The Formation of Infomedia Literacy of Students in a Media Tournament

M. Yachmenyk*, I. Kharchenko**, O. Semenog*, N. Kyrylenko*, M. Ostroha*,
S. Bohoslavskyi* and O. Semenikhina*

* Sumy State Pedagogical University named after A. S. Makarenko, Sumy, Ukraine
** Sumy National Agrarian University, Sumy, Ukraine
jachmenyk.m@gmail.com, kharchenko-inna@ukr.net, olenasemenog@gmail.com, mariia.ostroha@gmail.com,
serhii.bohoslavskyi@gmail.com, e.semenikhina@fizmatsspu.sumy.ua

Abstract - **The article touches upon the problem of forming Infomedia literacy of high school students in a media tournament. The concept of info-media literacy is described. It is substantiated that the modern form of extracurricular work is a media tournament, participation in which can affect the level of info-media literacy of young people. The experience of organizing and conducting a media tournament within the framework of the grant project of the Council for International Research and Exchanges (IREX) is described, which included a number of events (Bar-camp "Online Tools", Workshop "Media literacy tools in the study of literary works", Workshop "Formation of skills of evaluation and interpretation of media information", Training "Language media master" and four checkpoints). The effectiveness of the media tournament has been proven statistically. According to the results of the selection of teams for the Media Tournament, it was revealed that Ukrainian schools do not have a policy of conscious formation of information literacy of students.**

Keywords - Infomedia literacy; media literacy; media education; digital skills; media tournament; high school students.

I. INTRODUCTION

The Concept for the introduction of media and information education in Ukraine emphasizes the development of media education as a fundamental component of the state's information security [1]. After a full-scale Russian invasion, Ukrainian society needs citizens with a strong immunity to manipulation and propaganda. It is extremely important to form critical thinking in young people to combat disinformation. Therefore, Infomedia literacy is becoming a relevant and important personal characteristic of each member of Ukrainian society.

The problem of the formation of information and then media-information literacy was actualized at the beginning of the 21st century as a response to the increased information influence of media on the consciousness of ordinary citizens. The analysis and systematization of the documents show the attention of UNESCO [2; 3] and the European Commission [4] to such issues as the need to include media education in the educational process of secondary schools, the influence of the media text on the students' thinking, the influence of media education and media literacy on the formation of the outlook of members of society.

Scientists also analyze the problems of the formation of information literacy in the context of the development of the information society. In particular, the paper presents a review of scientists' research on approaches to the interpretation of information literacy [5].

The growth of literacy in the world is generally noted in the report of The UNESCO Institute for Statistics [6]. In the research work [7] media education in the USA is analyzed.

A significant amount of research on media literacy and information literacy shows the importance of this problem for the world in general and Ukraine in particular. Practice shows that in the conditions of distance learning, young people began to spend more time online, and there were risks of information impact (both positive and negative). Therefore, it became important for us to: (1) examine the available results for Infomedia literacy and its formation of it; (2) find ways to develop Infomedia literacy of young people outside educational institutions; (3) check their effectiveness.

II. INFO-MEDIA LITERACY IN THE RESEARCH RESULTS

The modern strategy UNESCO describes "Media information literacy" as the combined set of knowledge and skills necessary today for the life and work of the individual in modern society [8]:

– media literacy. It contributes to the understanding of the role and functions of media in a democratic society and the conditions under which the media function and influence democratic processes. It involves a critical understanding and analysis of content by the individual and the presence of digital skills, necessary to create a high-quality media product for the user;

– information literacy. It consists of the ability to find the necessary information, determine its reliability, systematize/summarize it, critically evaluate it, realize its significance, provide its own and informational needs. It assumes the availability of digital skills in information processing and its dissemination.

Given the information challenges faced by Ukrainian society in cyberspace, we see it is important to explore the Infomedia literacy of Ukrainian youth. In the project "Learn and Distinguish: Infomedia Literacy" [9], Infomedia literacy is considered as a combination of eight components (Table. 1).

TABLE I. COMPONENTS OF INFOMEDIA LITERACY

Cipher	Name	Characteristic
K1	*Media literacy*	Understanding how media, owners, and editorial policy work
K2	*Critical thinking*	Ability to ask questions
K3	*Social tolerance*	Ability to identify and counteract hate speech
K4	*Fact-checking*	Ability to identify manifestations of propaganda
K5	*Information literacy*	Ability to effectively search for information
K6	*Digital security*	Understanding the digital footprint, cyber-bullying
K7	*Visual literacy*	Ability to analyze photos, video content
K8	*Creativity*	Ability to implement ideas through online tools

Source: Own work

The formation of some of these components is described in [10] The method of integrating Infomedia literacy with various school subjects is presented in [11]. Features of language education and Infomedia education are described in the article [12]. In [13], the authors consider the typology of Internet resources for the development of Infomedia literacy of young people. Article [14] and [15] presents the features of the formation of media educational skills among teachers and the preparation of teachers for the formation of such skills in students. The publication [16] touches on the formation of skills to resist informational influences.

At the same time, the analysis of Ukrainian scientific sources showed that insufficient attention is paid to the formation of information and media literacy of young people in extracurricular activities, one of the modern forms of which is a media tournament. Therefore, the purpose of the study is to substantiate the positive influence of the media tournament on the formation of students of Infomedia literacy.

III. MEDIA TOURNAMENT AND FEATURES OF ITS ORGANIZATION

One of the innovative technologies for the formation of Infomedia literacy in the conditions of extracurricular activities is the media tournament. The tournament, as a form of work with gifted youth, is a team competition in which the priority is not a person, but a collective method of solving problems [17]. A media tournament is a team competition that requires, in addition, solving the tasks (case studies), as well as a creative approach to creating, presenting, and sharing media products using digital tools.

We organized and held the All-Ukrainian tournament on media literacy of school teams of border regions (hereinafter - the Media Tournament; border regions are regions on the border of Ukraine with the Russian Federation and Belarus) [13]. We describe the features of its implementation.

Teams of 10-12 students in grades 6-10 can participate in the Media Tournament. The composition of the team cannot change during the tournament. The team is headed by the captain, who is its official representative. The team is accompanied by a school coordinator (teacher, administration representative, and media tournament mentor).

The media tournament takes place in several stages.

Stage I – selection of teams. Teams submit applications and motivation letters. Incoming monitoring takes place with a selection block of questionnaires, the results of which determine the participants of the second stage. Five teams go to the second round.

Stage II – training-competition of teams. This stage combines four pieces of training, and four competitions (discussion meetings) of participants to solve tournament problems. Teams have to prepare a creative team presentation.

Stage III – final. It includes the presentation of team creative media developments.

In general, the tournament involves the participation of teams, each of which alternately plays one of three roles – "speaker", "opponent", or "reviewer". For the Media Tournament, we added the roles of "case author" and "observer", since the ability to create media text and the ability to work with the information received is important for the development of Infomedia literacy.

Each of the roles involves group training using the brainstorming method:

1) the team "author" creates a case on the subject of previously studied material;

2) the team "speaker" provides an argumentative statement of the team's position on the case task (case from the team "author");

3) the team "opponent" provides a reasoned statement of the counter-position, and analyzes the shortcomings of the team's "speaker" performance;

4) the team "reviewer" provides an express analysis of the positions of the speaker and the opponent, determines the advantages and disadvantages of the theses expressed by them, summarizes the results of defending certain positions;

5) the team "observer" summarizes the information received and provides a preliminary assessment to all teams.

The tournament table is formed (Table 2).

TABLE II. FEATURES OF EVALUATION

Role	Author	Speaker	Opponent	Reviewer	Observer	Total
Maximum points	5	4	3	2	1	15

During the competition, the teams work independently, accompanied by a teacher-coordinator and mentor of the tournament. The competition is subject to regulations (Table 3).

TABLE III. REGULATIONS FOR SOLVING THE PROBLEM

Types of actions	Time
The author offers the Speaker a task, the Speaker accepts or rejects the task	2 min.
Preparing a response	2 min.
Report	7 min
Clarifying the Opponent's questions to the Speaker and Answers	2 min
Preparing for the process of an opponent	2 min
Opponent's speech	5 min
Speaker's response to the Opponent's comments and the discussion between them	3 min
Clarifying questions of the Reviewer to the Opponent and the Speaker and the answers	2 min
Preparation for peer review	2 min
Reviewer's speech	3 min
Answers of the Speaker and Opponent to the reviewer's comments and discussion between them	5 min
General team discussion	5 min
Clarifying questions of the presenter to the teams	3 min.
Concluding Words by the Reviewer, Opponent, and Speaker	2 min
Grading by the Observer team. Performances	5 min

If the Team did not find the answer, incorrectly solved the problem, or refuses to perform, then the team loses the point.

The winner of the Tournament is the team that scored the most points.

IV. ALL-UKRAINIAN TOURNAMENT ON MEDIA LITERACY OF SCHOOL TEAMS OF BORDER REGIONS

The media tournament aims to develop student's skills of critical perception of information necessary to detect disinformation, propaganda, and other manipulations. The initiator of the All-Ukrainian media tournament for high school students was the Laboratory of Infomedia Literacy of the Sumy State Pedagogical University named after A.S. Makarenko [18]. Students of 9-11 grades of educational institutions of Sumy, Kharkiv, Zaporizhia, Khmelnytsky, and Cherkasy regions took part in the Media Tournament.

Total 63 participants (students, teachers, tutors).

Student teams wrote a motivation letter in the first round and passed an introductory survey.

The second round is implemented in the form of four training.

Bar-camp "Online Tools" (protection of personal data, mastering the principles of media security on social networks, awareness of the digital footprint and its consequences). Bar camp's coach proposed to determine: what relates to "personal" and "non-personal" data and why. There was an acquaintance with computer programs for verification of images and videos, and interactive developing online games were offered, which are posted on the website of the School of Responsible Parenthood "Media Puzzles" [19] ("Top 5 books of your family", "Top 5 useful Internet resources", WebQuest).

Workshop "Media literacy tools in the study of literary works" (fact-checking, analysis of media texts and their critical assessment, value analysis of texts, etc.). The event was based on the integration of Infomedia literacy into the school subject – Ukrainian literature. The teams visited a virtual excursion at the museum estate of Ukrainian writer Ivan Kotliarevsky in Poltava and identified fakes and truthful reports on examples of facts from Ukrainian folk art. The teams were asked to conduct a mini-study of the pseudonyms of Ukrainian artists (Lesia Ukrainka, Panas Myrnyi, Ostap Vyshnia, Marko Vovchok, and Oleksandr Oles).

Workshop "Formation of skills of evaluation and interpretation of media information" (recognition of manipulations on examples of historical texts). The students worked with photo and video materials, archival records, and Google maps. They analyzed images and historical documents and determined their veracity. Also, participants traveled through the virtual Middle Ages, got acquainted with 3D-reconstructions of a medieval city, and had the opportunity to virtually visit the modern cities of Europe, which were made during the Middle Ages.

Training "Language media master" (work with dictionaries as the ability to work with information and the ability to ethically tolerant communication). The participants of the tournament discussed why it is necessary to use dictionaries, critically perceive information, and pay attention to headlines and sources in the process of reading messages. The trainer especially accented the teams' attention the "emotionality" of news content.

Also, the second round included four checkpoints - competitions for solving cases on the topics of "Safe media surfing", "Interregional literary media trip", "Historical anti-fake quest", and "Consumption of quality information through the skills of its creation". The participants of the tournament presented the author's tasks related to the definition of fakes, the detection of bots, and the refutation of false information.

In the final of the media tournament, the teams presented their media developments – video presentations and electronic newspapers (Fig. 1) for the development of critical thinking and info-media skills (skills of tolerant network communication, detection of fake materials, safe stay on the Internet, creation of high-quality media texts, etc.).

Figure 1. The first page of the Team's newspaper

The meeting of the commandant at the Media Tournament is presented in figure 2 (Fig. 2).

Figure 2. Meeting of the commandant at the Media Tournament

Another team's work – The interactive guide "Safe media surfing of teenagers" – is shown in figure (Fig. 3)

Figure 3. Interactive guide "Safe media surfing of teenagers"

V. ANALYSIS OF THE MEDIA TOURNAMENT RESULTS

To confirm the effectiveness of the Media Tournament, we initiated two surveys (at the beginning of the tournament and after it). The participants of the tournament answered the following questions.

1. Would you check the information you learned from the internet site about the postponement of the celebration from September 1 to August 31?

2. Do you check the information obtained from social networks and media?

3. Do you think that a bot is a person who behaves destructively on the Internet (insults, humiliates, etc.)?

4. Is the position "I rarely change the passwords of access to my social media accounts" correct?

5. Do you take comic tests on the Internet (for example, what kind of cartoon character am I?)

6. Is it correct to assume that the algorithm of the news feed adapts to the consumer, and therefore it is a manipulation?

7. Is it correct to believe: if a person has many followers, then he knows the questions that he talks about, and therefore he can be trusted?

Each positive answer to questions 1, 2, and 6 and a negative answer to questions 3, 4, 5, and 7 was estimated at 1 point.

The total number of students is 50 (5 teams, 10 students in each team). From the set of answers, 15 results are arbitrarily selected, which are statistically processed according to the criterion of signs (Table 4).

TABLE IV. SURVEY RESULTS

Respondent's cipher	First poll	Second poll	Difference
1	3	4	1
2	4	3	-1
3	2	5	3
4	2	5	3
5	4	3	-1
6	4	5	1
7	4	6	2
8	4	6	2
9	3	3	0
10	3	3	0
11	2	3	1
12	3	5	2
13	3	5	2
14	5	4	-1
15	3	3	0

After the calculations, we recorded general changes in the results of 12 respondents. Positive changes – in 10 respondents.

Hypotheses H0 (the media tournament does not affect the development of information media literacy of students) and Ha (media tournament affects the development of information literacy of students) were built.

The empirical value of statistics is T = 10. The segment of acceptance of H0 is [20; 21] for the significance level of 0.05

According to the rule of acceptance of the hypothesis, the data indicates the favor of an alternative hypothesis. Since the empirical value of statistics has gone beyond the critical interval on the right, there is reason to consider such an impact positive.

VI. COMMENTS ON THE ORGANIZATION OF THE MEDIA TOURNAMENT

Dieter Baakke's approaches to media education of young people became important for our project [22]. He considers four aspects of its formation.

1. Criticism of the media. The acquisition of competence to be critical of the content of information while applying an analytical approach to social processes. Reflexive correlation of the ideas of the analyzed text with previously acquired experience, and personal attitude to the content. Ethical dissemination of the information, social responsibility for the widespread content.

2. Media training. Acquisition of knowledge about the structure of the media system, and features of the media. Knowledge of informational (knowledge of processes and structures, for example, how journalists work) and technology (knowledge of work process or technical processing) training.

3. Use of media. To disseminate information from different types of media, it is necessary to learn the basics of their activities in an interactive mode.

4. Development of a media product. It is important to be able to create a quality media product, so you use an innovative and creative approach, changing and developing the media system.

Special preparation for the tournament was not provided. Schools did not introduce Infomedia literacy courses into the educational process. However, the media tournament was attended by teams from those schools that provided a certain type of activity in working with the media. We agree with the words of L. Naidonova: "For a child to correctly consume media, it is necessary to put it in the position of the creator" [23].

Therefore, in our opinion, the creation of the school newspaper "D. A. R-media" in the communal school "Giftedness" contributed to the education of such a media consumer who effectively satisfies his interests using the media, critically analyzes and evaluates media messages, has the skills of collective activity and dialogue communication, actively defends life position through media creation. A school newspaper is a set of news and articles that have undergone editorial processing and are intended for reading by schoolchildren. Its purpose is to provide relevant, interesting, useful information for the student, at a convenient time, in a convenient place. Together with the children, teachers determined the target audience (the school publication focuses specifically on students, one group of whom participates in the active creation, and the second – in the "consumption" of information, so it is important not to make a publication with focuses on parents, teachers, the director). The organization of the production of the school newspaper required the distribution of responsibilities among students of school self-government according to creative abilities and preferences. The articles' authors were schoolchildren who belong to the target group which will read the newspaper. The immersion in conditions that are close to real, and using journalistic methods and techniques for creating print media, students quickly determined the concept and purpose, the composition of the editorial board, the content model, features of filling sections, distribution, and promotion. The created school newspaper, as the practice has shown, solved several tasks: (1) creating a school community (students, teachers, parents); (2) moral and ethical education of the student audience, the formation of a worldview and the education of media taste; (3) formation of students' communication skills, ability to work with information; (4) the formation and development of students' media literacy; informing the community about events in the life of the school.

We also see the prospect of our study in the context of the program "Education 4.0: Ukrainian sunrise" [24], which supports the development of Infomedia literacy.

As a collective form of work, the media tournament develops in high school students such soft skills as critical and analytical thinking, leadership, teamwork, time management, and the ability to form and defend their opinions, while maintaining an atmosphere of mutual support and cooperation, the need to think quickly during the game, defending the results of their developments and commenting on the opponent's answers based on analysis, applying arguments and assertive communication.

VII. CONCLUSION

The media tournament showed that it has a positive impact on the development of information literacy of young people, which is characterized by media literacy, critical thinking, social tolerance, ability to fact-check, information literacy, digital security, visual literacy, and creativity.

The ability to analyze media text develops with the help of discussions (the teaching method) and of digital tools (working with photo and video materials, archival records, Google maps, and historical documents contribute to the development of critical thinking and critical assessment skills.

At the same time, according to the results of the Media Tournament, it was revealed that there is no purposeful policy for forming information media literacy of students in Ukrainian schools. However, most students are aware of the importance of acquiring critical thinking skills, verifying the reliability of the information, counteracting cyberbullying, and creating and protecting their own information space in social networks.

According to the results of the selection of teams for the Media Tournament, it was revealed that schools do not have a policy of conscious formation of information literacy of students. At the same time, the students themselves are aware of the importance of acquiring critical thinking skills, and therefore they would like to continue to participate in such activities. This encourages us to do further research.

The prospect of further scientific research we see in the search and classification of other forms of extracurricular work on the formation of Infomedia literacy in students.

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