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Let's Go Virtual... How Digital Communications Affect Youth Media Literacy Education In High School: The Ukrainian Experience

ABSTRACT

In the era of the modernization of professional and educational services due to the COVID-19 pandemic innovation processes have been activated. An important condition for high school graduate students is to have new competences in media literacy as part of the educational vision for modern Ukrainian society. New approaches and requirements for professional education determine fundamental changes in the methodology, organization of the education process, subjects, content and instruments helping students in practice and everyday activities. Vectors of educational cooperation with students are more reflected in virtual communications using information and communication technologies (ICT) as modern progressive digital media literacy and educational practices are adapted for young people. In our article, the results of the experimental investigation in using virtual info media practices in the organization of education of students in Journalism and Social Communications field is presented. The aim of the research is to demonstrate how applied experience of using school lessons with connected virtual communicative practices such as info media quests, virtual workshops and media bridges affect media literacy education. We underline the educational advantages of innovative technologies in studying media literacy in Ukrainian high schools and improving the digital communication and critical thinking competencies of young people. The results of the present investigation show that virtual info media practices in high school have made significant progress and have huge advantages over the traditional methods of education in the context of the realization of individual oriented approaches in media literacy education for young people. The opinion poll of the students studying Journalism and Social Communications at Lesya Ukrainska Volyn National University with the approbation of appointed virtual communications forms demonstrates this upgrading of their media literacy levels and professional capabilities.

KEY WORDS

Digital tools. Education. Information and communication technologies (ICT). Media literacy. Virtual communications. Young people.

1. Introduction

Under the influence of the advancement of the latest technologies, information and communication technological didactic tools, modern teaching methods allow realizing the pace of changes in today's world. Some researches see them within "human progress"¹, global challenges atypically carrying us through "pandemic to infodemic"², highlighting the importance of worldwide new technologies eras and media education³. Moreover, according to D. Schilirò, "*digital transformation is no longer an option*"⁴ but a requirement for socioeconomic development,⁵ cultural life and a national approach to information policy. During the last eight years beginning in 2013, Ukraine has carried out a strategy of information society development as a significant component of the state. One of the priorities of the national policy is the development of the information space with the help of the system of education, namely through implementation of state-of-the-art information and communication technologies and media literacy into academic activity. Even today we have unanswered questions about the role of ICT in education about how students in high school "*can use information to learn more; that is to learn how to learn*"⁶ taking into account media literacy education, digital competences and communications in the Googleburg Galaxy.⁷

Last year, 2020, was full of pandemic sentiments and revealed that conventional teaching methods in higher school are not efficient enough or not always correct and appropriate. Today, higher school pedagogues are facing the task not only to teach the younger generation but also to form an innovative type of specialist, who will be competitive, able to work in a team, possess leadership skills, be creative and able to apply theory in practice. However, such negative phenomena as the absence of motivation to obtain knowledge, the prevalence of theory over practice, the low efficiency of academic activity, etc. are abundant in modern Ukrainian education. The COVID-19 pandemic is not the only reason for this. The necessity exists to transfer from the Ukrainian (and not only Ukrainian) system of higher education including media literacy to technologies, digital formats of distance management and shared access, gamification, integrated information workshop technologies and constant virtual practices of scientific and academic communication. Accounting for the "*COVID-19 crisis, online education became a pedagogical shift from traditional methods to the modern approach of teaching-learning from the classroom to Zoom, from personal to virtual and from seminars to webinars.*"⁸ Online

¹ See: LEE, S., HONG, A., HWANG, J.: ICT Diffusion as a Determinant of Human Progress. In *Information Technology for Development*, 2019, Vol. 25, No. 2, p. 171-183. [online]. [2021-02-10]. Available at: <<https://www.tandfonline.com/doi/full/10.1080/02681102.2019.1596654?src=recsys>>.

² See: SANDU, A.: From Pandemic to Infodemic. In *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 2020, Vol. 11, No. 2, p. 277. [online]. [2021-01-06]. Available at: <<https://www.brain.edusoft.ro/index.php/brain/article/view/1033>>.

³ See: GÓMEZ-GALÁN, J.: Media Education in the ICT Era: Theoretical Structure for Innovative Teaching Styles. In *Information*, 2020, Vol. 11, No. 5, p. 1-17. [online]. [2020-05-20]. Available at: <<https://www.mdpi.com/2078-2489/11/5/276.htm>>.

⁴ SCHILIRÒ, D.: Towards Digital Globalization and the Covid-19 Challenge. In *International Journal of Business Management and Economic Research*. 2020, Vol. 11, No. 2, p. 1711. [online]. [2021-01-22]. Available at: <https://www.academia.edu/43062956/Towards_Digital_Globalization_and_the_Covid_19_Challenge>.

⁵ See: ROZTOCKI, N., SOJA, P., WEISTROFFEN HEINZ, R.: The Role of Information and Communication Technologies in Socioeconomic Development: Towards a Multi-dimensional Framework. In *Information Technology for Development*, 2019, Vol. 25, No. 2, p. 171. [online]. [2021-09-11]. Available at: <<https://www.tandfonline.com/doi/full/10.1080/02681102.2019.1596654?src=recsys>>.

⁶ ERSTAD, O.: Educating the Digital Generation – Exploring Media Literacy for the 21st Century. In *Nordic Journal of Digital Literacy*, 2015, Vol. 10, p. 98. [online]. [2020-04-18]. Available at: <https://www.idunn.no/file/pdf/66808553/educating_the_digital_generation_-_exploring_media_literacy.pdf>.

⁷ More about Googleburg Galaxy read in: GENNARO, S., MILLER, B.: Critical Media Literacy in the Googleburg Galaxy. In *Media Literacy and Academic Research*. 2020, Vol. 3, No. 2, p. 6-22.

⁸ MISHRA, L., GUPTA, T., SHREE, A.: Online Teaching-Learning in Higher Education during Lockdown Period of COVID-19 Pandemic. In *International Journal of Educational Research Open*, 2020, Vol. 1. No pagination. [online]. [2021-02-28]. Available at: <<https://www.sciencedirect.com/science/article/pii/S266374020300121?via%3Dhub>>.

education should become informative, favouring the “involvement” of a student into studies at all stages. Modern educational paradigm forms new challenges grounding on gamification and digitalization of education as traditional teachers and lecturers are being exchanged with game trainers, innovation pathways and online-platforms coordinators.

1.1 Media Education in Ukraine: Challenges, Practices and Experience

The Ukrainian educational environment does not look at media literacy⁹ as a problem that has arisen unexpectedly. At one time or another, it has been a burning issue for all (especially for pupils, students, teachers and lecturers) as it was looked into unsystematically and from different points of view. It was only thematically included in the basic disciplines of the humanities curricula. Teaching media literacy to young people has not yet become widespread enough in Ukrainian society to allow us to speak about any results. This process is activated¹⁰ at the stage of implementation¹¹ and has its distribution area including three basic stages. The first one is school education, which, by the way, started the integration of media literacy into the Ukrainian audience. Following Conception of Implementation of Media Education in Ukraine¹² it corresponds to an experimental stage (2010-2016) and the stage of the gradual settlement of media education and standardization of the contents of media education (2017-2020). The Ministry for Education and Science in Ukraine together with the Academy of the Ukrainian Press supported the spread and integration of media education into various school subjects under the influence of the project “Learn to Discern: National Rollout” (IREX Ukraine). Studying various subjects and courses, solving tasks on specialized topics children and youth obtain media literacy competencies. Another group of the audience in focus is young people, mostly teachers and practitioners, who will be spreading media literacy using pedagogical influence. And the third group is youth studying in higher educational establishments aged 17 to 22 for whom critical thinking is an extremely significant skill for orientation in the information streams of untruthful or quite often even partly truthful information. The skill becomes even more crucial accounting for the insufficient ability to perceive information critically by an untrusted user. As highlighted by E. Moravčíková *“information boom, brought about by the internet and new information technologies, has allowed unverified, false and half-true information to spread like*

⁹ In new Conception of Implementing Media Education in Ukraine (2016) this term defined as “component of media culture, which applies the ability to use information and communication techniques, express and communicate through the media, successfully obtain the necessary information, consciously perceive and critically interpret information obtained from different media, separate reality from its virtual simulation, understand the reality constructed by media comprehend power relations, myths and types of cultivated control.” Source: NAJDIONOVA, L., SLUSAREVSKI, M.: *Conception of Implementing Media Education in Ukraine (New Edition)*. Kyiv : Institute of Social and Political Psychology of National Academy of Educational Sciences of Ukraine, 2016, p. 8.

¹⁰ The intensity of the process of implementation of media literacy is revealed at the level of involvement of the public and informal education: a Ukrainian environment witnesses the appearance of online courses and platforms, which can provide a free quality teaching of media literacy preparation. We mean such online courses as “News literacy,” “Media literacy for citizens,” “Verification in the Internet,” “How to understand social networks,” “Very verified” etc.

¹¹ Many programs and textbooks on media literacy were developed and approved for usage by pedagogues in Ukraine, in particular, such academic programs as “Media education (media literacy),” “Media literacy: questions and answers,” “Media literacy,” and such textbooks as “Information Fraud,” “How to recognize fake?” (Published in cooperation with Ministry for Information Policy in Ukraine), “Trust but Verify. Media literacy in the Ukrainian Society,” “Media compasses: a guide for a professional journalist,” a multimedia online-textbook “MediaDriver” etc. were adapted for Ukrainian universities. Part of the textbooks was created under the auspices of the Ministry of Education and Science in Ukraine, Ministry of Information Policy in Ukraine and active public organizations.

¹² NAJDIONOVA, L., SLUSAREVSKI, M.: *Conception of Implementing Media Education in Ukraine (New Edition)*. Kyiv : Institute of Social and Political Psychology of National Academy of Educational Sciences of Ukraine, 2016, 16 p.

cancer.”¹³ Such social media as Facebook, Twitter, Instagram, Tik Tok, Youtube or Telegram channels are mostly “crafty” in terms of information attacks. Users of the Internet, in particular children and youth, do not differentiate fake news from the truth and, correspondingly, become emotionally dependent on other people’s thoughts and preferences, getting into the so-called social bubble.

Today in Ukraine, as well as in other countries, skills of training of media literacy are mostly digital, similar to the media used by students, use convergence and are digital. Accordingly, students’ skills of using these media are supposed to use digital competences of media literacy reducing the negative influence of untruthful information. As S. Gennaro and B. Miller state “new media grants individuals the opportunity to engage in critical media literacy.”¹⁴ N. Grytsyshyna points out that “a modern graduate is supposed to possess many competencies which should differ from a mere combination of knowledge, skills and know-how which cannot be formed within the framework of usual studying modes.”¹⁵ Innovations aimed at the changing of the system of modern media education into a wholesome educational model should develop along the following directions: 1) formation of the innovative educational system of the educational institution to create an individual innovative system as an environment for the realization of the concept of “life-long education” with components of media literacy; 2) establishment of broad interdisciplinary links in the course of teaching of general and special subjects. It does not only develop critical thinking skills but also widens world outlook, forming it as a cohesive conglomerate of knowledge highly valuable for any personality; 3) implementation of innovative visual multidisciplinary didactic complexes allowing not only combination of disciplines but the formation of the abilities to rearrange already obtained knowledge and search for new interconnected links. 4) STEM-oriented approach to studying that forms flexibility, the divergence of the thinking mode of modern young people. 5) Application of media products, namely of media technologies and digital storytelling which can become a “powerful teaching tool for teachers and their pupils both in the course of the program acquisition and development of the information and digital competence.”¹⁶ It will positively influence students’ digital media literacy.

2. Methods

In the course of the research, such general scientific methods as analysis, synthesis, comparison, and generalization were used. Besides, specialized methods were applied too. Methods of observation and pedagogical experiment were highly helpful for the realization of the technology of the virtual info media quest and other types of virtual workshops, online trainings and media bridges for teaching future journalists and social communication specialists. Also, a method of online mapping with sharing was made use of for marking fake news further afield.

In the course of the virtual info media quest a searching method, a method of game practice (e.g. to find a mark, a hint), a method of content-analysis (e. g. to analyze the content of a particular media, such as texts, contexts, data, opinions, facts, manipulative content etc.), a comparative method for particular media phenomena was used. We also used an interview method to study the influence of media quests on the level of media literacy of the students. The interview questions were divided into three blocks. The first two determine the level of media literacy among the students on a one to five scale, where 1 is the minimum value and 5 is the maximum one. They

¹³ MORAVČÍKOVÁ, E.: Media Manipulation and Propaganda in the Post-truth Era. In *Media Literacy and Academic Research*. 2020, Vol. 3, No. 2, p. 27.

¹⁴ GENNARO, S., MILLER, B.: Critical Media Literacy in the Googleburg Galaxy. In *Media Literacy and Academic Research*. 2020, Vol. 3, No. 2, p. 7.

¹⁵ GRYTSYSHYNA, N.: Workshop Technology as One of the New Forms and Methods of Teaching a Foreign Language by Students. In *Almanakh sovremennoi nauky y obrazovaniya*, 2012, Vol. 3, No. 58, p. 49.

¹⁶ PODLINIAJEVA, O.: Media Technologies in Education: Creating and Using of Digital Storytelling. In *Phizyko-matematichna osvita*, 2017, Vol. 4, No. 14, p. 256.

were used twice: questions from Block 1 for the determination of the level of media literacy was applied before the media quest (immediately before its beginning), and questions from Block 2 were asked after the students completed the media quest. We aimed to reveal the dynamics of the media literacy level directly influenced by the studied experiment. The questions from Block 3 were divided into two levels, which could correspondingly predict the dynamics of hard and soft skills in the course of their training within a short time period (not more than three days). Four teams consisting of six members each (24 journalist-students of Lesya Ukrainska National University of the second year of studying) participated in the discussions of the results and game practices as well as of the proposed virtual info media quest for the teaching of media literacy to 150 other people. Together, 174 took part in the experiment. All their reviews were positive.

To reveal the effectiveness of the virtual workshops including trainings and media bridges we used a questionnaire method. Altogether 254 people participated, among which 54 were students visiting workshops, 160 were participants of the series of training on media literacy and 40 were members of the media bridge. The opinion poll of the students studying Journalism and Social Communications at Lesya Ukrainska Volyn National University with approbation of appointed virtual communications forms demonstrates the upgrading of their media literacy levels and professional capabilities. Among positive determinants they mentioned: 35% – using received media literacy knowledge in journalism practice; 25% – effective communications with others, self-expressions; 20% – pro-activeness, dynamism in subject's studying; 12% – successful results in creating educational products; 8% – cooperation, effective group work.

3. Results and Discussion

3.1 Digital Game Communications in Ukrainian Media Education

Gamification is a peculiarity of teaching media literacy namely in higher school. They are games that, to our mind, are the easiest way to realize phenomena, remember and understand how they are integrated into our lives. A media literate person receives an opportunity to work professionally but easily and in a lively manner. S. Mairson says “as health care systems around the world fight the COVID-19 pandemic /.../ social distancing complicates efforts to teach people the media literacy skills to recognize and resist disinformation. Online games and activities can be fun and effective alternatives to in-person training.”¹⁷

There are few studying alternatives in the form of games on media literacy created and adapted for the Ukrainian youth. Among them we would like to highlight such free online game resources in the Ukrainian language as “Mediaznajko,”¹⁸ “Adventures of Literatus,”¹⁹ “MediaDriver,”²⁰ “Very verified,”²¹ “Fake Busters,”²² “Don’t Trust, Verify!”²³ They are presented in Table 1 to show how many levels or themes they have, if they permit working in teams and if online platforms are available.

¹⁷ MAIRSON, S.: *Online Games and Activities Can Help People Recognize COVID-19 Disinformation*. [online]. [2021-09-15]. Available at: <<https://www.irex.org/insight/online-games-and-activities-can-help-people-recognize-covid-19-disinformation>>.

¹⁸ MEDIAZNAJKO. [online]. [2021-09-15]. Available at: <<https://www.aup.com.ua/Game/>>; Remark by the authors: It is the first online game in Ukraine for youth media literacy education.

¹⁹ ADVENTURES OF LITERATUS. [online]. [2021-03-01]. Available at: <<https://www.aup.com.ua/mediaosv/onlays-gra-prigodi-literatusa/>>.

²⁰ MEDIADRIVER. YOUR NAVIGATOR IN THE WORLD OF MEDIA. [online]. [2021-03-01]. Available at: <<https://www.mediadriver.online>>.

²¹ VERY VERIFIED! [online]. [2021-02-23]. Available at: <<https://verified.ed-era.com/ua>>.

²² Remark by the authors: Fake Busters is a kind of online quest with active participants catching fakes using Internet technology in Kyiv city. The Fake Busters game doesn't have a special online platform or site.

²³ DON’T TRUST, VERIFY: INFORMATION VIROLOGY. [online]. [2021-02-26]. Available at: <https://www.facebook.com/watch/live/?v=253928586057697&ref=watch_permalink>.

| | Frontpage | Levels/ themes | Cooperation | Platform |
|-------------------------|-----------|----------------|-------------|----------|
| Mediaznajko | | 9 | INDIVIDUAL | YES |
| Adventures of Literatus | | 10 | INDIVIDUAL | YES |
| MediaDriver | | 14 | INDIVIDUAL | YES |
| Very Verified | | 5 | INDIVIDUAL | YES |
| Fake Busters | | 20 | TEAMWORK | NO |
| Don't trust. Verify! | | N/A | TEAMWORK | NO |

TABLE 1. Ukrainian media literacy games approved by the Ministry of Education and Science in Ukraine

Source: own processing, 2021

Our observations have revealed that gamification as a tool for teaching media literacy is favourably accepted by Ukrainian students doing their Bachelor's degree (1-4 years of studying) and students doing their Master's degree (5-6 years of studying). This tool is highly effective and involving in the process of teaching and acquiring new skills irrespective of the mode of studying: in-class or digital.

We have tested conventional and virtual formats of media quests, online workshops, trainings and media bridges with digital mapping shared access in the course of studying media literacy with journalism students and they demonstrate great results in terms of popularizing and training critical thinking.

3.2 Virtual Info Media Quest as an Educational Game Experiment on Media Literacy

We proposed a studying experiment in the form of an online game (media quest) in the course of the virtual training of the skills of info media literacy among students of the second year of study doing their Bachelor's degree in Journalism and Social Communications. The media quest was developed with an account of specifics of studying in the sphere of journalism, the Standard of Ukraine in the sphere of Journalism and an opportunity to use the minimum amount of special knowledge by the participants (basic or beginner level is enough). This allows using games even at classes with groups of youth of different ages, with hobby groups, media training or with thematic research groups.

What was our aim? Virtual info media's quest is to softly train young people while playing two things: first of all, these are skills which are highly significant for journalists as they are in newsrooms and communicate with various people in the course of effective cooperation.

The other thing we were trying to achieve was more academic. It was the so-called training of soft skills or training of critical thinking, evaluating journalist activity in the context of the creation of media products even in situations of “emergency journalism” and the performance of editorial tasks.

The essence of the experiment was to trace the interrelation of media literacy indexes (hard skills) with soft skills among young people studying journalism before and after the media quest. In other words, we wanted to find out whether these indexes were changing under the influence of the short-term game practices of digitally studying media literacy.

The questions for the interview (Table 2) were divided into three groups:

- Block 1: Questions concerning the assessment by the participants of their media literacy competence before the experiment. This assessment was extremely significant as it served as a starting point of count down and observation of the qualitative knowledge of the digital tools for teaching media literacy.
- Block 2: Questions concerning the media literacy competencies after the media quest. The questions from Block 2 were asked a few days after the Block 1 questions but not later than three days. We needed to understand and describe the effect of the game quest on media literacy on the youth.
- Block 3: Questions concerning competencies acquired during the training with info media quest. Two levels were activated in this block, namely, the one that regards professional achievements (media literacy itself), and another one that regards soft skills. We aimed to find out what was acquired by young people in the course of the implementation of studying online interaction in the form of the virtual info media quest.

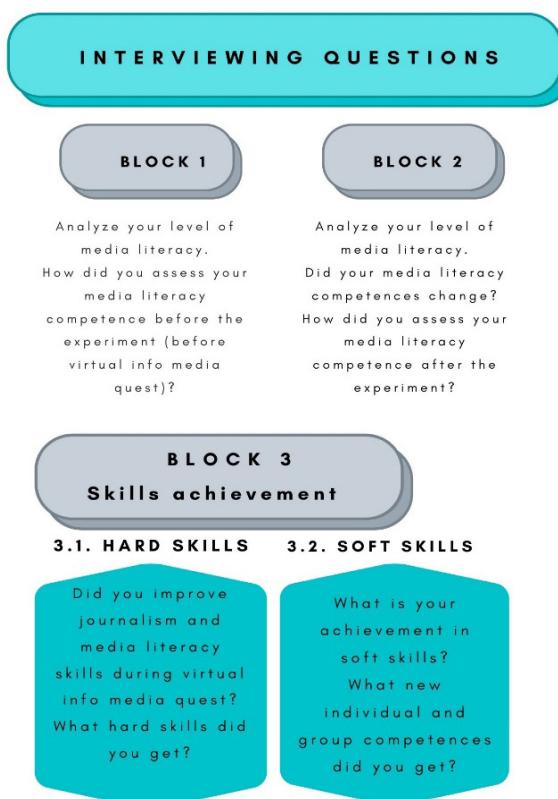


TABLE 2: Interviewing questions for the virtual media quest experiment

Source: own processing, 2021

Game description: The game is played online in the 3D space of Lutsk city with marked locations. With the help of online recording, young students-journalists participate in the quest. All the participants are divided into 3 or 4 teams depending on the number of participants. Every team should not have more than 6 members. A teacher can form teams in the class but we recommend allowing those who want to boost their potential of studying media literacy to participate. This way the experiment will be most effective. The thing is that the inner motivation and desire for secret adventures will serve as an additional stimulus. After the automated formation of the teams, the participants introduce themselves to each other, choose the name of the editorial (after that moment the team will have the name of the editorial) and allocate roles.

Legend: You are a young journalist who has just landed a job in the editorial in the unknown city Lu. Your chief editor is demanding and tries to check whether you adhere to journalist standards and do not manipulate. The most effective way to answer this question is to «try you by fire».

Players: 3 or 4 teams consisting of a maximum of 6 and a minimum of 4 can participate in the quest. The teams allocate the roles and choose the name for their editorials. The roles are; a young journalist, an editor and the rest of the participants are the team of the editorial (journalists-colleagues). Choosing the editorial's name.

Timing: Within 24 hours, the players perform editorial tasks (5 tasks) at different locations around the city. The tasks are aimed at the training of hard skills (basic journalist skills and media literacy) and soft skills (teamwork in the virtual editorial). Video instruction

3.3 Tasks: Test, Description, Focus

Text: Your boss has prepared 5 tasks. The tasks are reliably hidden and coded with QR-codes. To get them you will need assistants (your colleagues from the editorial / the team). The prepared materials shall be sent to the editorial's email. The winner is the team that will perform all the tasks most precisely and quickly.

Task 1: Video instruction. Location – the territory of Lubart castle in Lutsk. When inside you have to find a hidden mark with a task on it. The off-screen voice belongs to O. Kosheliuk. The background is a publication on the site "A Mirror of the Week" about inclusion. The focus is on sensitive groups of the population. The participants have to find a publication, choose and classify the facts, commentaries and arguments.

Task 2: Video instruction. Location – a park with a mural in the form of a trident. When inside you have to find a hidden mark with a task on it. O. Terebus is in shot. The focus is on sensitive groups of the population. The participants have made a series of news from the official site of the National Police in the Volyn region.

Task 3: Video instruction. Location – Lutsk local evangelic church. Evening. When inside you have to find a hidden mark with a task on it. O. Kosuyk is in shot. The focus is on religious manipulations. The participants have to create rubrics of the (expert) commentaries about religious life in Volyn.

Task 4: Video instruction. Location – Lesya Ukrainska Volyn National University. When inside you have to find a hidden mark with a task on it. N. Blahovirna is in shot. The focus is on manipulations about the pandemic, namely manipulations with statistics. The participants have to write a publication about the pandemic and education. It is advised to use digital data from official sources.

Task 5: Video instruction. Location – The Korsaks' Museum of Contemporary Ukrainian Art. When inside you have to find a hidden mark with a task on it. O. Kosyuk is in shot. The focus is on manipulation of public opinion, the stereotypes of art perception. The participants have to find out whether mass media in the Volyn region help or prevent manipulation of public opinion.



Virtual info media quest



Task 1

Focus: sensitive groups. Find a publication, choose and classify the facts, commentaries and arguments

Task 2

Focus: sensitive groups. Made a series of news from the official site of the National Police in Volyn region

Task 3

Focus: religious manipulations. Create rubrics of the (expert) commentaries about religious life in Volyn region

Task 4

Focus: manipulations with data, pandemic. Write a publication about the pandemic and education

Task 5

Focus: art manipulations. Find out whether the mass media in Volyn region help or prevent manipulation of public opinion

TABLE 3: *Virtual info media quest: manipulation focuses and task*

Source: own processing, 2021

3.4 Results and Their Interpretation

24 players, second-year students of Journalism at Volyn National University participated in the virtual 3D quest on media literacy. The online game took place during the autumn semester in 2020. 4 teams (editorials) were formed. Each team consisted of 6 members who were freely chosen by the partners. The names of the teams were "Aesthetics," "Journalists," "Liberty," and "Journalistic Sharks." The team "Liberty" took the main prize, as they were the quickest and performed the tasks the most correctly. Within 24 hours, the teams-editorials were virtually performing the tasks during their distance learning, whilst staying in different places but acting as one team in the virtual space of the imagined city for the sake of cooperation.

Before the start of our investigation, we measured the indexes of the students, namely to find out their level of media literacy. It allows understanding to what extent the participants were aware of the issues of media literacy before and the degree to which their skills changed after the quest. The data about the level of media literacy of the participants before the quest are shown in the diagram below.

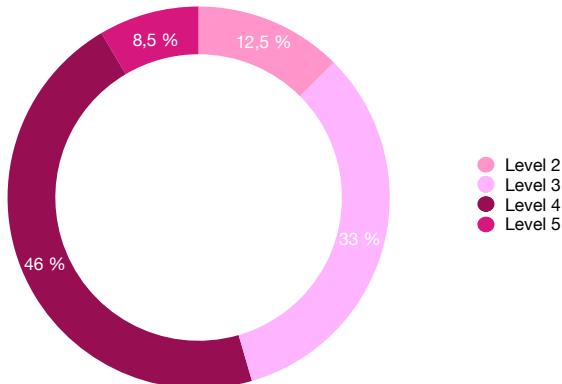


DIAGRAM 1: *Media literacy level of students before the experiment*

Source: own processing, 2020

Diagram 1: Evaluate your knowledge of media literacy on a scale from one to five where 1 is the lowest grade corresponding to the minimum value and 5 is the highest grade corresponding to the maximum value. This diagram shows that the students assessed their media literacy competencies in the following way: 12.5% – level 2 corresponding to lower than average, 33% – average level, 46% – higher than average, 8.5% – the highest level. No one chose level 1. We can comment that such results can be explained by the fact that the participants are second-year students and they obtained basic journalist skills as well as skills of critical thinking in the course of studying the corresponding introductory disciplines of vocational training of journalism during their first year of studying at university.

Diagram 2 helps to understand how the assessments changed after the short-term intensive course of digital communication in the form of the virtual info media quest.

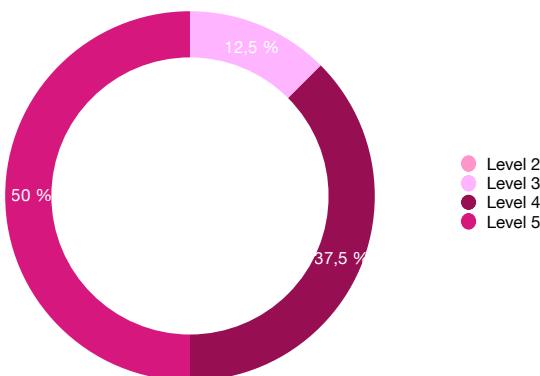


DIAGRAM 2: *Media literacy level of students after the experiment*

Source: own processing, 2020

As we can see the general level of media literacy rose: we didn't have anybody with level 2 and it means that there were no participants who assessed their level as lower than the average. Instead, 12.5% assess their level as average (level 3), 37.5% – higher than the average (level

4) and 50% – as the highest level (level 5). These figures point out the effectiveness of digital strategies of teaching media literacy as in aggregate 87.5% are higher than average and the highest assessments of the level of media literacy compared to 54.5% before the quest. Thus, the quality indicator increased by 33%. Accounting for the fact that there were only three days between the first and second assessment we can state that such information and communication technologies are successful and effective as means of teaching media literacy and can improve media literacy within a short period of time.

Furthermore, the results of the experimental research show the hard and soft skills mostly improved by the virtual info media quest. Namely, the results of the diagram below (Diagram 3) describe the professional achievements: 25% of students-participants learned to differentiate between facts and opinions, 33% of the interviewed now know better how to reveal manipulations, 29% became better at fact-checking and a further 13% learned how to recognize and work with hate speech in mass media.

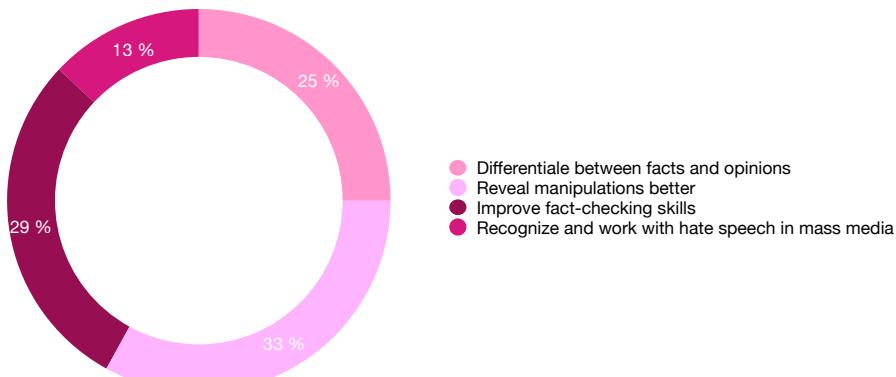


DIAGRAM 3: Hard skills achievement

Source: own processing, 2020

However, it became clear that hard skills for studying media literacy are an integral part of soft skills. So, the next diagram (Diagram 4) allows us to understand the skills developed by the participants of the virtual game and those which they needed to perform the tasks and reach the final.

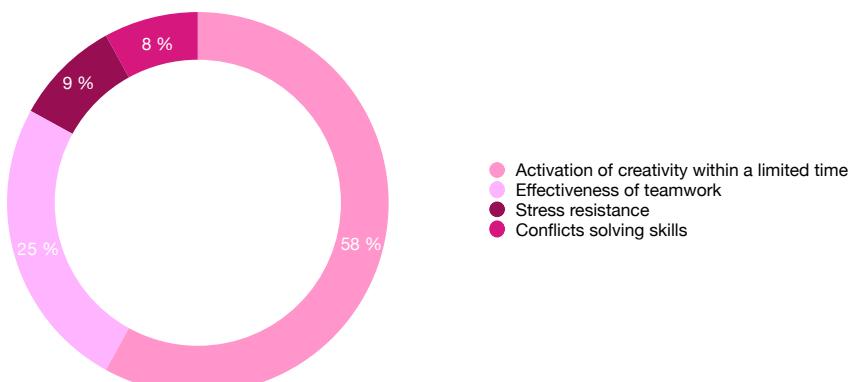


DIAGRAM 4: Soft skills achievement

Source: own processing, 2020

The participants noted such positive factors as activation of creativity within a limited time – 58%, increase of the effectiveness of teamwork – 25% of the participants, and increase of stress resistance – 9% of the participants, conflicts solving skills – 8%. As we can see, digital game communication indicates the positive dynamics during the study and training of media literacy skills. Also we added to our experiment 150 persons, discussing with them about the virtual info media quest and its impact on media literacy of the students. They saw the results, could pass the virtual quest individually and gave their opinion about it. We had all positive reviews as far as 138 of them (92%) saw perspectives in rising media literacy skills.

3.5 Virtual Integrated Workshops, Trainings and Media Bridge for Media Literacy Education

Implementation of information and communication technologies into the academic process within the framework of the organization and holding classes is proved by the integrated educational workshop by application of the virtual game tools. This interactive technology is effective accounting for its peculiarities allowing the creation of a comfortable atmosphere for studying and easy communication between all the subjects of the academic activity. Such a situation favours the development of students' critical thinking as they are learning how to find creative and attractive approaches to solving the proposed tasks, quickly solve arising problems and successfully digest even the most difficult intellectual models.

Our perennial experience of the organization of media literacy classes using practices of the conventional and virtual workshop demonstrated that such a form of organization of academic activity would be even more effective if various interactive teaching methods were also used. For instance, brainstorming, a lecture-dialogue, demonstrations, learning by doing, a virtual academic excursion, etc. would be effective in lectures. Teaching to students of the journalism department we used a method of academic online excursion, which appeared to be quite efficient for acquiring professional skills. Studying media literacy, students were excitedly surfing foreign and national media sites, investigating the ways the factual material was presented and analyzing whether the facts had any manipulative influence on the public. Such an organization of the academic process was effective for the students studying TV media as online excursions were appropriate enough in the contexts of these special disciplines and allowed looking into the process of news creation from the inside.

We consider that such innovative methods as paired work and work in small groups will be efficient in practical and seminar classes on media literacy. Short-term workshops will not be tiring for young people and efficient for the acquisition of journalist knowledge and media literacy skills. Mini workshops lasting up to an hour and a half are more useful for the academic process in higher schools as such technology calls for intensive studying. As the academic process in higher educational institutions is basing on the alteration of lectures and practical classes, a model of long-term workshops is not successful enough. On the other hand, long-term intensive work with high dedication might have an adverse effect. Such teaching methods as media discussions, business and role games on media literacy, simulating journalistic situations, video training, etc. will be as effective at practical classes-workshops. Conducting a workshop for the students of journalism, it is advisable to use a case-method, which includes a situational analysis. It is possible to make use of it organizing a discussion on a particular situation that has already happened or still exists in the media sphere. The students-participants of the workshop should study the situation thoroughly applying their professional skills, find out the essence of the problem, propose all the possible ways for its resolution and choose the most efficient solution together.

Teaching students of journalism, we tested the experience of game interactive workshops and virtual project workshops. 54 students were training their skills in media literacy and fact checking. They were acting as news presenters, correspondents and reporters creating TV materials. Doing this they were using such services for work with video as Video Toolbox, Avidemux, VSDC Free Video Editor, and online editing programs for working with images Fotor, iLoveIMG, Befunky. Play techniques were integrated into real-life situations for the motivation of the particular behaviour modes in the studying group. To determine the benefits of the workshop using online tools for teaching media literacy in practical classes we conducted a questionnaire among the students of Journalism and Social Communications. 54 students that participated in the organized and described above academic events were interviewed.

The opinion poll of students studying Journalism and Social Communications at Lesya Ukrainka Volyn National University with approbation of appointed virtual communications forms demonstrates the upgrading of their media literacy levels and professional capabilities. Among positive determinants they mentioned: 37% – using received media literacy knowledge in journalism practice; 24% – effective communications with others, self-expressions; 18.5% – pro-activeness, dynamism in subject's studying; 13% – successful results in creating educational products; 7.5% – cooperation, effective group working.

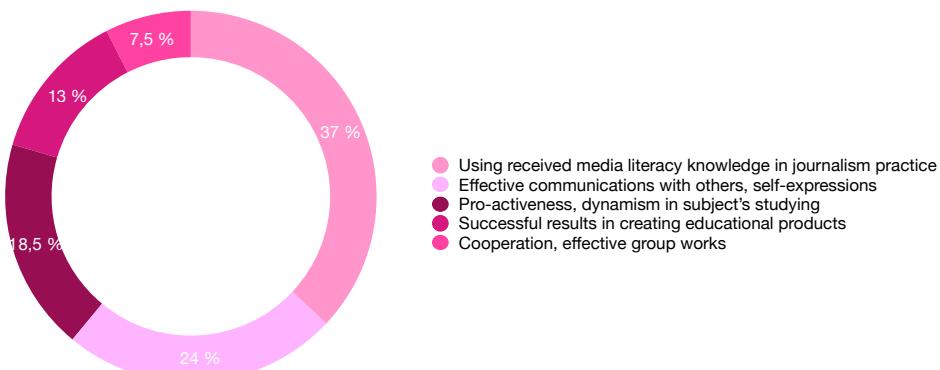


DIAGRAM 5. Effectiveness of virtual workshops

Source: own processing, 2020

The results of the series of academic virtual trainings on media literacy conducted by Zoom on December 14-18, 2020 are also quite impressive. Three thematic sessions took place every other day. Every new session was one-step more difficult than the previous one. Such a training week was not exhausting for a student and allowed the learning of the material and active cooperation in the course of studying in the context of media literacy.

The first training was “Critical thinking in the era of “fast” media: how to analyze information?” The goal was to develop a critical perception of media information, motivate the audience to check information from different sources. As a result, we expected understanding of the concepts “manipulative content (manipulative information)”, “critical thinking”; ability to identify different types of content in the media (messages, beliefs, manipulation); skills of distinguishing features of manipulative content and skills of application of methods of critical analysis of media manipulations.

The second online training “Hate speech in the media: we write about vulnerable groups”. The purpose and objectives of the training: to highlight the existence of hate speech in the context of the functioning of negative stereotypes, prejudices, unverified information; demonstrate to participants the consequences of journalists’ non-compliance with professional standards, in particular in the context of the use of hate speech; outline the area of responsibility for the use of hate speech. What competencies will we form: understanding of the concepts of hate

speech and code of ethics, professional standards of the journalist, the ability to identify and distinguish hate speech from the general content of the media; skills in applying hate speech avoidance techniques.

The third and most visited online training was "Digital Data in Media Texts: Interpretation and Manipulation." The training shows through activities how much we can perceive even accurate (digital) data in two ways and how provocatively the media sometimes presents them. After the training participants developed certain practical skills and at the same time mastered an array of theoretical information (in particular, understanding the role of the author as the main person responsible for the quality of prepared material; form a clear idea of the volume and quality of factual material). Participants learned how to apply the techniques of external and internal verification of the actual accuracy and reliability of digital data (verification of sources of facts and facts by sources; correlation of facts related to the content – the correlation of dates related to the content; the date that determines age of the event; century and year, values and units of measurement, general provisions and its detailed provisions, related to the regularity of numbers with this pattern, understand the need for internal calculations of the sum of parts of an integer, the correlation of relative and absolute values, pay attention to the possibility of rebuilding many facts, other principles, etc.)

Altogether 160 students participated in the online trainings. The training week was very intensive so we need to find out its effects on the media literacy skills of the participants. We asked our students who participated in all three trainings to answer a question about changes in their media literacy competences. 93.75% of the participants admitted their skills grew in basic critical thinking and thoughtful analysis of the information from media. In addition, the opinion poll of the students of Journalism and Social Communications bring to light their achievements in media literacy such as: discern manipulative information – 20%, 15% of the interviewed could write their media materials without hate speech, 40% learned how to use data correctly and another 25% improved their fact checking skills. Diagram 6 represented the results.

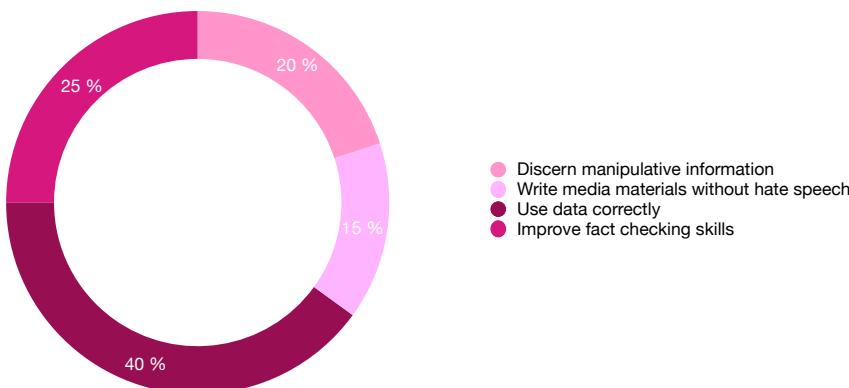


DIAGRAM 6: Effectiveness of online trainings of media literacy

Source: own processing, 2020

The peculiarity of virtual educational communications is that it is possible to use technologies of group work with shared access, as we did in the classes using media bridges. Media bridges online activities stimulate students to work together with others from one university or with students from partner universities and specialties. In this way, we cooperated virtually through Skype connections with students from Kaunas (Lithuania) for the first time and with students from Kyiv (Ukraine) via Zoom for the second time. The advantages of such virtual learning are: 1) the possibility of virtual academic mobility for students and lecturers, 2) cooperation in learning of educational topics and tasks, 3) the need to share and exchange experiences and knowledges, 4) training digital competence and effective interaction in teams.

The media bridge, dedicated to media literacy and virtual practices, was organized with online learning opportunities. We offered work in small groups of 5-7 people (the group consisted of students from different high schools), who had the task of monitoring manipulation with coronavirus and vaccination information in Ukraine and other countries and the dissemination of manipulative data by publishers. We added a simple search, image and / or video verification, analysis of the content logic, attention to emotions, stereotypes, individual opinions, causal relationships, context, situation, source of information and method of dissemination etc. Using critical thinking and cognitive theory, we also rethink the media effects (both individual and macro) improving media literacy after W. James Potter.

We found through the opinion poll that among our participants there are 92.5% who said their level of media literacy has increased and for only 7.5% participants it remained at the same level. We use a method of online mapping with sharing access functions for generative work with students, which provides the opportunity to create in real time a map of fakes and manipulations using the Google maps service. This made it possible to take a virtual excursion to the places where media companies are registered or to places mentioned in manipulative content. The group work with mapping provoked positive feedback: 22.5% of students pointed to interesting tasks that improve critical thinking; teamwork with visible media literacy results as their priority was mentioned by 40% of participants, 17.5% discovered their own vulnerability facing fake news, 15% – said that working together during media bridge stimulated their professional activity and only 5% confessed they preferred the usual academic environment. The results are shown in diagram 7.

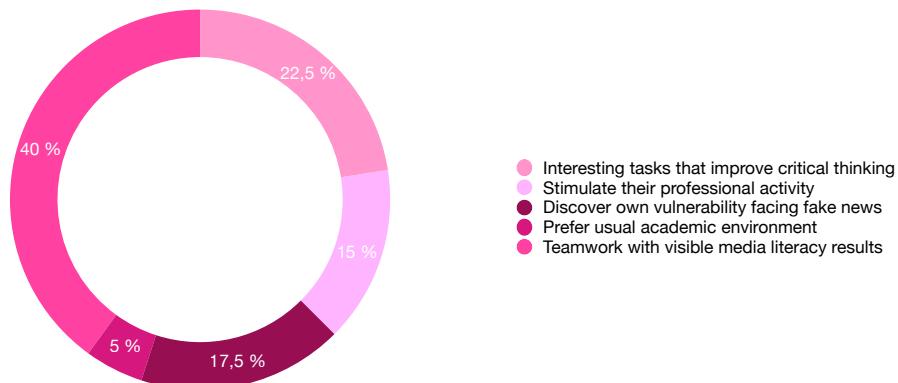


DIAGRAM 7 Effectiveness of virtual media bridges

Source: own processing, 2020

The results of our observations also prove that different types of integrated workshops, online trainings and media bridges should be organized so that every stage is informative, engaging and enabling the methodic management of the process. The academic atmosphere should be filled with support, mutual respect and recognition. Everybody should have an opportunity to communicate with a moderator-tutor and participants-colleagues. To achieve high productivity we need to form professional skills gradually and systematically whilst thinking through the model of the academic process thoroughly. Accounting for the physiological and psychological peculiarities of every student-participant of the academic process, a lecturer should activate the audial, verbal and non-verbal, visual, creative and emotional abilities of every student. We believe that during such activities every participant should be actively assessed as this will be motivating and allow them to take responsibility for their education and development of their abilities.

4. Conclusion

Ukrainian experience of the application of digital communications influenced by the COVID-19 sentiments gave an impetus to transfer the educational system into the intensive online format. All this activated the application of innovative information and communication technologies in the academic process in higher schools for teaching media literacy. In particular, we can see that it concerns, first of all, such game didactic technologies as virtual info media quests, workshops, online trainings and media bridges. They are beneficial, as they have managed to improve the level of media literacy of the students. In general, in our research on virtual information and communication technologies in media literacy education in high schools, 428 students participated. The results of the present investigation show that virtual info media practices in high schools show significant progress and huge advantages over the traditional methods of education in the context of the realization of individual oriented approaches in media literacy education for young people. The opinion polls of the students studying Journalism and Social Communications at Lesya Ukrainska Volyn National University with approbation of appointed virtual communications forms demonstrates the upgrading of their media literacy levels and professional capabilities.

Our investigation allowed us to conclude two aspects:

1. One of the effective modes of digital communication in the process of studying is a virtual info media quest aimed at the training of media literacy skills while playing. Development of the info media quest includes designing a legend, 3D map with marks on it and QR-coding for the participants. A media quest as technology gives positive results. Measuring the level of media literacy of the participants playing this online game before and after the quest showed the increase of media literacy competencies. In addition, students have noted the acquisition and training of the hard skills and soft skills of a journalist. Thus, first of all, they pointed out the improvement of the ability to differentiate between facts and beliefs, manipulations, fact checking skills and abilities to understand hate speech in mass media. Besides, young people also remarked that such an academic experience resulted in the acquiring of soft skills. For instance, most of them mentioned the activation of creativity within a short time period, an increase in the effectiveness of the teamwork, stress resistance, which is of high significance for young journalists not only in a professional capacity but for self-actualization too.
2. Integrated workshops like online trainings and media bridges with the application of the virtual and visual practices are active innovative technologies characterized by dynamic group studying, namely in an academic group which provides for the active participation of every student-participant of the event. Knowledge and skills acquisition are realized through interaction with highly qualified experts such as lecturers or visiting professionals. The advantages of these studying technologies are that all the participants are active leaders but not merely observers and listeners. Such a form of academic activity is characterized by the minimum generally known theory but maximum practical and new information including active virtual digital forms of work with shared access. The main aim is to develop an individual solution to particular tasks for every participant. This teaching methods are effective also because they reduce the barrier between a student and a trainer as the function of the latter is much less, because now he/she is not a manager but merely a presenter and a moderator. And, the most important point is that the efficiency of these methods depends on the dynamic work of the whole group on the one hand, and the individual contribution of every participant, on the other.

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