

Klaudia Bączyk-Lesiuk<sup>1</sup>  
Sylwia Polcyn<sup>2</sup>

## Activity of Facebook Users on Official Profiles of Ministries of Education in Poland and Ukraine in the Context of the School Year 2021/2022

As of 2020, the SARS-CoV-2 virus outbreak has had a huge impact on the functioning of people around the world. Therefore, the purpose of this article is to compare Facebook user activity before the upcoming 2021/2022 school year in Poland and Ukraine in the era of the pandemic. The quantitative and qualitative analysis was performed on comments and reactions of internet users posted under the most engaging posts published on Facebook pages of ministries of education in two selected countries during the study period.

**Keywords:** online education, Facebook, social media, ministry of education, education, Poland, Ukraine, COVID-19

Aktywność użytkowników Facebooka na oficjalnych profilach ministerstw edukacji w Polsce i Ukrainie w kontekście roku szkolnego 2021/2022\*

Od 2020 r. epidemia wirusa SARS-CoV-2 miała ogromny wpływ na funkcjonowanie ludzi na całym świecie. Celem tego artykułu jest porównanie aktywności użytkowników Facebooka przed zbliżającym się rokiem szkolnym 2021/2022 w Polsce i Ukrainie w dobie pandemii. Analizie ilościowej i jakościowej zostały poddane komentarze i reakcje internautów zamieszczone pod najbardziej angażującymi postami w badanym okresie, które opublikowano na profilach ministerstw edukacji w dwóch wybranych krajach na portalu społecznościowym Facebook.

**Słowa kluczowe:** edukacja zdalna, Facebook, media społecznościowe, ministerstwo edukacji, oświata, Polska, Ukraina, COVID-19

<sup>1</sup> Collegium Da Vinci, Faculty of Applied Sciences, klaudia.baczuk-lesiuk@cdv.pl.

<sup>2</sup> Collegium Da Vinci, Faculty of Applied Sciences, sylwia.polcyn@cdv.pl.

\* The article was published in 2022.

## Introduction

As of 2020, the SARS-CoV-2 virus pandemic has had a huge impact on the functioning of people not only in Poland, but around the world. It has undoubtedly led to a global crisis, a paralysis of society, of the economy, of politics. This was caused by the numerous reorganisations in the following spheres of life:

- social (restrictions on access to commerce, services, culture, art, restrictions or prohibition of movement within the immediate area of residence, region or travel outside the country, obligation to cover mouth and nose in closed and/or open spaces, introduction of the obligatory social distance between citizens, quarantine),
- economic (restriction of goods purchased, restriction of the number of people in the premises, closure of workplaces),
- professional (change in the way and form of work, switching to remote mode) (Regulation of the Council of Ministers of 31 March 2020; Szara, Frejtag-Mika 2021; ZPP 2021).

Education also underwent several changes. The introduction of a different, non-traditional (non-stationary) way of conducting the educational process took place in many countries around the world, including Poland and Ukraine, which, due to the authors' research interests, became the subject of the analysis.

The purpose of choosing the subject of the study is primarily due to the growing number of students of Ukrainian nationality in Poland and the continuing lack of sufficient knowledge about curriculum differences applicable in educational systems other than Polish (NIK 2020). The possibility of comparing the activity of users of the official fan pages of the two ministries may allow not only the observation of citizens' attitudes towards government institutions, but also offers the possibility to identify themes manifesting themselves in both countries in the social discussion focused on education. Analysing the aspects of the discourse may also become a stimulus for discussion on the need to identify the needs regarding the methodological guidance for teachers educating both children of Polish origin and those coming from abroad.

### Carrying out education in the coronavirus era in 2019/2020 and 2020/2021

From March 2020 (with temporary interruptions), education in Poland and Ukraine was dominated by the remote system introduced by the ministers of education of the respective countries. It was aimed at reducing the spread of the virus while

enabling children and young people to fulfil their compulsory schooling (Ministerstwo Edukacji i Nauki 2020; 2021; Наказ МОН 2020; Постанова 1 2020; Постанова 2 2020). Both the ministry in Poland and Ukraine (based on the recommendations of the ministers of health) developed recommendations related to the implementation of distance teaching in connection with the prevention, counteraction and eradication of COVID-19 (Raport Ministra Edukacji Narodowej 2020; Лист МОН 1 2020; Лист МОН 2 2020; Лист МОН 3 2021). Similar guidelines for the implementation of pandemic education in Poland were provided by UNICEF Poland (UNICEF Polska 2020).

Despite numerous guidelines from the academia, ministries and other non-profit organisations, as well as materials, guides and courses offered for teachers, various difficulties arose within the remote education in the pandemic era. Based on the report “Remote Education in the Times of Pandemic” of April 2020, we can identify the most common problems:

- teachers’ lack of experience in providing education using modern technologies, problems with the proper handling of programmes and applications,
- lack of equipment and internet connection problems among teachers and students,
- difficulty of conducting remote classes due to time and space issues at home among teachers and students,
- problems with adapting the current core curriculum to remote classes (not all learning content can be delivered through modern technologies) and fear of failing to transfer the basic content (consequences from the school management and the education office),
- difficult contact with other teachers, school management and parents of students,
- additional bureaucracy and reporting of remote teaching,
- problem with the assessment of students’ progress and the way notes are given,
- difficulty of adapting content to the level of knowledge and skills of all students and the lack of opportunities to individualise the teaching process,
- fear of having one’s own image public, classes being recorded and criticism/hate speech from students,
- emotional and psychological problems of teachers and students in the context of remote education (Plebańska et al. 2000: 5).

These problems and constraints in the delivery of education most likely influenced the relatively low public trust in the Minister of Education and Science, Przemysław Czarnek, who, as indicated in the survey carried out by the Public Opinion Research Centre (CBOS) in June 2021, was trusted by only 18% of respondents, while 33% expressed distrust. Moreover, 13% of respondents

could not clearly state their position, 5% indicated the answer “difficult to say/refusal to answer”, while 31% said they did not know who was the current minister (Cybulska 2021: 5).

Similar problems are pointed out by CEDOS, an organisation that studies social issues in Ukraine (NGO Centre for Society Research). In its report “Освіта в умовах пандемії у 2020/2021 році: аналіз проблем і наслідків” (“Education in the 2020/2021 pandemic: an analysis of the issues and implications”)<sup>3</sup> published on 25 August 2021, it highlights, among other things:

- Access to education – the biggest problem was the material situation of the students, as reported by the Head of the Yuri Saenko Centre of Social Expertise at the Institute of Sociology of the National Academy of Sciences of Ukraine (Гульбаршин Чепурко): “The biggest difficulties in terms of education were related to technical issues. 78% of respondents<sup>4</sup> stated that access of individual students to computer technology is limited, 63% of respondents indicated the lack of modern mobile devices, such as computers and other gadgets, 55% the lack of internet connection” (Чепурко et al. 2021); according to the study: “15% of children lost full access to education with the outbreak of the COVID-19 pandemic” (CEDOS 2021).
- The quality of education (resulting from the inability to digital, remote and blended teaching), as revealed by the survey: up to “86% of Ukrainian teachers had no significant experience of using online education tools” (CEDOS 2021).
- Lack of sufficient assistance from the state authorities (as many as 15.63% of respondents who were school principals indicated the lack of assistance from the authorities and 31.5% received only partial assistance) (Гриневич et al. 2020).
- Increase in domestic violence affecting children (data from Ла Страда-Україна indicate that “in the whole 2020, there were 100,000 complaints of violence against children and in the first three months of 2021 as many as 41,000 complaints. Incidents of violence were most often reported by girls. 31% of the complaints concerned cases of domestic violence against children. High levels of domestic violence affect the quality and process

---

<sup>3</sup> The analytical note was prepared within the framework of the project “European Union for a Sustainable Civil Society in Ukraine”, implemented by ISAR Unity with financial support from the European Union, and is based on a dozen reports on the changes introduced by the Ukrainian government in the organisation of the educational process during the quarantine, as well as the recommendations of international organisations regarding remote education (CEDOS 2021).

<sup>4</sup> The survey was conducted in January–February 2021 in five regions (Vinnytsia, Dnipro, Kherson, Chernihiv, Chernivtsi) with the participation of 150 respondents. The survey was conducted mainly by officials of local communities and local education departments (Чепурко et al. 2021).

of learning, especially for remote learning when all or most family members are at home”) (CEDOS 2020, 2021).

- Problems associated with the digitisation of the country.

The study also highlighted the lack of data on the impact of the pandemic on the mental state of participants in the education process. It was noted that at the national level, no recommendation was made on how to provide psychological support to educational institutions for school students, university students and teachers. Moreover, no guidance was given on how parents could take care of their children’s mental health.

Negative emotions that were accumulating among Polish and Ukrainian society found vent in the virtual space. Public discontent, growing frustration with the difficult economic situation in the countries surveyed, changes and social constraints resulting from the spread of the virus have become the germ of expressing emotions on the internet, especially on the websites of ministries of education. Internet, as a medium, a means of social communication, facilitates the expression of emotions, which are often extreme and communicated in an exposed manner (Goban-Klas 2004; Juszczuk 2011; Levinson 2010). While in the past it used to be anonymity that fostered negative, ‘hater’ statements, nowadays many internet users express negative, often vulgar comments with their first and last names well visible.

As Monika Jaworska points out: “participants in the online conversation (although it is not a face-to-face situation, which, perhaps may be the reason for this phenomenon) say unpleasant, aggressive, slanderous things without considering the feelings of other participants in the discussion. In doing so, they disregard ethical and linguistic norms” (Jaworska 2019: 83). A similar view is formulated by Paweł Trzaskowski, who points out that: “online comments [including these on social media such as Facebook], especially unethical ones, have little to do with communication understood as the act of transmitting information between sender and receiver” (Trzaskowski 2017: 29). Following the author, it can even be concluded that: “the purpose of these texts is also not persuasion, even in a vulgar form, but the externalisation of the negative emotions by the commentator” (Trzaskowski 2017: 29), also in the context of the existing authority and the changes it is implementing.

Media discourse is currently becoming an important voice in the public discussion, where social networks, including Facebook, are proving to be a tool for communicating views. Motivated by the topics raised by the authorities (ministers of education), internet users are part of the modern area of communication mediated by the media with “their specificity: crossing taboos, lack of identity [...], interactivity and visuality (sound, print and image), which are potential or present

to a limited extent at all levels of interpersonal communication” (Kawka 2014: 168), while expressing their (in)satisfaction with the hegemony of authorities.

## Methodological assumptions

The main aim of the study was to compare the activity of Facebook users before the upcoming 2021/2022 school year in Poland and Ukraine. Authors focused on the post-pandemic perspective of recipients in the area of interaction between sender and receiver, but also between receiver and message, context and receiver, or the different components of the message. Specific objectives of the study included:

- studying the activity of Facebook users on the ministries’ pages in the two previous months (fan growth, engagement rates, daily number of interactions, total reactions per day),
- presentation of the subject matter of the posts published and the activity of the page administrator (distribution of the intensity of fan activity related to the content published on the page by day of the week and by hour of publication, efficiency of content publication),
- analysis of ten posts (separately on the Polish and Ukrainian sites) that evoked the highest number of reactions, where reaction is understood as: the number of comments and shares, as well as the response in the form of emoticons, combined with an analysis of these comments according to a specific categorisation key.

The specific objectives of the own research thus formulated led to the emergence of the following research problems: How was Facebook user activity manifested on the ministries’ pages in the two months before the beginning of the 2021/2022 school year? What topics were covered in the published posts and in the activities of the administrators of websites of the ministries of education in Poland and Ukraine? Which post(s) on the official profiles of the ministries in Poland and Ukraine engaged the largest number of internet users?

The material for the content analysis (Lisowska-Magdziarz 2004) was extracted from official fanpages of the ministries of education in Poland (Ministry of Education and Science) and in Ukraine (Міністерство освіти і науки України).

The material was selected deliberately according to the following criteria:

- Place of publication – the material in the form of posts (and reactions to them) and user comments was generated from the official profiles of the ministries of education in Poland and in Ukraine (see Facebook profiles [*Facebook Community Standards* online]) and substantive statements (referring to the official position of the government, while getting rid of the numerous

conspiracy theories and spreading false information that can be observed on other, unofficial profiles dedicated to education) (Hatalaska 2021).

- Time of publication – the study was conducted in September, taking into account the two-month holiday period (similar in both countries): 2 July – 1 September 2021. Furthermore, in order to test the correlation between Facebook user activity and the beginning of the school year, it was decided to extend the research to September 1.
- Topics of the publications – issues that dealt with higher education or were not directly related to education were excluded from the study.

It should be added that the research material quoted in the following section has been anonymised, which involves, among other things, the removal of any personal information including name, profile picture, city names in comments (if they appear) (Baker et al. 2006: 13).

The study was carried out in stages: first, the posts with the highest number of responses were collected with collating key parameters, such as:

- the number of comments and shares, the average lifetime of the post (which shows how long the discussion under the posts was going on),
- Engagement Rate illustrating how engaging the content published on the page is; calculated based on interactions with posts and reactions such as likes, comments, shares, divided by the number of fans on the day the content was published (NapoleonCat 2022),
- Social Interaction Index (SII), additionally taking into account mentions and tagging of the page by other fanpages and by private users in posts with public settings (NapoleonCat 2022).

In this phase, data collection was carried out with the use of NapoleonCat, a social media marketing toolkit.

Subsequently, comments under the indicated posts were analysed in detail, with a breakdown according to their emotional content, where: 1 stands for positive aspects, 2 for neutral aspects and 3 for negative aspects. Authors chose to examine positive messages in terms of praise (also through approval or even adoration), neutral messages as balanced, without value judgement characteristics, often complementing the information contained in the post, and negative messages as explicitly critical (presenting phenomena, events, persons in a negative light).

Table 1. Model categorisation key

Pos.	Topics of posts which provoked the highest number of reactions	Key parameters			Number of comments by emotional content (1, 2, 3)
-	-	<ul style="list-style-type: none"> <li>• Number of comments</li> <li>• Number of shares</li> </ul>	<ul style="list-style-type: none"> <li>• Average life span of the post</li> <li>• Engagement Rate</li> </ul>	<ul style="list-style-type: none"> <li>• Sum of reactions</li> <li>• Total reactions to posts and comments</li> </ul>	<ul style="list-style-type: none"> <li>• 1</li> <li>• 2</li> <li>• 3</li> </ul>

Source: own elaboration.

The results in this form could be used, among other things, to draw general conclusions about the mood before the next school year approaches. In addition, they could provide an impetus for decisions related to the different way ministries run their Facebook pages (e.g. changing the form of publications).

Based on the research material, the number of comments obtained was: on the website of the Polish ministry of education: 1391, on the website of the Ukrainian ministry of education: 1292. They were assessed and assigned to one of three values. When the authors of the present paper gave an equal rating to a particular entry, then it was considered binding. In other situations, the decision was determined by the so-called referee, i.e. an additional assessor who re-examined the cases of non-compliance and determined what value should ultimately be assigned. It should also be added that comments appearing on the website of the Polish ministry of education were judged by a Polish native speaker, while comments on the website of the Ukrainian ministry of education were judged by a Ukrainian native speaker. This enabled the exclusion of doubts in the sphere of non-literal communication and paying attention to the influence of contextual variables (e.g. situations).

## Findings in the Polish context

Polish Ministry of Education and Science promotes its activities on various social media such as: Facebook, YouTube, Twitter, LinkedIn and Instagram.

On Facebook, the number of fans reached 126,600 in July, while on September 1, it was already 127,700. It also seems interesting to note that the largest increase in page likes occurred in the days right before the beginning of the school year



(mainly mid-August), which was probably driven by internet users' desire to access the latest information on the mode and method of running classes (stationary or remote) in the new school year.

Prior to the beginning of the 2020/2021 school year (in the summer holiday period, especially in August), the official social media profiles of the Ministry of Education and Science featured a lot of information on how and in what mode would the school activities be run in the educational institutions from 1 September 2021. This had a major impact on the user engagement translating into quite high average ER and SII rates<sup>5</sup>.

The average ER indicating fan interactions (reactions, comments, shares) during the studied period was 0.358, reaching a maximum value on 16 August 2021 (2,894). Figure 1 also shows that users on the profile of the Ministry of Education and Science were most active on Saturdays, while the least engagement was seen on Tuesdays.



Figure 1. Effectiveness of content published on the profile of the Polish Ministry of Education and Science

Source: (NapoleonCat 2022).

On what concerns the highest engagement per day, the most engaging publication times were 8:00 and 14:00. On the other hand, when analysing the SII index, it should be pointed out that its average value for the period from 2 July to 1 September 2021 was 51.512 with a highest value of 368.70.

<sup>5</sup> The definitions of the indicators referred to are discussed in the methodological assumptions of the own research.

The main determinants of user engagement on the portal were fan reactions, which manifested themselves in the following form: image communication (emoticons) – a total of 21,358, as well as shares – 3,043, and comments – 3,858. In addition, only one mention about the profile on other users' pages was observed, while no fan posts were noted (Fig. 2).

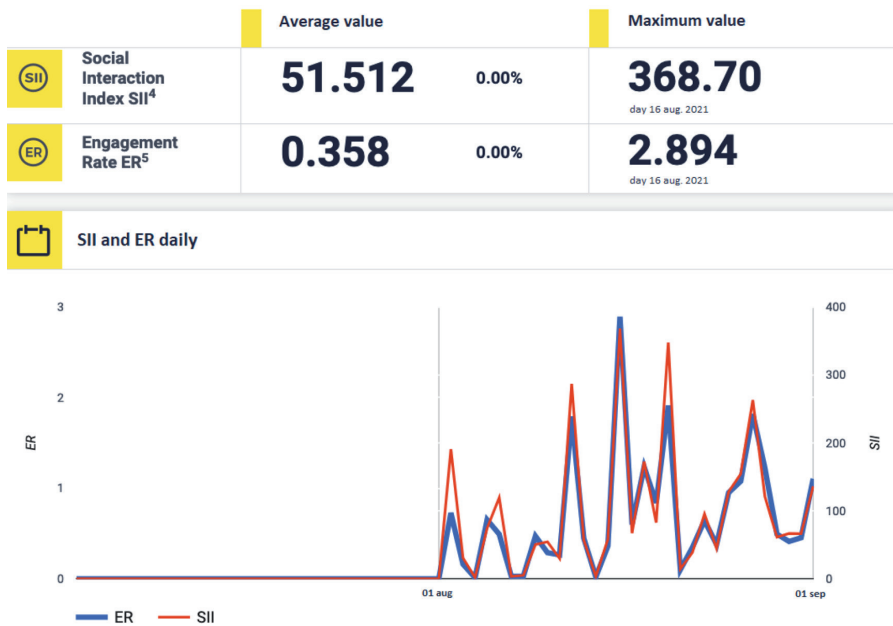


Figure 2. Internet user engagement rates on the profile of the Polish Ministry of Education and Science

Source: (NapoleonCat 2022).

During the period under study, 133 posts were published on the ministry's website, of which the 10 most user engaging ones were selected for analysis within the own research. The content of the posts mainly concerned regulations introducing changes to the core curriculum, including changes to the compulsory reading list, introduction of an extended core curriculum in the history of dance for the four-year secondary schools and five-year technical schools – the change will enter into force on 1 September 2023, as well as the conditions and manner of implementation of the subject "preparation for life in the family" – the change is effective from 1 September 2021 (1), and finally the regulation introducing stationary classes on the pre-pandemic basis for school and university students from 1 September 2021 (3).

---

Moreover, the content of the posts covered issues such as: the restoration of teacher authority among children and parents, as well as teacher pay rises (2), directional changes in the professional status of teachers (4); the minister's pilot programme Discover Poland (6, 8), issues related to the organisation of vaccinations in schools, including: tasks for the school principal, cooperation with the vaccination centre and issues of parental presence during the vaccination of children (7); preparations and guidelines for the return of pupils to stationary classes from September 1 (5, 9, 10). The published posts included text (10/10) and basic multimedia: photos (4, 8, 10), web links (1, 2, 3, 5, 7, 9) and a video (6). Table 2 provides an analysis of the most engaging posts along with key parameters.

Table 2. The most engaging posts along with key parameters on official internet profiles of Polish Ministry of Education and Science

Pos.	Topics of posts which provoked the highest number of reactions	Key parameters			Number of comments by emotional content (1, 2, 3)
		number of comments, number of shares	average life span of the post, Engagement Rate	sum of reactions, total reactions to posts and comments	
1	Regulation concerning, among other things, changes in the school compulsory reading list, addition of a core curriculum in the history of dance, changes in the way in which classes in the subject "preparation for life in the family" are carried out	260 290	1,683 18h 17' 32"	419 1,588	1: 14 2: 93 3: 153
2	Minister's interview with the Polish Press Agency on restoring teacher's authority among children and parents and the announcement pay raises for teachers of several dozen percent	203 35	1,174 23h 12' 12"	353 1,260	1: 2 2: 63 3: 138
3	Regulation concerning stationary classes on the pre-pandemic basis for students and university students from 1 September 2021 #PowrótDoSzkoły (#BackToSchool) #edukacja (#education) #szkoła (#school)	116 365	1,050 21h 31' 18"	421 855	1: 9 2: 40 3: 67
4	Proposals for directional changes in the professional status of teachers concerning, among other things, less bureaucracy, more work with students and increased pay for teachers	134 25	827 6h 26' 35"	440 892	1: 6 2: 35 3: 93

5	Guidelines (set of guidelines and recommendations) of the Ministry of Education and Science, the Ministry of Health and the Chief Sanitary Inspectorate for primary and secondary schools, which will apply from 1 September 2021 for the safe and hygienic organisation of classes in the epidemic conditions in the new school year	83 315	717 19h 32' 57"	146 512	1: 2 2: 28 3: 53
6	Minister Przemysław Czarnek presents at the conference the new pilot project #PoznajPolskę (#DiscoverPoland) #PoznajPolskę #PolskiŁad (#PolishDeal)	155 103	624 22h 39' 49"	271 535	1: 7 2: 48 3: 100
7	Information packet on how to organise vaccinations in schools: tasks for the school principal, cooperation with the vaccination centre and issues of parental presence during the vaccinating of children #szczepimySię #szczepienie (#lets vaccinate #vaccination)	116 115	624 19h 25' 34"	130 563	1: 5 2: 34 3: 77
8	Information on the call for applications for the new project of Minister Przemysław Czarnek #PoznajPolskę (#DiscoverPoland) #PoznajPolskę #PolskiŁad (#PolishDeal)	113 141	591 23h 23' 47"	162 496	1: 11 2: 40 3: 62

Table 2. cont.

Pos.	Topics of posts which provoked the highest number of reactions	Key parameters			Number of comments by emotional content (1, 2, 3)
		number of comments, number of shares	average life span of the post, Engagement Rate	sum of reactions, total reactions to posts and comments	
9	Interview with Minister Przemysław Czarnek in the #SygnalyDnia (#SignalsoftheDay) programme broadcast by Polish Radio 1 on preparations for the return of schools to running stationary classes from September 1 #edukacja (#education) #powrótdoszkoly (#backtoschool)	133 17	490 12h 39' 10"	190 472	1: 5 2: 25 3: 94 4: (spam: 9)
10	Information on preparations for the beginning of the new school year in stationary mode: Ministry of Education and Science together with the Government Strategic Reserve Agency will provide the schools with safety equipment: disinfection stations with temperature measuring function, thermometers, as well as personal protective equipment: masks, gloves, disinfectants	78 86	459 9h 45' 14"	167 421	1: 0 2: 38 3: 40

Source: own elaboration.

The further, second stage of the author's own research involved a qualitative analysis of the content of comments posted on the Facebook page of the Ministry of Education and Science concerning their emotional content. Facebook users' comments were meant to show how internet users perceive the ministry and its representative in the period right before the new school year 2021/2022.

1. This post provoked numerous reactions among the users, with negative comments prevailing. Internet users expressed their dissatisfaction with the new compulsory reading list and pointed out particularly the removal of positions they considered as valuable and the addition of new ones, e.g. written by Pope John Paul II. Furthermore, they expressed their dissatisfaction in the context of adding dance history content to the core curriculum. According to the internet users, it would be more important to add activities that develop students' motor and physic skills, rather than the purely theoretic content. There were also a few voices that approved of the changes proposed by the minister (14). Neutral comments, on the other hand, concerned the explanations of regulatory changes or were responses to comments made by other internet users directly, unrelated to the given topic.
2. The post aroused mostly negative emotions among the internet users, who emphasised that the minister himself had repeatedly undermined the authority of teachers, and also pointed out that authority is not built by top-down guidelines, but it is the role of the teacher to inspire such authority among students and parents through his or her actions. The post also provoked 63 neutral comments on the general role of the teacher and 2 positive ones expressing appreciation for the minister's words.
3. According to the information provided, teaching was to take place on a pre-pandemic basis. Internet users took this information overwhelmingly negatively; they often questioned the justness of allowing students to attend stationary classes or even ridiculing its duration. Many internet users claimed that the stationary classes would not be valid for more than three weeks, after which, in their opinion, schools will return to remote teaching. Only nine internet users approved the minister's proposal, while 40 took a neutral approach to the content provided.
4. The information on the proposal for directional changes to the professional status of teachers triggered a number of reactions among portal users, with negative reactions prevailing. Internet users accused the minister of lying in the context of increasing salaries at the expense of working time. They also referred negatively to the information on the reduction of bureaucracy, ridiculing the minister's proposals. Only six statements indicated support for the minister's words. There were also 35 neutral opinions included in the post, mainly concerning the interpretation of the rules or

having the form of responses to statements made by other users and related to secondary issues.

5. Information on the ministry's guidelines issued in cooperation with the Ministry of Health and the Chief Sanitary Inspectorate for primary and secondary schools effective from 1 September 2021 met with numerous negative comments from the internet users. Users highlighted the lack of opportunities to work with younger age students according to guidelines, the lack of adequate school infrastructure, they also criticised the social distance within the school walls. In addition, they stressed that, as in the last school year, stationary classes would only last a few weeks, after which remote teaching would be reintroduced. Only two statements were positive.
6. Internet users were overwhelmingly negative about the assumptions of the minister's new project Discover Poland. They were particularly unhappy with the amount per student allocated for organising the trips. Their doubts about the success of the project and a possible lack of interest among students were raised by the thematic areas of the sites indicated in the ministerial proposal. In addition, internet users made enquiries about the additional remuneration for teachers-guides on trips and how their working time is accounted for. There was also positive feedback in the comments, praising the minister's idea. Neutral comments appearing in the statements mainly concerned teachers' experiences in the context of organising school trips.
7. Portal users reacted negatively to the minister's idea of organising vaccinations in schools, fearing the effects of vaccination of children and adolescents, citing studies of low mortality from coronavirus in the 0–18 age category. They also had doubts about the way in which vaccination was to be organised on the school premises and the responsibility of teachers and management. Only five comments about the minister's actions were positive. Neutral comments, on the other hand, mainly concerned responses to comments made by others, including in the context of secondary issues.
8. A post about the application deadline for the pilot programme Discover Poland provoked negative reactions from internet users. As with post No. 6, they pointed to a lack of interest on the part of the pupils, a lack of sufficient resources to organise such trips and a lack of clear guidelines for accounting for teachers' time. Only 11 responses from internet users supported the programme proposed by the minister. Statements of a neutral nature were responses in the discussion, often with no particular substance or referring to issues other than the topic addressed in the post.
9. The post included information on the minister's statements about pupils returning to school for stationary classes from 1 September 2021. Internet users again questioned the proposed guidelines, referred to the duties



of the school principals and the possible duration of residential learning. In addition, they expressed indignation about the implementation of remote education and staff shortages in education. Spam, i.e. statements or pictures that do not directly reflect the content, also appeared in the comments.

10. Internet users once again reacted negatively to information about the ministerial preparations for the beginning of the new school year in stationary mode and the transfer of security measures by the Ministry of Education and Science together with Government Strategic Reserve Agency to schools. Portal users also pointed out other shortages of hygiene items in schools and negatively commented on the obligation for children and young people to wear masks on school premises. There were also concerns about vaccination among the youngest segment of the population. A comparable number of opinions were neutral comments which were mainly responses in the discussion.

### Findings of the study in Ukraine

The Ukrainian Ministry of Education and Science has profiles on various social media such as: Facebook, YouTube, Twitter and Telegram.

On Facebook, the number of fans reached 218,600 in July and 218,700 on September 1. Interestingly, the biggest increase in interest in the profile was seen at the beginning of the school year, increasing the number of new fans by 114 users. The reason for this may have been the First Bell (Перший дзвоник) and doubts about the organisation of the new school year.

Despite the holiday period, the ministry's profile showed quite high average SII and ER rates, which in turn translate into user engagement. The average ER value for the period studied was 0.690, reaching a maximum value on 8 July 2021. It can also be noted that internet users were most likely to read content accompanied by a photo, which is a contemporary trend across all social media. Facebook users on the profile of the Ministry of Education and Science of Ukraine were most active on Thursdays and least active on Sundays (Fig. 3).



Figure 3. Effectiveness of the published content

Source: (NapoleonCat 2022).

The most engaging hours of publication, based on the sum of admin posts published during the hours in question and their average ER, were: 8:00, 14:00 and 16:00. This partly coincides with the findings of research showing that the best days to publish educational content are Tuesdays and Thursdays (at 10:00), while the worst are Sundays (Arens 2021). However, these results are influenced by a number of factors (such as target group, sectoral themes, time zone), which demonstrates the individual nature of the profiles in question. The average SII from 2 July to 1 September 2021 was 297.008, with a highest value of 2,209.21 (Fig. 4).

The 10 most engaging posts (233) were selected from all those published during the period under review. The topics that provoked the biggest number of reactions among users were related to education in grades 1–11 and were most often tagged with the hashtag #ЗагальнаСередняОсвіта (1, 2, 3, 4, 6, 7, 10). Publications on inclusive education (9) and ministerial methodological recommendations (2, 6, 9) also met with numerous reactions. The list of education-related topics covered include also issues related to the beginning of the school year (8) and the fight against fake news (10). The recipients' interest in the minister's statement on the teaching profession and the core mission of education seems interesting (4).



Figure 4. Engagement indicators

Source: (NapoleonCat 2022).

The main determinants of user engagement on the portal were fan reactions, which manifested themselves in the following form: image communication (emoticons) – a total of 51,808, as well as shares – 36,910, and comments – 4,719. However, mentions about the profile on other users' pages and fan posts were not observed (this option is entirely disabled on the ministry's official profile).

In addition, posts referring to finance (5) and food (1) were included. They all consisted of text and basic multimedia (in 8/10 cases this meant photos). There were also two videos in the top 10 (6, 8). The first post (6) was shared as a live report and dealt with changes in the activities of educational institutions in connection with the introduction of the new physical education model (“Новий унський школі – нова фізична культура”). The second video (8) was a recording from the programme Сніданок з 1 + 1, hosting Minister Serhiy Shkarlet (8). In the interview, the minister outlined the plan for the coming school year, taking into account the epidemiological threat and the vaccination rate. The meeting also addressed the topic of education in hybrid mode. The table below illustrates the most engaging posts along with key parameters.

Table 3. The most engaging posts along with key parameters on official internet profiles of the Ministry of Education and Science of Ukraine

Pos.	Topics of posts which provoked the highest number of reactions	Key parameters			Number of comments by emotional content (1, 2, 3)
		number of comments, number of shares	average life span of the post, Engagement Rate	sum of reactions, total reactions to posts and comments	
1	Explanation (issued jointly with the Ukrainian Ministry of Healthcare) on individual issues of food organisation in the pre-school, general and secondary education in 2021–2022 #ЗагальнаСередняОсвіта #Харчування	97 4,275	2,888 3d 9h 18' 53"	685 1939	1: 0 2: 40 3: 57
2	Approval of methodological recommendations for the assessment of educational results of students in grades 1–4 in general education institutions #ЗагальнаСередняОсвіта	62 2,958	1,974 1d 19h 48' 23"	616 1,294	1: 0 2: 0 3: 62
3	Determining that additional training costs during the pandemic can be funded from what rests of the educational subsidy #Субвенція #ЗагальнаСередняОсвіта	156 1,543	1,966 1d 8h 12' 21"	1,347 2,597	1: 0 2: 38 3: 118
4	Minister's emphasis on the importance of supporting the teaching community #ЗагальнаСередняОсвіта #ВсеукраїнськийШколаОнлайн	201 246	1,956 22h 38' 36"	969 3,829	1: 10 2: 32 4: 159
5	Information on the calculation of the size of the education subsidy for regional and community budgets for 2021	432 499	1,810 5h 7' 0"	617 3,025	1: 0 2: 44 3: 388

6	Discussion on changes in the implementation of physical education in schools #ЗагальнаСередняОсвіта #НоваУкраїнськаШкола	1,192* 297	1,673 2h 1' 45"	637 2,168	1: 12 2: 93 3: 47 4: (spam: 11)
7	Introduction of a new procedure for ordering, producing and receiving primary education certificates #ЗагальнаСередняОсвіта #Цифровізація	61 2,193	1,551 17h 24' 26"	698 1,135	1: 0 2: 9 3: 52
8	Declaration on the operation of the educational institutions regardless of the situation related to the spread of COVID-19 (+ video) #Освіта #Вакцинація	86 1,033	1,272 2d 22h 27' 53"	601 1,660	1: 0 2: 23 3: 63
9	Presentation of methodological recommendations concerning the organisation of education of persons with special educational needs for general education institutions in the 2021/2022 academic year #ІнклюзивнаОсвіта #МетодичніРекомендації	2 2,084	1,151 1d 0h 58' 36"	430 430	1: 0 2: 1 3: 1
10	Disparaging rumours about the cancellation of the educational process appearing on social media #СтопФейк #ЗагальнаСередняОсвіта #Профосвіта #ФаховаПередачаОсвіта #ВищаОсвіта	36 1,302	1022 1d 4h 42' 39"	734 1,177	1: 0 2: 13 3: 23

\* 163 comments were carefully analysed according to the 'most relevant' display option.

Source: own elaboration.

The second stage of the research analysed the content of the online comments, grouping them by their emotional content. The statements made by internet users were meant to show the general mood of Ukrainians before the upcoming 2021/2022 school year. A special role was given during the analysis to discussions reminiscent of simultaneous debates, the topics of which differed from the content published on the ministry's profile (Urzędowska 2019: 135).

1. The post concerned the new nutritional standards in educational establishments and health and leisure facilities for children. It raised a number of concerns among participants, most of them concerning the omission of students with special dietary needs and the creation of divisions according to material resources. The discussion repeatedly highlighted the insufficient material resources, the poor quality of the food and the lack of professional training of cooks and kitchen helpers. The number of negative and neutral comments was balanced.
2. All comments on the methodological recommendations were negative, often directly criticising the new regulation, but also mocking or even derisive. Descriptive assessment and the need for individual interviews with each student were particularly refuted. For some users, the new recommendations, as well as the ministry's position, were unclear.
3. The post provoked many negative reactions. Most of them indicated the lack of funds in schools; there were also voices questioning the teaching profession itself. Parents expressed their dissatisfaction with the obligation to finance materials in the facilities and discrimination by teachers/principals. The neutral comments mainly included questions about the library supply.
4. The minister's words evoked extreme emotions, most of them negative. Internet users discussed the role of the teacher, salaries and compulsory vaccination. These themes were treated with the biggest criticism. Some of the statements were sarcastic, some were directly addressed to the minister; in several cases people used GIFs instead of text. Neutral comments were devoid of emotion and presented the situation in the regions concerned, often based on the users' personal experiences. There were some positive comments under the post, but these were heavily criticised by the other users.
5. The dominant theme of the discussion was not directly related to the published post (statements referring to the content presented were most often neutral). One of the users inserted in the comment a video addressing the phenomenon of Ukrainophobia among teachers. This initiated a critical discussion around the promotion of pro-Russian policies and the government's inept performance. Vulgarisms and incitement to aggression

were also spotted in the statements made by users. This was the only one of the posts surveyed in which hate speech was detected.

6. The discussion that took place concerned the new model for physical education classes in schools. Most commentators were interested in the ministry's actions, either offering support or asking for clarification. The whole was characterised by the substance of the statements and the orderliness of the issues raised. Criticism was most common in the issue related to the general reluctance to change and head teachers. Spam-like comments also appeared under the post, repeated in replies to other users' contributions.
7. Most internet users expressed their negative attitude towards the introduction of the new certificates, often calling the idea a waste of money or nonsense. There were no positive voices in the discussion; the neutral ones addressed the presentation of the procedures in place and provided a kind of complement to the content of the published post.
8. The comments appearing under the video were dedicated mainly to vaccination among teachers. Negative voices seemed to stem mostly from the fear of experimentation and the potential introduction of remote education. The statements made by internet users often manifested critical attitude towards the government's actions and pressure on particular social groups. Concern about human rights was also expressed several times. Neutral comments appeared as a response to statements made by other users to clarify their statements and complement them with additional data.
9. There were only two comments under the post, one was neutral, while the other criticised another regulation that was the source of misinformation among teachers and their assistants.
10. Most of the comments appearing under the post were addressing the topic of remote education. The lack of involvement of both teachers and students in the process was highlighted. Critical statements concerned also the poor performance of children, repeatedly combined with calling the online education an experiment.

### Summary of study conducted in Poland and Ukraine

A total of 2,683 comments was collected within the study, of which 1,285 in Ukraine and 1,382 in Poland were analysed; the above-mentioned comments were sourced from 10 posts published on the official profiles of the ministries of education, which raised the highest number of reactions. The comments were subdivided according to their emotional content with the following values

assigned: 1 denoting positive aspect, 2 denoting neutral aspect and 3 denoting negative aspect. Moreover, the material examined included 11 spam-like comments in the case of Ukraine and 9 in the case of Poland, which were not taken into account in the analysis. The final results are presented in Table 4.

Table 4. Summary of the number of comments on the websites of the ministries of education in Poland and Ukraine

Total number of comments analysed	Poland	Ukraine
		1,382
Positive aspect	61	22
Neutral aspect	444	293
Negative aspect	877	970

Source: own elaboration.

The number of comments with positive and neutral aspects was higher on the Polish Ministry website than on the analogue Ukrainian website, but the vast majority of reactions among users of both the Ukrainian and the Polish Ministry profiles were negative, thus demonstrating discouragement among citizens towards the government's actions and the introduction of new regulations, which not always bring the desired results. This also indicates the tendency for internet users to post unflattering, often negatively emotive comments signed with their first and last names. The vast majority of reactions in both cases, i.e. users commenting the Ukrainian and Polish ministerial website, were negative, thus showing citizens' discouragement with the government's actions and the introduction of new regulations.

In both Poland and Ukraine, the most controversial topics included issues concerning COVID-19 vaccination and the role of teachers and their professional status (also in a political context). Great excitement was also raised by the topics of continuing remote education in the countries surveyed. Moreover, in Poland, internet users were reluctant about the minister's pilot programme Discover Poland, the changes to the core curriculum, especially to the compulsory reading list, the introduction of a core curriculum for the history of dance, or changes to the implementation of the classes 'preparation for life in the family'. In Ukraine, on the other hand, the ideas of new nutritional standards in educational institutions as well as in health and leisure facilities for children were of particular concern, provoked by the allegedly insufficient financial basis for such reforms.

In both Poland and Ukraine, internet users were largely unhappy with the changes proposed by representatives of the respective ministries and expressed concern in the context of starting the new school year in the era of the COVID-19



pandemic. In both countries, the planned government action was (as indicated by positive user comments) praised (albeit slightly), however, the users repeatedly asked for the information to be more specific (which, in turn, was evidenced by comments of neutral aspect). The thematic convergence of the topics most engaging the internet users is most likely due to the pandemic situation occurring globally.

The emerging reports summarising the implementation of changes in education during the COVID-19 pandemic frequently highlight proposals for changes that could increase the quality of education and are thus worth consideration (CEDOS 2021; Новосад 2021; Human Rights Watch 2021; Gajderowicz, Jakubowski 2020; Plebańska et al. 2020). These recommendations most often focus on several areas, such as the activities of ministries of education, health and safety (here, in particular, with the focus on the mental health of students and teachers), digital and distance learning skills (emphasising the need to integrate the competences needed for remote learning into the educational standards), access to and quality of education.

The most repeated conclusions included the following:

- establish a hotline where restrictions on access to remote education could be reported (CEDOS 2021),
- develop practical solutions for remote education (CEDOS 2021),
- provide equipment and internet access to people in difficult life situation (Gajderowicz, Jakubowski 2020),
- carry out a number of studies monitoring the quality of education at different levels (Новосад 2021),
- identify knowledge gaps among children and young people (Новосад 2021),
- examine the budget to ensure equal access to education for all citizens in accordance with the Constitution (Новосад 2021),
- conduct remote education training among teachers (Plebańska et al. 2020),
- conduct a campaign promoting the return to stationary classes (Human Rights Watch 2021),
- focus on mitigating the disproportionate impact of the pandemic on children and young people who were at risk of exclusion (Human Rights Watch 2021),
- develop policies that take into account the impact of economic, racial and social inequalities on students and schools (Human Rights Watch 2021).

Based on the results of the research, the authors would add a few more recommendations that in the future could ensure a better understanding of the changes being implemented by the authorities, while translating into more positive online comments:

- more detailed explanations of the changes being made,

- providing information on the timetable for the school year in advance,
- answering questions asked by the internet users in the comments, thus taking an active part in media discourse,
- providing precise justification for modifications to the system (in particular for elements entailing an additional cost),
- referring to the scientific research to confirm the credibility of the government representatives.

Due to the specific nature of the own research carried out, it is difficult to find a reference to the results of other authors' research comparing Internet user activity on the official websites of the ministries of education and science in Poland and Ukraine before and during the pandemic. The small sample of research findings presented cannot be generalised to the entire population. However, this analysis reveals important issues and methodological approaches that can be used in the preparation of larger-scale studies on post-pandemic public sentiment (in different countries) as revealed in the social media.

## References

- Arens E., 2021, *The Best Times to Post on Social Media in 2021*, <https://sproutsocial.com/insights/best-times-to-post-on-social-media/#edu-times> (accessed on: 24 September 2021).
- Baker P., Hardie A., McEnery T., 2006, *A Glossary of Corpus Linguistics*, Edinburgh: Edinburgh University Press.
- CEDOS, 2020, *Koronawirus ta osvita: analiz problem i naslidkiv pandemii*, <https://cedos.org.ua/researches/osvita-v-umovah-pandemiyi-analiz-problem-i-naslid-kiv/?fbclid=IwAR1tKaOyg4CbIqCWf-sUQBToJUqblJioDyZ-GTNzqolB6BEJEr-DFb5-ccS4%22%20\h> (accessed on: 20 September 2021).
- CEDOS, 2021, *Osvita v umovah panDemiiu 2020/2021 roci: analiz problem i naslidkiv*, <https://cedos.org.ua/researches/osvita-v-umovah-pandemiyi-analiz-problem-i-nas-lidkiv/?fbclid=IwAR1tKaOyg4CbIqCWf-sUQBToJUqblJioDyZ-GTNzqolB6BEJEr-DFb5-ccS4> (accessed on: 20 September 2021).
- Cybulska A., 2021, *Zaufanie do polityków w czerwcu*, "Komunikat z Badań", no. 77.
- Facebook Community Standards, [https://www.facebook.com/communitystandards/violence\\_criminal\\_behavior/](https://www.facebook.com/communitystandards/violence_criminal_behavior/) (accessed on: 19 September 2021).
- Gajderowicz T., Jakubowski M., 2020, *Cyfrowe wyzwania stojące przed polską edukacją*, "Policy Paper", no. 6.
- Goban-Klas T., 2004, *Ontologia Internetu* [in:] L. Haber (ed.), *Społeczeństwo informacyjne – wizja czy rzeczywistość?*, vol. 1, Kraków: Uczelniane Wydawnictwa Naukowo-Dydaktyczne AGH.
- Hatańska N., 2021, *Wiek paradoksów. Czy technologia nas ocali?*, Kraków: Wydawnictwo Znak.
- Human Rights Watch, 2021, "Years Don't Wait for Them". *Increased Inequalities in Children's Right to Education Due to the COVID-19 Pandemic*, <https://www.hrw.org/>

- sites/default/files/media\_2021/05/global\_covideducation0521\_web.pdf (accessed on: 18 September 2021).
- Jaworska M., 2019, *Fenomen hejtu – próba konceptualizacji*, "Studia Methodologica", vol. 49.
- Juszczyk S., 2011, *Internet: współczesne medium komunikacji społecznej*, "Edukacja i Dialog", no. 5/6.
- Kawka M., 2014, *O badaniu języka dyskursu medialnego*, "Media i Społeczeństwo", no. 4.
- Levinson P., 2010, *Nowe nowe media*, transl. M. Zawadzka, Kraków: Wydawnictwo WAM.
- Lisowska-Magdziarz M., 2004, *Analiza zawartości mediów. Przewodnik dla studentów*, Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
- Ministerstwo Edukacji i Nauki, 2020, *Podsumowanie roku szkolnego 2019/2020*, <https://www.gov.pl/web/edukacja-i-nauka/podsumowanie-roku-szkolnego-20192020> (accessed on: 18 September 2021).
- Ministerstwo Edukacji i Nauki, 2021, *Podsumowanie roku szkolnego 2020/2021*, <https://www.gov.pl/web/edukacja-i-nauka/podsumowanie-roku-szkolnego-20202021> (accessed on: 18 September 2021).
- Ministerstwo Edukacji i Nauki, <https://www.facebook.com/ministerstwo.edukacji.nauki> (accessed on: 18 September 2021).
- NapoleonCat, 2022, <https://napoleoncat.com/pl/> (accessed on: 19 September 2021).
- NIK, 2020, *NIK o kształceniu dzieci cudzoziemców i obywateli polskich powracających do kraju*, <https://www.nik.gov.pl/aktualnosci/ksztalcenie-dzieci-cudzoziemcow-i-powracajacych-do-kraju.html> (accessed on: 29 December 2021).
- Plebańska M., Szyller A., Sieńczewska M., 2020, *Edukacja zdalna w czasach COVID-19. Raport z badania*, Warszawa: [n.p.].
- Raport Ministra Edukacji Narodowej, 2020, *Zapewnienie funkcjonowania jednostek systemu oświaty w okresie epidemii Covid-19*, Warszawa: [n.p.].
- Regulation of the Council of Ministers of 31 March 2020 on the establishment of specific restrictions, orders and bans in connection with the occurrence of the state of epidemic, JoL item 624.
- Sterenko, *Викладач лицейу топить за "ЛДНР" на уроці фізики. Допоможемо українофобам звільнитись!*, <https://www.youtube.com/watch?v=yUt0Zfjt61o> (accessed on: 27 September 2021).
- Szara K., Frejtag-Mika E., 2021, *Wpływ ograniczeń epidemiologicznych COVID-19 na działalność instytucji kultury w Polsce*, "Nierówności Społeczne a Wzrost Gospodarczy", no. 65.
- Trzaskowski P., 2017, *Nie sposób dialogować z pięścią. O skuteczności zewnętrznej moderacji w walce z nieetycznymi komentarzami internetowymi*, "Kultura – Media – Teologia", no. 2.
- UNICEF Polska, 2020, *Edukacja zdalna w czasie pandemii – zagadnienia, na jakie zwraca uwagę UNICEF Polska*, <https://unicef.pl/co-robimy/aktualnosci/dla-mediow/edukacja-zdalna-w-czasie-pandemii> (accessed on: 6 September 2021).
- Urzędowska A., 2019, *Komentarz na Facebooku jako quasi-gatunek internetowy – język i typologia*, "Język. Komunikacja. Informacja", no. 14, [http://jki.amu.edu.pl/files/JKI%20-%2014%20-%2007%20-%20Urz%C4%99dowska\[1\].pdf](http://jki.amu.edu.pl/files/JKI%20-%2014%20-%2007%20-%20Urz%C4%99dowska[1].pdf) (accessed on: 19 September 2021).
- ZPP, 2021, *Podsumowanie lockdownu w Polsce*, <https://zpp.net.pl/wp-content/uploads/2021/01/25.01.2021-Business-Paper-Podsumowanie-lockdownu-w-Polsce.pdf> (accessed on: 18 September 2021).

- Чепурко Г., Гладченко Л., Нагорна І., Писана О., 2021, *Аналітичний звіт. Дослідження подолання в громадах органами місцевого самоврядування викликів у наданні освітніх послуг, що виникли через Covid-19*, U-LEAD з Європою, [https://decentralization.gov.ua/uploads/attachment/document/823/Report\\_Access\\_to\\_Education\\_ukr.pdf](https://decentralization.gov.ua/uploads/attachment/document/823/Report_Access_to_Education_ukr.pdf) (accessed on: 24 September 2021).
- Гриневич Л., Ільч Л., Морзе Н., Прошкін В., Шемелинець І., Линьов К., Рій Г., 2020, *Організація освітнього процесу в школах України в умовах карантину*, Київ, Київський університет імені Бориса Грінченка, [https://drive.google.com/file/d/1\\_WQpXTDzajHFRbO76lasv4aCmTIEmSI/view](https://drive.google.com/file/d/1_WQpXTDzajHFRbO76lasv4aCmTIEmSI/view) (accessed on: 24 September 2021).
- Лист МОН 1, 2020, *Лист Міністерства освіти і науки України № 1/9-609 від 02 листопада 2020 р.*, <https://mon.gov.ua/ua/npa/shodo-organizaciyi-distancijnogo-navchannya> (accessed on: 18 September 2021).
- Лист МОН 2, 2020, *Лист Міністерства освіти і науки України № 1/9-692 від 15 грудня 2020 р.*, <https://mon.gov.ua/ua/npa/pro-zaprovadzhennya-karantinnih-obmezhen> (accessed on: 18 September 2021).
- Лист МОН 3, 2021, *Лист Міністерства освіти і науки України № 1/9-218 від 27 квітня 2021 р.*, <https://mon.gov.ua/ua/npa/pro-organizovane-zavershennya-20202021-navchalnogo-roku> (accessed on: 18 September 2021).
- Міністерство освіти і науки України, <https://www.facebook.com/UAMON> (accessed on: 19 September 2021).
- Наказ МОН, 2020, *Наказ Міністерства освіти і науки України № 1115 від 08 вересня 2020 р.*, <https://mon.gov.ua/ua/npa/deyaki-pitannya-organizaciyi-distancijnogo-navchannya-zareyestrovano-v-ministerstvi-yusticiyi-ukrayini-94735224-vid-28-veresnya-2020-roku> (accessed on: 19 September 2021).
- Новосад, 2021, *Здоров'я та освіта: Як пандемія COVID-19 вплинула на доступ до публічних послуг в Україні. Аналітичний огляд*, <https://nus.org.ua/wp-content/uploads/2021/03/Analitichnyy-oglyad.pdf> (accessed on: 19 September 2021).
- Постанова 1, 2020, *Постанова Кабінету Міністрів (КМУ) № 211 від 11 березня 2020 р. Про запобігання поширенню на території України гострої респіраторної хвороби COVID-19, спричиненої коронавірусом SARS-CoV-2*, <https://zakon.rada.gov.ua/laws/show/211-2020-%D0%BF#Text> (accessed on: 18 September 2021).
- Постанова 2, 2020, *Постанова КМУ № 848 від 16 вересня 2020 р. Про внесення змін До постанови Кабінету Міністрів України від 22 липня 2020 р. № 641*, <https://zakon.rada.gov.ua/laws/show/848-2020-%D0%BF#Text> (accessed on: 18 September 2021).