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Social Media as a Tool for the Formation of Media Literacy

Summary

Transformation and informatisation of society contribute to introducing social media and information and communication technologies (ICT) as an integral part of society. The article is devoted to studying forming such a key competence of modern personality as media literacy through social media. The analysis of recent research and publications shows that the use of social media is controversial and has already been studied by scholars in various aspects. The use of social media today can be perceived as a pedagogical tool and a lever of information and political influence on society. Taking into consideration the imposition of martial law in Ukraine, we experience a special need to create own platforms of proven and quality information presented to the audience on social media as well as experts and influencers that will support the image and spirit of the country and ensure the dissemination of verified and reliable information. Education is considered the main counteraction to propaganda, manipulation and bias, and educators have been the headliners of the educational process.

When conducting the research, the following tasks were set: 1) to find out the peculiarities of social media functioning (especially in martial law); 2) to test the feasibility of using social media as a tool for forming media literacy (based on findings of the educators in Dnipropetrovsk region).

To conduct a comprehensive study of the use of social media as a tool for forming media literacy, we used a mixed research design based on quantitative and qualitative methods.

The information overload that occurred at the beginning of the Russian military aggression against Ukraine negatively affected Ukrainian citizens' ability to perceive information critically. However, by adapting to life in new conditions and restoring the ability to think critically, citizens continued their professional activities at a qualitatively new level.

Exploring the potential of using social media for political manipulation and propaganda requires further in-depth study and analysis and can serve as a basis for political or psychological research in modern society.

Keywords: educators, social network, propaganda, disinformation, manipulation, information environment, literacy

1. Introduction

Today reality makes adjustments in all spheres of activity: a person must be able to quickly adapt to digital and information space, cooperate both in the virtual environment and in real life, and understand the narratives of modernity (i.e., a set of related real or fictional events, facts or impressions) and the basics of safe use of Internet resources and social media as an integral part of the life of an information society.

In January 2022, the International Media Research Agency "Wearesocial" (London, the United Kingdom) published the annual report "Digital 2022", which witnessed that the number of Internet users increased by 2%; the number of social networks users increased by more than 10%; the number of mobile phones users increased by 1.8%. There are such popular reasons for using the Internet as the search for information (61%), communication with family

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and friends (55.2%), and reading the news (53.1%). Despite various challenges over the past few years, Facebook remains the most popular social network and the main source of information for most people: the number of new users is growing every month (Simon, 2022).

Statistics also show that the Internet has become an everyday phenomenon in the lives of ordinary citizens of Ukraine as well. According to the annual USAID-Internews survey "Attitude of the population to the media and consumption of different types of media in 2021", conducted by the sociological company InMind commissioned by the international organisation Internews, which implements the Media Program in Ukraine with financial support from the United States Agency for International Development (USAID), the share of active Internet users is growing (90% of respondents). There is a tendency among Ukrainians to use social networks (62% of respondents) as the primary and only source of information. However, the percentage of trust in online media decreased from 48% in 2020 to 44% in 2021, considering them unreliable and biased. The most popular social networks are Facebook as the primary source of current news (47% of Ukrainians use this network), YouTube as an alternative to television (30% of Ukrainians use this network), Instagram as a source of entertainment or local news (18% of Ukrainians use this network; mostly young people aged 18–30, less often – 31–40). Among other things, 34% of Ukrainians pay attention to the source of news (for comparison: in 2020, the figure was 35%), 31% of Ukrainians try to analyse different points of view (for comparison: in 2020, the figure was 32%), 16% of Ukrainians pay attention to media owner (for comparison: in 2020 the figure was 13%), 24% of Ukrainians intuitively trust the media (for comparison: in 2020 the figure was 22%), 14% of Ukrainians trust their favourite media (for comparison: in 2020 the figure was 20%), 6% of Ukrainians do not know the signs of reliable media (for comparison: in 2020 the figure was 7%). Notably, in 2021 the percentage of Ukrainians who consume and trust Russian media decreased by 1–3% depending on the type of media (Internews, 2021).

Thus, statistics from various sources and agencies reflect the current trend: the use of the Internet and social networks is a commonplace phenomenon that can be considered the main platform for working out personal media literacy, has a significant impact on personality, can be addictive and sometimes the only source of information.

The use of social media (particularly social networks) today can be perceived as a pedagogical tool and a lever of information or political influence. Despite differences in the views of scholars on the appropriateness and safety of their use, social media are also increasingly applied in educational activities. However, today, during the active phase of Russia's military aggression against Ukraine, the use of social media as a tool to influence the public and develop media literacy has become extremely relevant. It requires a more detailed and comprehensive study, so this controversial issue remains the subject of research and discussion.

The article aims to study the possibilities of using social media as a tool for the formation of media literacy.

To reach the aim, the following tasks were set: 1) to find out the peculiarities of social media functioning (especially in martial law); 2) to test the feasibility of using social media as a tool for forming media literacy (based on findings of the educators in Dnipropetrovsk region).

To conduct a comprehensive study of the use of social media as a tool for media literacy, we used a mixed research design based on quantitative (pedagogical experiment; measurement of variables; hypothesis testing) and qualitative (observation of participants in learning; comparison and generalisation of pedagogical experience; analysis of statistically sound data) methods.

2. Social Media in the Context of Scientific Research

An analysis of recent research and publications shows that the use of social media is controversial and has already been considered by scholars in various aspects. Thus, Oleksiuk and Lebedenko (2015) studied the peculiarities of the use of social media in the work of secondary school teachers. Kobysia and Semenov (2019) identified opportunities for using social media when training future teachers, focusing on introducing modern methods for organising and supporting education.

The research on the use of social media in education and warnings about some related issues (such as privacy, loss of time, distraction and mechanical nature of these social media) was conducted by Grover (2014), who experimentally proved that these digital tools should not be ignored in the academic field. The digital competence of future primary school teachers when teaching science through social media was explored by Robles Moral and Fernández Díaz (2021), who emphasised the need to develop other competencies, such as communication and science as well. The use of social media as a political communication tool was explored by Daşli (2019), who emphasised the potential of social media to reach a large audience and disseminate specific ideas through a single instant message.

The research also shows that media are primarily a lever of propaganda, not information in world politics (Shehu Enoch, 2020). In addition, Bula and Sviderska (2020) studied social media as a tool for political manipulation and a platform for psychological influence through spreading propaganda, focusing on replacing social and political reality with computer simulations.

The researchers from Bulgaria, Italy, and Qatar, Hristakieva et al. (2021), analysed the spread of propaganda and its interaction with coordinated behaviour and presented a methodology for analysing several important dimensions of behaviour on the Internet. This study provides a methodology for defining such concepts as coordinated "harmful" (i.e., aimed at inciting citizens to violence or aggression) and "harmless" (coordinated but not malicious or deceptive) behaviour (Hristakieva et al., 2021).

Semen's (2017) study on the propaganda policy of Russian communities on social media against Ukraine is relevant nowadays. The researcher singled out the following methods of propaganda: labelling, creating a cult of personality, appealing to authority, and demonising the enemy. The paper emphasises the need to study all components of the modern information society (in particular, the influence of social media) on the spread of propaganda and manipulation to form media literacy and appropriate response to information attacks of the aggressor.

According to Bradshaw and Howard (2019), Facebook remains the dominant platform for cyber-troops due to the scale of use and capabilities of this platform for political communication, involving artificial intelligence, trolls, bots, deepfake technologies and more.

In turn, Kižina (2015) analysed the tools, approaches, and methods of social media promotion in the context of cyber warfare in the case of pro-Russian propaganda on social networks aimed at Lithuanian Internet users. The study's results correlate with the situation in Ukraine: Russian propaganda is conducted mainly through the use of the social network Facebook. It is not centralised from a single source but focuses on pro-Russian content on social networks in the context of cyber warfare, especially during the Russian military aggression and intensified online propaganda against Ukraine. Currently, during martial law, social media are used as a tool for advocacy, dissemination of disinformation and data collection (both personal and strategic).

3. Features of Using Social Media as a Source of Information

According to McCarthy (2010), the ideal and most popular hosting site is the social network Facebook, which is also used by 47% of Ukrainian citizens regularly consuming information (Internews, 2021). The network is constantly expanding its functionality and adding new services. The most active users of this social network (15–18%) are citizens aged 25–45 (Simon, 2022). Facebook's educational potential as a primary source of information encourages educators to purposefully influence their students, introduce training courses, and enable educational institutions to create closed corporate communities with a specific target audience. However, the principle of "targeted impact on the audience" also works based on Facebook's algorithms, trained bots, trolls, and propagandists who advertise and promote products and ideas that benefit them. Therefore, Facebook cannot be considered a professional platform for providing educational services. It is inexpedient to use this social network as a separate educational tool. However, we can use some features of Facebook (for example, to establish cooperation), forming its users' general or key competencies (including media literacy).

The social network Instagram was launched in 2010 as a mobile app that allowed users to upload and share photos and videos. Its popularisation and expansion have been rapid, and this social network is

now considered an effective online platform for interacting with young people aged 18–30 (17%) (Simon, 2022; Internews, 2021); its functionality can be used in educational activities, motivating learners to study school subjects (including foreign languages), introducing online educational marathons, forming general or key competences (including media literacy) of users, creating thematic posts with appropriate hashtags, etc. (Kyrpa, 2021).

However, today Instagram is primarily used to create and promote a personal brand to help a blogger influence the worldview of a significant audience of subscribers. Therefore, the impact of this social network can be both constructive and destructive, depending on the content distributed by such a blogger. The influence of Instagram bloggers on the consciousness and worldview of displaced citizens during the Russian military aggression against Ukraine is especially noticeable. Russian bloggers incite the masses to enmity and justify the government's actions by imposing propaganda ideas.

Regarding the use of the social network Telegram, according to the DataReportal team, only 10% of citizens worldwide over the age of 16 consume information using its functionality (Simon, 2022). However, this social network is gaining tremendous popularity due to the ban on social media such as Facebook and Instagram in Russia. In Ukraine, using the functionality of the Telegram application, 21% of citizens consume information daily (Internews, 2022). Anybody can create a Telegram channel anonymously, for free and with a few clicks. The interface's simplicity and absence of unnecessary elements distinguishes it from other messengers. However, neither the dissemination of information, its reliability, nor the authorship of materials is controlled, which is dangerous for forming citizens' worldviews in peacetime and increases the harmful effects and losses in wartime. Telegram is an application loyal to misinformation or fakes and free from censorship. Thus, the purpose of some anonymous channels was to gather information, manipulate, spread panic and destabilise the situation in Ukraine (i.e., the channels "Resident", "Gossip Girl", "Dnipro live", etc.).

It should also be emphasised that according to various studies, the level of trust of Ukrainian citizens in Internet news (including social media) is high (on average 44%). Although personal consumption of Russian media and trust in them decreased: 82% of Ukrainians did not use any type of media in 2021 (Internews, 2022). This tendency has become especially noticeable during the military invasion of the territory of Ukraine.

Thus, the common characteristics of the above social media include an organising aspect, the ability to unite many people with one idea and encourage them to participate in so-called social movements or social actions, which can be described as a riot in the struggle for power, or as a lever impact on the masses of people (Daşli, 2019).

4. Exploring the Level of Media Literacy during Martial Law

Education that meets the current and projected needs, problems, and aspirations of the individual and society, based on changes in the individual's cultural environment, is considered the main counteraction to propaganda, manipulation and bias. This approach to education and educational activities contributes to forming personal readiness to address social goals, economic realities and future life challenges.

Moreover, educators have been the headliners of education. Therefore, in the conditions of total digitalisation and availability of any content, educators must be able to navigate in the information environment themselves to distinguish "white" media from propaganda.

Work with the citizens of the Dnipropetrovsk region on the development of media literacy was launched in 2019 with the support of trainers of the International Research & Exchanges Board (IREX), an international non-profit organisation specialising in global education and development. In 2019–2021, thematic training and workshops on the formation of citizens' information hygiene and the development of their media literacy were held in the Communal Institution of Higher Education, "Dnipro Academy of Continuing Education" of Dnipropetrovsk Regional Council. However, at the beginning of the military invasion of the Russian Federation in February 2022, there was an additional need to update and activate the acquired knowledge, skills, and abilities.

A short-term study was conducted during the first month since the beginning of the Russian military invasion of Ukraine (February 24 – March 24, 2022).

21 employees of the communal institution of higher education, "Dnipro Academy of Continuing Education" of Dnipropetrovsk Regional Council, who work at different departments, were involved in all the stages of the study on their own initiative. This target group was chosen because educators are undisputed influencers for students and their parents, who monitor their activities and follow their advice. That is why educators have the opportunity, in addition to teaching the subject, to form core values and key skills among their audience, teach them how to use the Internet and social media safely, consume information critically and protect personal data as the main requirements of the conscious user of the network, as well as to influence students' perception of the education system as a whole.

In the course of the research, it was decided to trace the dynamics of citizens' qualitative activity on social media in the context of martial law and compare the results at the ascertaining and control stages. We understand qualitative activity as avoiding the creation of information noise on social media, disseminating reliable and useful information, and involving in information resistance.

In order to effectively organise the work at the ascertaining stage, we conducted a survey based on three questions (1. What social media do you use most often? 2. What content do you distribute most often, for example, personal posts or someone else's publications? 3. How often do you share information on social media?) to identify platforms that are easier for educators to use as online platforms and to analyse the posts that citizens typically distribute through their profiles.

According to the results of this survey, we have found that, among others, educators most often use the functionality of social media such as Facebook (21 educators), Telegram (15 educators) and Instagram (12 educators), daily disseminating mainly information or posts by other authors. The general tendencies among citizens to disseminate information during martial law in Ukraine were also highlighted, e.g.:

a) dissemination of strangers' appeals without clarifying the accuracy of the information, irrelevant reports (for example, we found several cases of disseminating photos with the search for a person from Donetsk, dated 2014);

b) the use of applications that collect personal data (for example, the application for photo processing Photo Lab, developed by the company of the aggressor country) and their promotion on social media;

c) excessive dissemination of information is considered information noise (mostly the authorship of the posts is unknown, the posts mostly express the author's attitude to the events, but there are no facts and evidence).

The results of the ascertaining stage can be explained by the fact that at the beginning of martial law, citizens (from more or less safe regions) became panic-stricken and were afraid of potential threats and uncertainty. That is why they created additional information noise, i.e., unconsciously and not intentionally spread unverified news from various sites, photos, appeals, inaccurate information, and information about some places that the enemy attacked. Information overload, which occurred at the beginning of Russian military aggression against Ukraine, negatively affected the citizens' ability to perceive information critically, weakening the resistance to misinformation and fake attacks of the aggressor.

At the formative stage of the research, in cooperation with volunteer initiatives of fact-checkers "NotaEnota" and "StopFake", experts of the volunteer educational project on information hygiene "How not to become a vegetable" ("Yak ne staty ovochem") and the editorial board of Dnipropetrovsk regional pedagogical newspaper "Dzherelo" we strengthened work on forming citizens' media literacy on Facebook, Instagram and Telegram.

A "road map" of work on social media was developed for educators, which addressed the following issues:

1) counteracting misinformation and propaganda (recommendations for identifying signs of reliable media sources and reducing own information noise);

2) information hygiene "EXPERT level" (writing and disseminating posts exposing manipulation and propaganda);

3) cyber warfare for beginners (algorithm for combating hostile channels, profiles, and sites on social media).

In the process, a collective decision was made that each educator would disseminate information and

provide an expert assessment of other articles according to their own subject profile: psychological support for children and parents, methods of distance learning (including martial law in the country), foreign language support for refugees, work on the formation of students' media literacy, work with ICT.

Forms and methods of work were selected following the specifics and algorithms of a particular social media:

1. Facebook and Instagram: citizens were sent personal messages with instructions on providing information resistance; posts on info-hygiene, prevention of propaganda, verification of disseminated information, etc., were published.
2. Telegram: the blocking of channels engaged in gathering information, inciting hatred, and propaganda was organised; a channel in the Telegram application was created to promptly inform the educators of the Communal Institution of Higher Education "Dnipro Academy of Continuing Education" of Dnipropetrovsk Regional Council.

During the formative stage, work with the educators was based on the principle of "learning by doing", i.e., the educators, receiving recommendations and algorithm of work, immediately implemented them in practice, filtered their own activity, tracked posts of their "online friends", explained the basics to them, etc. In the process of work, we had the opportunity to adjust the activities, making collective decisions based on the analysis of the effectiveness of forms and methods of work and practical experience.

At the control stage of the study, a re-analysis of the posts published by citizens in their profiles was conducted.

We found that the level of information noise of citizens decreased; they "unsubscribed" from unofficial news groups and were guided by data from official information channels; unreliable and irrelevant posts were removed from the pages; publications became balanced, high quality and useful with references to the source and according to the subject profile. Among other things, the educators updated their knowledge of methods of verifying information (both text and photo or video information), learned to distinguish between "white" media and joined the information resistance on their own initiative (i.e., writing complaints and blocking channels, applications and

websites of state structures of the aggressor country, supporting petitions, etc.).

The obtained results can be considered an intermediate stage, as the work on forming media literacy must be constant, systematic and adjusted to the needs and requirements of reality. However, the positive dynamics can be explained by the reduction of the shock reaction to the military events in the country and the restoration of the ability to think critically, the citizens' adaptation to life in new conditions and the need to continue professional activities.

Furthermore, we agree with the recommendations developed by the Lithuanian researcher Kižina (2015) to counter pro-Russian propaganda on social media as a part of cyber warfare, namely:

1. Creating a group to respond to incidents on social networks.
2. Informing and educating the public about pro-Russian propaganda on social media and cyber warfare, developing citizens' skills in understanding the signs of propaganda and the algorithm for countering it.
3. Public and private partnership to counter social media propaganda in the context of cyber warfare.
4. Legislative definition of social media as a mass medium of society and regulation of their activities.
5. International cooperation in forming citizens' media literacy (Kižina, 2015).

5. Conclusions

Analysing current events and challenges, social media can be considered not only as a virtual platform for establishing social contacts (both personal and professional) but also as a lever for influencing the public and a tool for forming media literacy.

The article clarifies the peculiarities of social media functioning (especially in martial law) and presents the experimentally tested feasibility of using social media to form media literacy.

During the phase of active hostilities in Ukraine, the online community, which includes educators, has formed its own trends and rules of struggle and information resistance, including active work on social media. Disinformation, propaganda and manipulation

of the aggressor have a devastating effect on the mood of society and contribute to the formation of negative stereotypes. Therefore, there is a growing need to create own platforms of proven and high-quality information for the audience on social media and experts and influencers who will maintain the image and spirit of the country and ensure the dissemination of verified and reliable information.

The information overload that occurred at the beginning of the Russian military aggression against Ukraine negatively affected Ukrainian citizens' ability to perceive information critically. However, by adapting to life in new conditions and restoring the ability to think critically, citizens (from more or less safe regions) continued their professional activities at a qualitatively new level.

Exploring the potential of using social media for political manipulation and propaganda requires further in-depth study and analysis and can serve as a basis for political or psychological research in modern society. That is why we see the need for further study of the potential of social media and the formation of citizens' conscious understanding of the risks of communication and interaction in the network space, especially regarding the fact that our study is limited to only three online platforms (Facebook, Instagram, Telegram), and Pinterest, YouTube, TikTok, Snapchat, etc. are also extremely popular in the network space, which also have a significant impact on the formation of the worldview of citizens.

References

Bradshaw, S., & Howard, P. N. (2019). *The Global Disinformation Order 2019 Global Inventory of Organised Social Media Manipulation.* The Oxford Internet Institute University of Oxford. https://demtech.oii.ox.ac.uk/wp-content/uploads/sites/93/2019/09/CyberTroop-Report19.pdf.

Bula, S., & Sviderska, O. (2020). Sotsialni media yak instrument politychnoi manipuliatsii [Social Media as a Tool of Political Manipulation]. *Politykus*, 4, 21–25. https://doi.org/10.24195/2414-9616.2020-4.3.

Daşli, Y. (2019). Use of Social Media as a Tool for Political Communication in the Field of Politics. *Ordu University Journal of Social Science Research, 9*(1), 243–251. https://www.researchgate.net/publication/332232794_Use_of_Social_Media_as_a_Tool_for_Political_Communication_in_the_Field_of_Politics.

Grover, V.K. (2014). Social Media as an Educational Tool: Opportunities and Challenges. *International Journal of Innovative Research and Studies, 3*(2), 269–282.

Hristakieva, K., Cresci, S., Da San Martino, G., Conti, M., & Nakov, P. (2021). *The Spread of Propaganda by Coordinated Communities on Social Media.* Association for the Advancement of Artificial Intelligence. https://doi.org/10.48550/arXiv.2109.13046.

Internews. (2021). Shchorichne opytuvannia USAID-Internews "Stavlennia naselennia do ZMI ta spozhyvannia riznykh typiv media u 2021 r." [Annual survey USAID-Internews "Attitude of the population to the media and consumption of different types of media in 2021"]. https://detector.media/infospace/article/193921/2021-11-18-doslidzhennya-stavlennya-naselennya-do-media-ta-spozhyvannya-riznykh-typiv-media-u-2021-rotsi.

Kižina, S. (2015). *Social Media Propaganda as a New Means of Cyber Warfare.* [Master Thesis. Vilnius: Mykolas Romeris University, the Faculty of Social Technology; Porto: University of Fernando Pessoa]. Research Direct. https://vb.mruni.eu/object/elaba:8621126/8621126.pdf.

Kobysia, V., & Semenov, Ye. (2019). Vykorystannia sotsialnykh merezh u pidhotovtsi maibutnikh vchyteliv. [The Use of Social Networks in the Training of Future Teachers]. *Open educational e-environment of modern University*, special issue, 144–152. http://nbuv.gov.ua/UJRN/oeeemu_2019_spetsvip._15.

Kyrpa, A. (2021). Vykorystannia sotsialnoi merezhi Instagram u navchanni anhliiskoi movy uchniv starshoi shkoly [Using Instagram Social Network when Teaching English to Students of Senior School]. *Information Technologies and Learning Tools, 86*(6), 52–69. https://doi.org/10.33407/itlt.v86i6.4491.

McCarthy, J. (2010). Blended Learning Environments: Using Social Networking Sites to Enhance the First Year Experience. *Australasian Journal of Educational Technology, 26*(6), 729–740.

Oleksiuk, N., & Lebedenko, L. (2015). Vykorystannia elektronnykh sotsialnykh merezh u sotsialno-pedahohichnii roboti zi shkoliaramy [The using of electronic social networks in social and pedagogical work with pupils]. *Informational technologies and means of teaching, 48*(4), 88–102.

Robles Moral, F.J., & Fernández Díaz, M. (2021). Future Primary School Teachers' Digital Competence in Teaching Science through the Use of Social Media. *Sustainability, 13*(5), 2816. https://doi.org/10.3390/su13052816.

Semen, N. (2017). Sotsialni merezhi yak odyn z naiefektyvnishykh zasobiv protydii informatsiinii ahresii v ukrainskomu internet-prostori [Social Networks

as One of the Most Effective Means of Counteraction Information Aggression in the Ukrainian Internet Space]. *Bulletin of Lviv Polytechnic*, 1(883), 135–142. https://doi.org/10.23939/sjs2017.01.135.

Shehu Enoch, A. (2020). Is Media A Tool for Propaganda or Tool for Information? *International Journal of Research and Innovation in Social Science (IJRISS), 4*(2), 176–180. https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-4-issue-2/176-180.pdf.

Simon, K. (2022). DIGITAL 2022: Global Digital Overview. *Database portal.* https://datareportal.com/reports/digital-2022-global-overview-report.