: «...the creation of training programs, pieces of training, educational resources aimed at increasing the level of digital competence» (Ministerstvo tsyfrovoi transformatitsi Ukrainy, 2021).

It is desirable to use instructional strategies that promote the development of basic digital literacy when planning the content and plan of activities (Kasperski, Blau, & Ben-Yehudah, 2022). The library of a higher educational institution has all the opportunities to actively participate in this work: professional information specialists; continuous professional development: information and communication proficiency; awareness of the target user groups’ information needs.

The authors of the article have monitored the work of the Scientific and Technical Library of the National Technical University «Kharkiv Politechnic Institute» over the last 3 years in the direction of teaching digital and information competences. Some activities are presented in Table 1.

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<tr>
<th>Digital Competence Training Activities</th>
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<tr>
<td>Title</td>
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<tr>
<td>1. Reports at scientific and practical seminars and conferences</td>
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<tr>
<td>2. Publications</td>
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<td>3. Excursions (familiarization with resources and services)</td>
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<tr>
<td>4. Lectures on Academic Culture (including information working skills), hours</td>
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According to the results of the library's work monitoring, we can conclude that during the research the main attention was focused on the library’s new users’ adaptation; information support of education and science; the development of skills in working with academic information. That's why it's necessary to expand this work in the direction of digital competences development,
Results and Discussion

Information hygiene

The list of topics for creating training programs and conducting seminars should be expanded in order to form users' complete set of digital skills that will allow them to work safely with any information and communicate in an information environment.

In our opinion, during military operations, the protection of health and social well-being is of particular importance. It's well known that information and communication technologies can affect human health and at the present stage the intensity of their use has increased significantly. The following formula works: the received information causes a certain mental reaction that affects the physical state of a person (Khalamendyk, 2008). It means that both positive and negative information has an impact on the physical and psychological state of a person. A significant volume of influence of accumulated negative information can be critical for psychological health.

Currently, it's important for every individual to master and observe the rules of information hygiene, save one's own time, and be able to analyze, filter, and extract from the stream of received information necessary to perform certain tasks (Shynkaruk, Imas, Denysova, & Kostykevich, 2018). That's why it can be noted that, first of all, information hygiene solves the issue of the prevention and preservation of human health (Khalamendyk, 2008).

Nowadays, due to the growth of traditional information-dependent diseases among the population, new pathologies are also appearing: computer syndrome; addictions – pathological dependence on television or social networks; phobias – nomophobia, fear of being left without means of communication; manias – sensory, related to the Internet; ludomania – addiction to computer games. Depression, suicide risk, and other psychosocial consequences caused by online social network sites addiction take place. The necessity of implementation of methods and adherence to information hygiene for the prevention of info-epidemic, panic, and mass psychoses became extremely obvious even under the conditions of the SARS-CoV-2 coronavirus pandemic and is extremely relevant at the present time (Humeniuk & Kostin, 2021).

Koval (2017) singles out the following basic rules for compliance with information hygiene:

- criticize strangers on social networks;
- do not immediately trust any, especially sensational, information on social networks, especially if it causes strong negative emotions;
- pay attention to errors and inaccuracies in the texts;
- check information in at least three additional sources, give preference to official ones;
- think about who exactly benefits from the dissemination of this information;
- do not rush to spread any information;
- learn to master negative emotions, and move on to other things;
- reduce the information load;
- remember that there’re no absolutely reliable sites, social networks, mail servers that cannot be hacked.

These rules are basic, there are a number of techniques to help identify false or manipulative information.
People’s Psychological Health during Military Situation

During the military situation, thousands of people feel anxiety, fear, stress, and despair. News sources cover war events from real life — this is cruel and disturbing information about the war. Being in this information field is very difficult for a person. There’s a violation of psychological balance. Anxiety during the war is a normal response to danger. This is an emotional state with a constant expectation of negative events.

In particular, excessive online news consumption by users causes anxiety, irritability, and addictive behavior. Library employees, as information workers, can and should teach users «healthy» rationing of news consumption. For example, follow simple rules — limit the time you watch the news and set yourself clear measurable intervals: once every 3 hours; up to 30 minutes in the morning and evening.

The complete list of recommendations for maintaining psychological balance is presented on the Scientific and Technical Library website, in the section of the information and resource center «Without barriers» (Scientific and Technical Library NTU "KhPI", 2021a). The information on creating a comfortable inclusive environment is also presented on the pages of the «Without Barriers» center. The center staff helps not only to work with information but also personally, as part of volunteering, providing psychological assistance to children who were hiding in the subway in Kharkiv during the bombing (Scientific and Technical Library NTU "KhPI", 2021b).

The Work of the Library to Teach Users Safety Fundamentals of Working with Information

The Scientific and Technical Library of NTU «KhPI» has started updating the content in the direction of teaching digital competences since April 2022. It has been supplemented with digital competences that form safety skills in working with information.

As a result, during April-September, the following methodological recommendations have been developed:

- on methods of recognizing fake information in conditions of hybrid war;
- on the safety of using social networks, the Internet, and television;
- on regarding recognition of information manipulation.

These methodological recommendations are currently being reviewed, after which they will be distributed among users and used in conducting events.

The course «Academic culture» for the 1st year of all specialties is planned to be supplemented with a corresponding section.

It is planned to systematize freely available online courses on media literacy and information hygiene and offer users a selection of the best of them. For example: Action. Digital education (educational series: «Media literacy in times of pandemic», «Psychological support for yourself and close people for civilians», «Working with emotional exhaustion»); Prometheus (course «Information hygiene. How to recognize lies in social networks, on the Internet, and on television»); EdEra (Very Verified: Media Literacy Course), etc.

The Scientific and Technical Library of NTU «KhPI» has a proposal to provide users with psychological support. The employee of the information and resource center «Without Barriers» is a practicing psychologist, so she has the opportunity to provide psychological assistance.

At this stage, the main activity of the Scientific and Technical Library of NTU «KhPI» is carried out remotely. All events are covered on the library’s official website. The corporate communication system is used, which is implemented on the basis of Microsoft Office 365 services for higher educational institutions. The library generates full-text educational and
methodological resources. All these measures allow library employees to be in touch with the user 24/7.

In spite of the considerable work, there remains a number of digital competencies that should also be paid attention to. That's why we plan to elaborate and use other components of the above-mentioned Frameworks in the future.

Conclusions

The «Safety» component in the digital competence system is one of the key competences. In modern society, it is extremely difficult to avoid information flows. They affect the psychological, and then often the mental state of a person. People who are brought out of a state of psychological balance suffer from a lack of an active creative position, low adaptability to the environment, lack of strength to overcome stressful situations, chronic fatigue, pessimism, negativism, irritability, etc.

The libraries of higher educational institutions are always involved in ensuring the information tasks execution of their institution. According to the results of the monitoring of NTU «KhPI» library work, it was determined that the main attention during the activities was focused on the adaptation of new users of the library: education and science information support; development of working with academic information skills. Insufficient attention was paid to the safety skills in working with information. Library employees, as experts in working with information, have the necessary knowledge and experience to expand the content of topics for teaching digital competences, especially the safety skills in working with information.

This work has already begun, as it will help users to acquire the necessary skills of critical perception of information, which will reduce the emotional stress on their physical and psychological well-being. The ability to safely interact with information is one of the most important components of the digital competence system of users, which is especially important in wartime conditions. Psychological well-being makes a person self-sufficient and promotes effective work and learning. After all, the fruitful and effective work of each of us at our workplace supports and strengthens our state.

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CHANGING ROLES: FROM INFORMATION PROVIDERS TO EDUCATORS


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Безпека як одна з найважливіших складових системи цифрових компетентностей в умовах воєнного часу

Мета. Визначити місце безпекових навичок в системі цифрових компетентностей та роль бібліотеки університету у їх формуванні у користувачів. Оволодіння безпековими навичками роботи з інформацією дозволить користувачам нівелювати та контролювати негативний вплив зовнішніх інформаційних факторів. Серед факторів, які негативно впливають на людину, є колосальний обсяг інформації, який складається з актуальної, релевантної та корисної інформації, а також з перекрученої, фейкової, маніпулятивної, деструктивної. Методика. У дослідженні використано емпіричні методи. Проаналізовано практичний досвід та рекомендації міжнародних та національних експертів у напрямі формування навичок безпечної роботи з інформацією. Проведено моніторинг рівня їх виконання бібліотекою на даному етапі. Результати. Визначено, що для якісного та цілісного формування у користувачів безпекових навичок роботи з інформацією, слід розширити перелік робіт та тем за напрямом для їх популяризації та навчання. Оволодіння користувачами безпекових основ роботи з інформацією дозволить відновити та підтримувати контроль над фізичним та психологічним здоров’ям. Висновки. Таким чином, уміння безпечно взаємодіяти з інформацією є однією з найважливіших складових системи цифрових компетентностей користувачів, що особливо важливо за умов воєнного часу. Навчання таким компетентностям допоможе користувачам усвідомлювати, контролювати та нівелювати негативний вплив зовнішніх інформаційних факторів, і саме тому це можна вважати актуальною задачею для бібліотек як установ, які є компетентними з питань роботи з інформацією. Ключові слова: цифрові компетентності; безпека; медіаграмотність; інформаційна гігієна; психологічне здоров’я

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