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ABSTRACT

The aim is to study the features of the use of information technology for the education of students (n=184) with different social and living conditions under martial law. Methods: questionnaire survey, mathematical methods of statistics. Results. The choice of technical means and information technology for education under martial law depends on the social and living conditions of students. The frequency of using applications that allow teaching and learning has no statistically significant differences between students who have different social and living conditions. Education with the use of information technology under martial law allows students to continue their studies, to be confident at least in education. At the same time, students' anxiety still remains an influential factor in assessing the use of technology. According to the results of one-factor analysis, the frequency of use of information technology for education does not affect the attitude of students to the use of technology in education under martial law. Prospects. Further research on the use of information technology for students with strong signs of stress and its consequences, the direct consequences of war, and other factors.

Keywords: war, distance education, living conditions, technologies, Ukraine.

INTRODUCTION

The terrible invasion of the Russian troops in Ukraine shocked the whole world. The warfare will have an impact on health, mental condition and other social factors for decades to come (Goto et al., 2022; Schlechter et al., 2021). As a result of hostilities, millions of Ukrainians have been forced to flee their homes due to destruction or potential danger. War poses a constant threat to life, physical and psychological health (Júnior et al., 2022; Cavalcanti et al., 2022). This affected the students' ability to study, and the ability of educational institutions to provide educational services. However, the educational system has quickly adapted to the existing realities, and is trying hard to keep providing educational services. Of course, many factors determine the situation, such as the inability of students to study properly because of stress, fear, interruptions due to the threat of air strikes, lack of stable Internet, and other reasons (Bharati, 2022; Surzykiewicz et al., 2022). According to experts, the students' self-efficacy is a factor in overcoming stress and expanding the opportunity to teach (Hitches et al., 2022). Overcoming the severe stress of students is a common goal of teachers and universities (Hossain et al., 2021). This is important to overcome the consequences of stressful situations, reduce post-traumatic depressive syndrome, rationally develop emotional intelligence and provide comprehensive support to parents (El-Khodary & Samara, 2019).

The political system strongly influences education (Pascoe et al., 2020). Shevchenko (2019) raised the issue of the peculiarities of higher education because of the military-political crisis. The author outlines the main strategic directions of higher education development in Ukraine, in particular the need for reforms, attracting foreign students to study, revising the mechanisms for awarding scholarships to students and some others. However, the researchers have poorly studied the peculiarities of the educational process under the martial law because of hostilities, given the unpredictability of this situation, the difficulties of conducting research and other factors. For example, the war in Syria has negatively affected students' knowledge. Experts have proposed the following initiatives to bridge the gap in students' knowledge after the war — a variety of thematic courses, opportunities to study at other universities, distance learning, improving the university system, psychological, financial and educational support (Omaish et al., 2022). Other studies have shown that in the absence of adapted programs, the curriculum is an additional burden that will not contribute to psychological and academic well-being (Diab & Schultz, 2021).

AlMunifi & Aleryani (2021) noted that long-term hostilities contribute to the spread of violence against low-educated or uneducated adolescents (for example, Yemen). Therefore, maintaining the opportunity to acquire an education and continue to work prevents a number of social problems, such as student poverty, unemployment and the resulting problems.

Maintenance of the educational process is facilitated by the use of information technology (IT), which provides an opportunity to learn anywhere and anytime. For most students, information technology is currently almost the only means of education under the martial law. Many experts considered the peculiarities of the use of information technology in the educational process of higher educational institutions (Sar & Misra, 2020; Li et al., 2020). The use of interactive technologies in combination with information technologies has had a positive effect on students' practical skills (Rajendra & Sudana, 2018; Wiyono et al., 2021).

Despite numerous studies on the use of information technology for students, their use under the martial law has not yet been studied. Martial law requires prompt and decisive action from all participants in the educational process. In emergency, some educational institutions had to deal with management online and then organize the educational process. Tough and unpredictable conditions of the martial law make their adjustments in life as a whole. Given the possibilities of information technology for education, it is important to study their application for learning, the impact on overcoming stress, efficiency for learning, accessibility.

The frequency of use and effectiveness of information technology under the martial law, its impact on maintaining the quality of education, overcoming stress in students have been left unexplored. Students of higher educational institutions of Ukraine also have different social and living conditions due to migration, relocation within the country and other factors.

This is why the aim of the study is to analyses the frequency and attitude of students with different social and living conditions to the use of information technology for education under the martial law.

Objectives/questions

1. How often do students use certain information technologies under the martial law? 2. Do the social and living conditions of students affect the frequency of information technology use?

3. Does interactive learning help reduce the stress caused by the martial law and ongoing events?

4. Does the frequency of the information technology use affect the attitude of students to studies under the martial law?

LITERATURE REVIEW

The use of information technology in the educational process aims to enhance students' thinking, finding solutions to problems, the ability to analyse information. The need to develop professional skills in the training of future teachers, the appropriateness of using information technology is beyond doubt provided the peculiarities of pedagogical professions. Awareness of the benefits and necessity of students' future activities enhances the effectiveness of learning and practical skills (Amin et al., 2021). Perceived utility, satisfaction and frequency of use are the benefits of e-learning (Al-Fraihat et al., 2020).

Under the martial law, the use of information technology should ensure the quality of the learning process and a distraction from hostilities, stress and other negative consequences arising from hostilities. Reducing the effects of hostilities is a prerequisite for public health (Gebregziabher et al., 2022). Deputy et al. (2022) defined that the loss of educational opportunities is an indirect consequence of the war, which also has a strong impact on the moral well-being of students. Civil war is a great stress for students, they entail a variety of consequences in the future (Elhadi et al., 2020). Din et al. (2021) also concluded that the physical and mental health of students, their academic achievements are severely affected by the war. Students experienced constant anxiety, stress, and other negative manifestations due to hostilities.

The use of distance learning helps to mitigate the consequences. However, there are many factors that prevent students from learning effectively. Previous research shows that distance learning, the impossibility of full-time learning due to the Covid-19 pandemic, has been stressful for students (Leigh et al., 2021). Psychological trauma caused by the limitations negatively affects motivation to learn and academic performance (Kan et al., 2021).

Distance education practically solves the problem of education in emergency, which can be quite effective with quality training of teachers, students and equipment (Hebebci et al., 2020).

Under the martial law, education can practically continue only with the use of information technology. Therefore, it is useful to study how students use information technology for education. We predict that this use may be a predictor of the quality of education as learning is realized mostly with the use of information technology. For students, martial law and events in the country are very stressful.

The hostilities caused a number of unforeseen problems for the educational process in higher educational institutions. In this article, we will not deal with the problems of educational institutions that have been destroyed, forcibly relocated and work remotely. However, there were many problems in the educational institutions located in the areas where there were no hostilities; the main problem was the organization of the educational process under the martial law (including the organization of teachers, process, students, taking into account constant unforeseen situations), being not ready to teach students because of stress.

The Ministry of Education and higher educational institutions have made considerable efforts to ensure that students receive quality knowledge, despite the negative events, and that they are ready to work. The information technology help students to study the material, supplement their knowledge and skills independently, develop creative and constructive abilities, learn to solve problems independently. So, the use of technology is a predictor of successful work. The perceived usefulness of e-learning also helps students overcome anxiety (Hu et al., 2022). The use of information technology in Ukraine under the martial law provides the opportunity to keep the educational process going, and we believe that it helps to overcome stress, distract from negative thoughts, constant monitoring of news. The following factors are the components of this study: the negative impact of war — the use of IT for learning, their ability to neutralize negative factors, especially the frequency of information technology use depending on the social and living conditions of students.

METHODS
Research procedure
The research is conducted in four stages:
1. Peculiarities of interactive technologies in the educational process of students were studied by searching data in Scopus, Web of Science, Google Scholar databases, evaluation protocols were selected.
2. The questionnaires were developed for students, which allow to study the peculiarities of the use of information technology in the educational process;
3. Samples of students who attend classes and agreed to participate in the study were formed.
4. The data obtained were processed, the conclusions were drawn.

The survey of students was conducted using author's questionnaires, which allow a comprehensive assessment of the use of information technology in the educational process of graduate students under the martial law.

Questionnaire 1 concerned the attitude to the use of information technology in general (Appendix 1). It is based on factors from Leigh et al. (2021), Kutluca (2010), but the questions for students are designed to study the use of information technology under the martial law.

Each question was graded by students on a four-point Likert scale (1 point — completely disagree, 4 points — completely agree). The questions are presented in Appendix 1.

The frequency of using software and applications by students for learning was studied through Questionnaire 2. The basic actions that students need for learning and the main applications required for this purpose are identified. Students also rated the frequency of use of certain applications on a Likert scale from 5 points — very often (several times a day, every day), to 1 — never. The questionnaire is presented in Appendix 2.

Students answered the questions in Google Form. The answers were evaluated in terms of the total number of answers received, and the peculiarities of answers by students who found themselves in different social conditions were compared — abroad (foreign students), IDPs, and those at home.

Sampling
To conduct the study, invitations to fill out questionnaires were sent to graduate students who continued to study after the order of the rectors of higher educational institutions to resume and continue their studies; who have not received physical injuries or trauma due to hostilities, or significant losses that would interfere with the learning process. Students gave their consent for publishing the results provided their anonymity. The study involved a total of 195 students, but only 184 students completed the questionnaires.

Students who participated in the study belonged to three categories of social and living conditions under the martial law: 184 students (students who are abroad - 42 students, IDPs - 60 students, those who are at home 82 students).

Methods
The survey results were evaluated using the mathematical methods of statistics. The arithmetic mean in groups was used; Student's t-test was applied to find the difference between the groups.

The average values of correlations between variables that are part of Questionnaire 1 (students' attitudes to information technology during the war) were determined using the Cronbach's alpha (interpretation of the value of coefficient according to Taber, 2018). This coefficient was used to determine the consistency between the components of the developed questionnaire, which assesses the attitude of students to learning with the use of IT under the martial law. The coherence between such components as: the use of IT to keep the educational process going (assessment of the overall effect); the use of IT in maintaining the quality of learning (confidence); the role of IT in the educational process to overcome stress (anxiety), students' attitudes to learning with the use of IT under the martial law.

One-way analysis of variance was used to test the impact of the use of information technology on:
- the overall effect of information technology on keeping the educational process going;
- on confidence in obtaining education through the use of information technology;
- on the role of information technology in overcoming stress;
- on students' attitudes to the martial law.

RESULTS

So, we outlined the necessary tasks for students' studies during the war, selected information technologies that would meet these needs, and asked students about their use of these applications.

So, the aspects of student learning in general are provided below (Table 1).

Table 1: Applications depending on students' learning needs

Aspects of learning	The necessary actions	Tools
Viewing, listening to lectures	Viewing lectures	YouTube
Completion of assignments Writing of the graduation project, preparation for the defence	Information search	Google search Word Press
	Writing	Word Google Docs
	Table calculations	Excel Google Tabs
	Translation of the necessary information	Google translate I Translate
	• Creation of the presentations	Google slides Power point
Communication	Submission of assignments, discussion of comments Consultations	Messengers, WhatsApp, Telegram, Messenger E-mail
Participation in lectures, seminars, consultations, individual lessons	Videoconferencing	Google classroom Zoom Skype
Graduation project defence Passing exams		Zoom Skype
		Zoom Skype

There are enough applications from different companies — MS Office, Google — in order to ensure the full learning process with the use of information technology. These applications can be used from a personal computer, laptop or smartphone for learning. Not all higher education institutions in Ukraine currently have uniform requirements for the use of information technology. Teachers and students choose more convenient applications, taking into account simplicity, convenience, access, ability to use.

Many applications have provided free access to professional or premium versions for Ukrainians during martial law (e.g. I Translate), which makes their use by students more likely.

Frequency of information technology use by students

A survey was conducted to assess the frequency of use of applications by students with different social and living conditions. The survey results are presented in Table 2.

Table 2: Frequency of information technology use by students with different social and living conditions

Technologies	Students who are abroad	Internally displaced students	Students who are at home
YouTube	4.74 ± 0.03	4.17 ± 0.03	4.87 ± 0.21
Google search	4.80 ± 0.12	4.70 ± 0.15	4.85 ± 0.22
Word Press	3.32 ± 0.07	1.22 ± 0.21	1.17 ± 0.25
Google translate	4.60 ± 0.14	4.55 ± 0.22	4.74 ± 0.03
Itranslate	3.87 ± 0.11	1.24 ± 0.11	3.41 ± 0.08
Messengers, WhatsApp, Telegram, Messenger	4.87 ± 0.11	4.85± 0.25	4.68 ± 0.11
E mail	4.55 ± 0.06	4.63 ± 0.21	4.71 ± 0.07
Google classroom	4.11 ± 0.13	3.98 ± 0.22	4.05 ± 0.11
Zoom	4.55 ± 0.17	4.24 ± 0.14	4.45 ± 0.14
Skype	4.44 ± 0.11	3.74 ± 0.21	3.98 ± 0.21
Word	4.35 ± 0.21	2.24 ± 0.14	4.29 ± 0.16
Google Docs	3.17 ± 0.14	4.24 ± 0.11	3.21 ± 0.09
Excel	4.41 ± 0.11	2.23± 0.21	4.05 ± 0.17
Google Tabs	3.21 ± 0.16	3.98 ± 0.22	3.34 ± 0.07
Google slides	2.33± 0.21	2.14 ± 0.11	2.32 ± 0.32
Power point	3.22 ± 0.13	3.13 ± 0.10	3.75 ± 0.11
Google drive	4.21 ± 0.11	3.48± 0.03	2.24 ± 0.21
Google Forms	3.14 ± 0.14	2.89 ± 0.21	3.75 ± 0.11
Google calendar	4.21 ± 0.18	3.98 ± 0.06	3.95 ± 0.03
Total score	**4.01 ± 0.11**	**3.45 ± 0.17**	**3.78 ± 0.16**

Therefore, the use of certain applications directly depends on the social and living conditions of students. It is predicted that the frequency of information technology use may also depend on the social and living conditions of students. In general, students use technology quite often, internally displaced students — less often. The calculation of Student's t-test does not show statistically significant differences between the frequency of use of most IT among students with different social and living conditions because of the martial law. There are differences between some search engines and translation applications, which may indicate more use of technical means, but this is not a difference in the frequency of technology use in general.

So, social and living conditions affect the frequency of use of certain applications, but in general, students use technology with the same frequency. It is not currently possible to verify whether the frequency of application use will affect the quality of the knowledge gained, as the frequency may not always indicate the quality of use. A student who writes a quality graduation project once a week, for example, may have a higher success rate in this work than one who uses various applications every day inefficiently.

Attitudes of students to the use of information technology under the martial law

The students were interviewed through the author's questionnaire, which contained four factors of influence and 21 questions, in order to explore other spectra of the impact of the information technology use on the learning process under the martial law. The validity of the survey was checked using the Cronbach's alpha.

We compared the results of the frequency of using IT for learning and the impact on such factors as:
- the IT use to keep the education going (Assessment of the overall effect);
- the IT use in maintaining the quality of learning (Confidence):
- the role of IT in the educational process to overcome stress (Anxiety);
- students' attitudes to study with the use of IT under the martial law (Attitude).

Student survey indicators show that the use of information technology helps them to be confident in keeping the education going under the martial law, in maintaining the quality of education, helps to deal with stress and anxiety, and students have a positive attitude to learning with the IT use.

Table 3: The results of a survey of students' attitudes to the IT use under the martial law

	Questionnaire components and questions	Students who are abroad	Internally displaced students	Students who are at home
I	**The use of IT to keep the education going (Assessment of the overall effect)**			
1	The IT allowed me to study under the martial law	3.54 ± 0.15	3.32 ± 0.03	3.41 ± 0.09
2	It helped me communicate effectively with teachers and classmates on learning topics	3.21± 0.11	3.11 ± 0.07	3.17 ± 0.20
3	IT provides access to full-fledged training under the martial law	3.04 ± 0.04	2.98 ± 0.19	3.05 ± 0.17
4	Thanks to IT, I am confident that I will receive a quality education and will be able to work immediately after graduation	3.14 ± 0.05	3.26 ± 0.11	3.44 ± 0.16
II	The IT use in maintaining the quality of learning (Confidence):			
5	I completed the learning process effectively by using IT	3.24 ± 0.11	3.41 ± 0.17	3.47 ± 0.17
6	I perceive information from lectures recorded on video well	3.47 ± 0.17	3.22 ± 0.04	3.41 ± 0.20
7	I prepared my graduation project thanks to IT	3.78 ± 0.15	3.84 ± 0.10	3.85 ± 0.07
8	I can learn with the use of IT even during an air alarm if I am relatively safe	4.00 ± 0.03	2.54 ± 0.09	3.15 ± 0.14
9	I have access to all the necessary materials or applications under the martial law	3.74 ± 0.16	3.36 ± 0.07	3.74 ± 0.21
10	The IT allows me to prepare for exams, defence of the graduation paper	3.24 ± 0.14	3.11 ± 0.14	3.21 ± 0.17
III	**The role of IT in the educational process to overcome stress (Anxiety)**			
11	The use of technology helps to keep calm at least about the educational process	3.14 ± 0.17	3.24 ± 0.11	3.32 ± 0.17
12	The use of learning technologies helps me to distract from the news	3.11 ± 0.21	2.35 ± 0.14	3.22 ± 0.07
13	(Opposite) The use of IT under the martial law is a waste of time because of poor emotional state	3.07 ± 0.16	2.92 ± 0.08	3.1 ± 0.21
14	(Opposite) It is difficult to use IT during martial law	3.14 ± 0.09	3.34 ± 0.13	2.24 ± 0.11
15	(Opposite) Anxiety, fear and stress prevent me from studying during martial law	2.06 ± 0.05	3.37 ± 0.14	3.14 ± 0.14
16	(Opposite) Learning during martial law is very difficult even with access to information through IT	3.43 ± 0.11	2.41 ± 0.09	2.26 ± 0.17
IV	Students' attitudes to study with the use of IT under the martial law (Attitude)			
17	Learning and completing assignments using IT during martial law is interesting to me	3.45 ± 0.17	2.74 ± 0.09	2.15 ± 0.18
18	I believe that I can work in the future thanks to learning with the use of IT during martial law	3.14 ± 0.15	2.97 ± 0.14	3.25 ± 0.25
19	I use IT not only for learning	3.62 ± 0.08	3.47 ± 0.21	3.76 ± 0.11
20	I would like to explore additional features of different ITs	2.98 ± 0.21	2.41 ± 0.22	2.98 ± 0.17
21	I have a good command of IT skills	3.27 ± 0.14	3.14 ± 0.17	3.27 ± 0.15

As the survey results show, students generally highly assessed IT for maintaining learning, maintaining the quality of education, and had a positive attitude to the use of IT during martial law. However, students are not able to fully cope with anxiety. That is, the use of IT helps to distract, study the necessary material, prepare for exams, but the anxiety of students is still high. This is confirmed by the data of coherence calculations using the Cronbach's alpha. The coherence of all questionnaire components according to this coefficient is 0.57, while the

exclusion of the Anxiety component shows that the coherence between the Assessment of the overall effect, Confidence, Attitude questionnaire components is 0.88.

No statistically significant differences were found between groups of students in terms of the survey results (Table 4).

Table 4: The results of a survey of students' attitudes to the IT use under the martial law

Questionnaire components	Groups of students	Students who are abroad	Internally displaced students	Students who are at home
The IT use to keep the education going (Assessment of the overall effect)	Internally displaced students	0.21		
	Students who are at home	-	0.02	0.37
The IT use in maintaining the quality of learning (Confidence)	Internally displaced students	0.11		
	Students who are at home	-	0.03	0.26
The role of IT in the educational process to overcome stress (Anxiety)	Internally displaced students	0.18		
	Students who are at home	-	0.37	0.12
Students' attitudes to study with the use of IT under the martial law (Attitude).	Internally displaced students	0.02		
	Students who are at home	-	0.26	0.24

Note: p>0.05

Students' access to technical means during the martial law

The next survey was a study of students' access to technical means depending on social and living conditions. We believe that to some extent the use of certain applications depends on what the student mostly uses for learning. The survey showed that the choice, or rather access to certain means (smartphone, laptop/personal computer, their combination), depends to some extent on the students' social and living conditions (Figure 1).
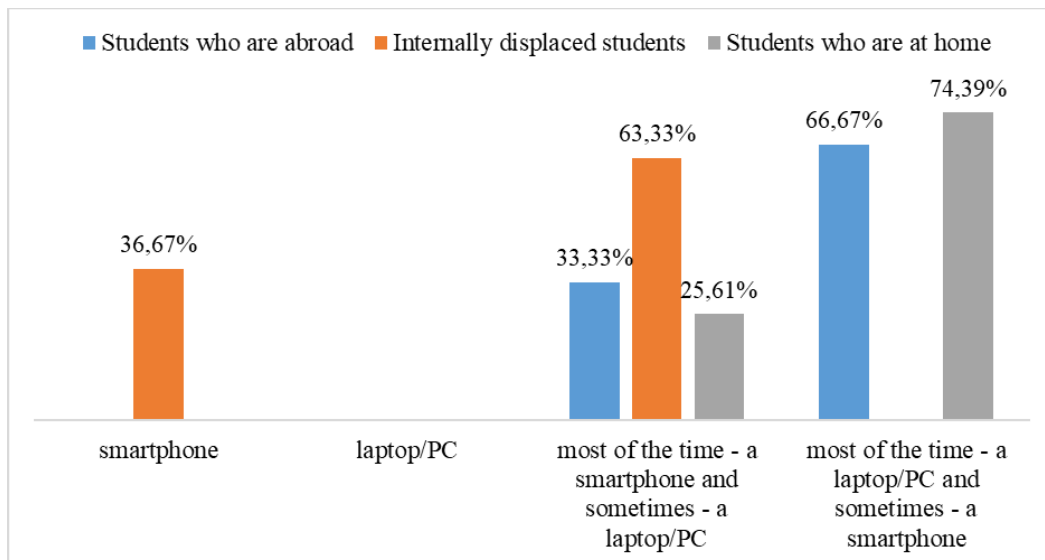

Fig. 1:Use of technical means for learning depending on social and living conditions

We also believe that the use of technical means directly affects the use of certain applications. For example, students mostly use Google Docs to write — 51.63%, 45.11% of respondents use it very often (every day, several times a day), 6.52% — often (once a week). The results of use for calculations are almost similar. Only 15.22% of students abroad use Excel, while the majority of students who are at home (45.11%) use it. At the same time, Power Point was the leader in creating presentations, especially for students who are at home (80.43% of them use Power Point). These results show the dependence of use on access to technical means, and, in our opinion, to usability of the interface, ease of use, synchronization, the ability to work online, offline, and other factors.

Frequency of use of information technologies and students' attitude to their use during the martial law

A one-factor analysis of variance between the frequency of information technology use and the questionnaire components, which aimed to study the students' attitude to learning using information technology during martial law shows the lack of interaction between these indicators (Table 5).

Table 5: One-factor analysis of variance of the impact of the IT use frequency and attitude to learning

Indicators	F	$F_{crit.}$
Frequency - peace of mind	1.44	3.68
Frequency - confidence	1.49	3.55
Frequency - anxiety	0.08	3.68
Frequency - attitude	0.89	3.78

So, we can conclude that the frequency of technology use by students is not an indicator of their confidence, peace of mind, anxiety about learning or attitude to learning during the martial law. Therefore, other indicators need to be explored in further studies.

DISCUSSIONS

Martial law and war in general pose new challenges in various aspects of society, including education. In a relatively short period of time, educational institutions had to adapt to the realities of the war, and some educational institutions were partially destroyed, which entails additional difficulties. There was also a significant relocation of people abroad and within the country, in relatively safe areas where there is no hostilities, but there are threats of missile strikes almost every day. As in previous studies, we hold that this will have implications for society as a whole and individuals in particular for an indefinite period (Goto et al., 2022; Gebregziabher et al., 2022). Of course, these unpredictable factors significantly affected the educational process, the emotional state of students and teachers. However, the Ministry of Education of Ukraine and the administrations of higher educational institutions have made every effort to complete the academic year of graduate students who had to receive diplomas. So, these students took part in the study.

There are no developed evaluation tools or criteria for assessing the use of information technology under the martial law, as martial law is an unpredictable situation, as well as its impact on education. Therefore, we developed author's questionnaires for this study, taking into account the peculiarities of this situation. The components of the questionnaires developed by Leigh et al. (2021), Kutluca (2010) are taken as a basis, because, in our opinion, they were right for this situation.

The obtained results show that the martial law and events in Ukraine had a rather strong impact on students — stress, which, in turn, negatively affects learning (Pascoe et al., 2020). To prevent other negative consequences of the war, which are mentioned by AlMunifi & Aleryani (2021), it is necessary to continue the education of students. This, as Hossain et al. (2021) noted, requires the efforts of higher educational institutions. Of course, the organization of the learning process depends to a greater extent on the higher educational institutions, but the efforts of the students themselves are also required. According to Hitches et al. (2022), Hu et al. (2022), learning can help students overcome severe stress.

Previous studies show that students are not very positive about distance learning (Kan et al., 2021). However, in a state of war, the negative attitude of students to distance learning is offset by other problems, and becomes a solution to the existence of the educational process (Hebebci et al., 2020).

Research has shown that students in martial law often use a variety of information technologies. The use of information technology helps them to distract from the news, to be confident in education, to overcome some anxiety.

However, the frequency of the use of information technology does not affect the students' attitude to the use of information technology in the educational process, their confidence in receiving quality education, anxiety and attitude to learning with the use of information technology. Therefore, further research is needed on the quality of students' perception of educational material with the use of information technology, assessment of students' ability to complete assignments on various criteria (ability to use information technology to complete assignments, knowledge of subjects studied, ability to apply knowledge, etc.).

CONCLUSIONS

The need to keep the educational process going under the martial law determines the search for effective ways to provide education to students with different social and living conditions. For some students, the educational process under the martial law is possible only with the use of information technology in a remote format. Studies of the application of information technology under the martial law have identified ways to improve the educational process in the future.

According to the results of the study, the frequency of the information technology use by students who went abroad is not statistically different from its use by the IDPs and students who are at home. All students used certain

information technologies at least once a day or several times a day. The frequency of use of certain applications also depends on the access of students to technical means, which, in turn, depends on the social and living conditions of students. The lack of statistically significant differences in the use of information technology by students with different social and living conditions shows that students equally strive to learn, get an education despite the ongoing events.

Students have a positive attitude to learning with the use of information technology under the martial law, because it allows them to get an education despite the events. This contributes to the students' confidence at least in education as an element of the life before the war, thus somewhat reducing anxiety.

However, the frequency of use does not interact with indicators of confidence, attitude to learning, anxiety and assessment of learning in general during martial law. In other words, students who use information technology less often treat the results of their application the same way as students who use information technology more often.

The obtained results can be used to improve the planning and organization of the learning process under the martial law, to further develop information technology for teaching students, learning to use these technologies. Further research is aimed at studying the effectiveness of the use of information technology for student learning outcomes, which can be explored after assessing students' knowledge, interviewing teachers. It is possible to evaluate the effectiveness of the use of information technology for students who are injured, have the consequences of severe stress, as well as for enrolled students.

Limitations

The study involved students who studied in Ukraine, who were internally displaced or moved abroad (female) during the martial law. The study did not involve students with severe signs of stress, physical injuries caused by war, or other situations that would not provide an opportunity to complete the learning process.

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Appendix 1
Questionnaire for students

Please rate your attitude to such statements on the proposed scale.

I	The use of IT to keep the education going (Assessment of the overall effect)	1 completely disagree	2 disagree	3 apparently yes	4 agree (yes)
1	The IT allowed me to study under the martial law				
2	It helped me communicate effectively with teachers and classmates on learning topics				
3	IT provides access to full-fledged training under the martial law				
4	Thanks to IT, I am confident that I will receive a quality education and will be able to work immediately after graduation				
II	**The IT use in maintaining the quality of learning (Confidence)**				
5	I completed the learning process effectively by using IT				
6	I perceive information from lectures recorded on video well				
7	I prepared my graduation project thanks to IT				
8	I can learn with the use of IT even during an air alarm if I am relatively safe				
9	I have access to all the necessary materials or applications under the martial law				
10	The IT allows me to prepare for exams, defence of the graduation paper				
III	**The role of IT in the educational process to overcome stress (Anxiety)**				
11	The use of technology helps to keep calm at least about the educational process				
12	The use of learning technologies helps me to distract from the news				
13	(Opposite) The use of IT under the martial law is a waste of time because of poor emotional state				
14	(Opposite) It is difficult to use IT during martial law				
15	(Opposite) Anxiety, fear and stress prevent me from studying during martial law				
16	(Opposite) Learning during martial law is very difficult even with access to information through IT				
IV	**Students' attitudes to study with the use of IT under the martial law (Attitude)**				
17	Learning and completing assignments using IT during martial law is interesting to me				
18	I believe that I can work in the future thanks to learning with the use of IT during martial law				

19	I use IT not only for learning				
20	I would like to explore additional features of different ITs				
21	I have a good command of IT skills				

Appendix 2
Questionnaire to study the frequency of the use of applications by students for learning

Describe the frequency of using information technology for learning in the last two months:

Technologies	Very often (every day, several times a day)	Often (once a week)	3 sometimes (1-2 times a month)	2 - rarely	1 never
YouTube					
Google search					
Word Press					
Google translate					
Itranslate					
Messengers, WhatsApp, Telegram, Messenger					
E mail					
Google classroom					
Zoom					
Skype					
Word					
Google Docs					
Excel					
Google Tabs					
Google slides					
Power point					
Google drive					
Google Forms					
Google calendar					