DEVELOPMENT OF SCIENTIFIC COMMUNICATION OF STUDENT’S YOUTH BY MEANS OF TOURNAMENT’S COMPETITIONS

This research work is dedicated to a topical theme from the science’s point of view. The main goals are to study the role of competitions in history tournaments for students in the development of scientific communication in the process of studying at university. The experimental part of the study included 130 respondents: 100 students as participants of tournament competitions and 30 jury members who evaluated the tournament games and participated in the study of this innovative phenomenon. To determine the effectiveness of tournament competitions and their role in the development of scientific communication, an observation method was used to identify the feelings and behaviour of tournament participants at different stages of the game. The comparative method was used to identify the peculiarities of tournament competitions in the system of competitions, contests held in Ukraine. The survey method was used to identify the level of achievement of participants during the tournament and the impact of tournament competitions on further study and research activities of students. The results of the study proved to be an important factor in the development of scientific communication among students. This fact caused the ability of student’s youth to work in a team and to carry out scientific research and protect own ideas. As a result of the study, it was discovered that students who studied the science themes prior to the tournament and participated in tournament competitions (public defence and opposition) had significantly higher levels of academic achievement than their classmates. A good deal of students noted that during the tournament competitions they communicated with jury members (scholars from all over Ukraine) and got much historical information according to important achievements in historical science, new ideas and concepts, little-known historians so far. According to the results of the study, it was recommended to create a scientific discussion colloquium among students who are interested in investigating science of domestic and foreign scholars.

Keywords: higher education learners; history competitions; scientific communication; scientific research; tournaments.

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Introduction. In the history of mankind there were personalities as O. Macedonsky, Napoleon Bonaparte, Benjamin Franklin, scholars Galileo, Mendeleev, Blaty, Einstein and many others influenced on a life of society and the course of history. All these people are considered to have a one similar characteristic feature to develop your intellect. Each of them, advocating or substantiating their own idea, opinion, showed great abilities by presenting or opposing them. Today our society needs such leaders as never before. It’s important that our state and domestic pedagogical science should create conditions for the development and improvement of intellectual potential.

The Law on Higher Education proved to be a basis to promote the development of science and education in the training of young talented individuals. A large number of contests, competitions and tournaments in various fields of scientific knowledge are held to find talented young people in Ukraine. Among of them there is the All-Ukrainian Student History Tournament launched in 2012 on the basis of the Boris Grinchenko Kyiv University. That’s no doubt it plays an important role in training of future leaders, genuine scholars.

Analysis of the last days. This format of competitions is extremely effective in developing communicative abilities of future leaders, scientists. It creates conditions to study a scientific problem and present it at a high professional level.

In Ukrainian science there are many scholars-teachers investigating the work of gifted young people and the role of various contests in the formation of communicative skills of future scientists and state politicians. They are: N. Aniskina, S. Terepyshch, B. Pashnev.

The experience of working with intellectually gifted
youth in European countries is known to be studied with introducing the state level implemented programs to work with gifted youth. European scientists reveal the process of implementing young people's abilities, thereby bringing their own achievements to society. The ways of opening and encouraging the talent of an intellectually gifted young man are also successfully shown in their works (Eyre, 2007). It should be mentioned that a great attention is required to study the development of creativity of the young person in the process of scientific creativity (Terman, 1954).

The Aim of the Study. Research of the influence of intellectual tournament competitions, in particular on history, in the development of scientific communication and improving the quality of educational activities of modern student youth.

The task of our article is to identify the impact on the formation of communicative competencies: the ability to work in a team, think critically, lead a discussion, be able to independently conduct research and improve education.

To understand this problem is to know the main terminological aspects. What is a scientific communication? European scientists consider that a scientific communication this is a part of the daily life of a scientist. Scientists should be able to negotiate, write articles and suggestions, be opponents of academic discussions, review scientific works, communicate with different audiences, and teach others. An important element in this is logical thinking (Ryuzen, 2010). So, to be successful, regardless of the field or path to a career, scientists must learn to communicate. To be a successful scientist is to be an effective communicator.

The philosophy of science considers scientific communication as a means of popularizing the results of scientific activity and activating the processes of exchange of new knowledge (Mónica, 2015).

By 2014, tournament competitions of student's youth on history were conducted on a scale of Ukraine. Since 2014, students from other countries (Poland, Lithuania, Byelorussia) have started participating in the tournament competitions. These tournament competitions have been given an international status. The Student History Tournament is a team competition for students in their ability to defend their own scientific idea, defend their point of view in solving the problem in scientific discussions. The format of the competition turned out to be similar the process of defence of the dissertation. Each team in each of the bouts turns in turn in the role of speaker, opponent, reviewer. While preparing for the competition the participants are in the same conditions as ordinary researchers.

Research methods. The effectiveness of tournament competitions is important not only for pedagogical but also for historical science. Therefore, in the process of studying tournament competitions and determining their role in the development of scientific communication there were involved the next methods: observation, comparative method and method of survey.

With helping the observation method, it was possible to study the external manifestations of feelings and behaviour of participants in tournament competitions at different stages of the game: in the process of preparing for the tournament on history, qualifying rounds, the finals and throughout the year in the process of training. The analysis of the materials obtained during the comprehensive observation made it know the thoughts and feelings, the attitude to the competitions and the motives for participation in tournament, adjust the course of the tournament competitions and methods of their conduct, determine the further strategies and improve the forms of the competition during the tournament (Xing et al, 2020).

The comparative method allowed to identification the features of tournament competitions in the competition system of Ukraine. It was found that unlike the competition, where students demonstrate theoretical training in history, the tournament is a special role-playing game in which students of different levels of theoretical training learn to communicate, work in a team, receive an invaluable practice to bring their point of view to the opponent, to formulate statement and defend their own opinions in scientific discussions. There were sections of achievements of students of 3rd and 5th year in educational and scientific activity; a survey of students and lecturers who prepare them for the Olympiad competitions.

The results showed that 87% of participants in the tournament competitions are active participants in student scientific and scientific-practical conferences, round tables and forums. Students who are constantly participating in competitions and tournament ones have shown that the Olympiads only record the results of their achievements. Unfortunately, they have no effect on the development of communicative skills in the scientific field.

The survey method is also used. It provided the factual information to identify the level of achievements of participants during the tournament and the impact of tournament competitions on further student learning and academic activities. Data evaluation was conducted verbally and in writing. Questions an interview plan were formed in a way that met the goal. The questionnaire included several blocks of issues related to the level of achievement of students as a result of tournament games and a definition of the level of scientific discussion. It should be recollected that participants of the tournament – students – were presented by different regions of the country.

Organization of research. We conducted an experiment and sociological interrogation to understand the importance of the development of scientific communicative skills of student's youth by means of tournament competitions.

The experiment consisted of observing the development of research activities of students who are constantly involved in tournament contests in history. It contained the following stages:
1. Substantiation of the problem of experiment (definition of purpose, task), establishing the perspective of the event for science and society, identifying the features of the tournament competition as an instrument for the development of scientific communication.

2. Organization of material and methodological support for holding tournament competitions and formation of the organizing committee and the membership of the jury.

3. Conducting of tournament competitions, analysis of the results of each tournament and the activities of students after the end of the competition, the results of training. Analysis of participation's dynamics and final results of student's teams in tournament competitions at different stages (from local to all-Ukrainian) tournament competitions.

4. Summarizing the results and their implementation in higher education institutions process.

The contemporary society is the society of global communications. The communication component of everyday life is beyond all doubt. Communicative practices determine almost all manifestations of the individual: success, self-realization, professional and scientific activities. Considering the depth and scale of technological and social consequences of computerization and informatization of various spheres of public life and economic activity, it can be concluded that communication becomes a tool to influence almost any situation (Admiraal et al, 2019).

For scientific communication, it is important to understand a number of issues related to the subject, the addressee and, most importantly, their interaction in the act of communication. On the one hand, pragmatic discourse provides the possibility of modelling scientific communication, which reconstructs the situational discourse based on the premise of the existence of some point subject. On the other hand, the pragmatics of scientific communication as such puts the reality of communication (Reshetnikova, 2016).

The uniqueness of tournament competitions is that during this event there is a study of a scientific problem and modelling of its public defence. Here, students acquire scientific communication and interaction skills, in particular the ability to oppose and review scientific work.

Tournament competitions were developed as a tool for scientific interaction between young scientists and students and experienced scientists.

An important stage was the organization of material and methodological support of the tournament, the formation of the organizing committee and the jury. For eight years, the tournament had been held on the basis of the Borys Grinchenko Kyiv University, so the organizing committee was formed mostly from the teachers of this university. As for the jury of the tournament, it consisted of scientists from 10–14 institutions of higher education in Ukraine, including 40% of doctors of sciences and 60% of candidates of historical sciences. At the beginning of the tournament competitions, trainings on player team evaluation are conducted for them. During the year, scientists from many higher education institutions in Ukraine participate in the formation of questions for tournament competitions. Questions are proposed, discussed, corrected. Three months before the start of the tournament, the rules of the game, questions that have been accepted by most scientists are being developed.

Direct conduct of tournament competitions, analysis of the results of each tournament and student activities after the competition, learning outcomes. Analysis of the dynamics of participation and victories of tournament participants at different stages (from local to national) of tournament competitions.

At the first stage of the experiment, there were held series of round tables with the participation of historians from universities of Ukraine. During the round tables a strategy and methods for carrying out intellectual games of history in the form of tournament competitions were developed. Also, an algorithm for tasks to conduct a full-fledged scientific discussion and a methodology of the tournament games on a historical theme were developed.

Scientific topics (tasks) were offered to defend ones a few months before the start of the tournament. The team of students conducted a scientific study on each topic within 2–3 months, and learned to discuss or criticize these topics. It's important that team's game and the ability to present studied topics should be the tournament games. Team's members had to prepare a structured report to convey all necessary information and research results developed in the process of solving a specific historical problem. The significance of the tournament seemed to impact on the intellectual formation of the young person. That's no doubt that the level of intellectual development, the range of educational, and subsequently scientific interests determined by the medium of communication, the level of tasks caused gifted youth to gain knowledge and find ways to apply it practically in a life.

The participation in the tournament is dealt with problem of communication with peers and scientists. Gifted young people learned to plan their work, to define the main directions of activity, to exchange by ideas, to make common decisions on the problems. In fact, young people have been self-cultivated by acquiring relevant knowledge, skills and abilities; gain new knowledge in collaboration with other scientists and in the process of research and problem solving.

It is proposed that the role of players in tournament competitions to determine their skills and experience should be dealt with. Thus, the speaker should be able to explain the essence of the problem that he and his team studied, focusing on the scientific approaches in history to a particular fact, events. In his speech, the Speaker has the right to use previously prepared research materials (drawings, diagrams, maps, slides, photographs, computer technologies). During the discussion, they must answer the questions posed by the opponent and reviewers.
The opponent is considered to play another role connected with skills to express critical remarks to the report and to point out its positive aspects, reveal shortcomings and give mistakes in coverage of the given problem. In the qualifying historical rounds, the Opponent has the right to cover its vision of the problem. He may point to the flaws in the report, based on the material used by them in solving this problem. He focuses on the scientific nature of the report. During the controversy discussing the problem is discussed with the Reporter.

As far as Reviewer’s role in a tournament competition he gives a brief assessment of the Speaker and Opponent’s speeches. The Review is carried out according to the relevant scientific structure. The Reviewer gives an assessment of the Speaker’s performance in case it does not coincide with the assessment of the Opponent or when the Opponent did not notice any inaccuracies and significant deficiencies in the response.

A peculiar feature of the tournament competitions is a possibility of each player to act roles of Speaker, Opponent or Reviewer only once in historical round. Any member of the team has the right to put the question Speaker, Opponent or complement members of their teams (with the permission of the presenter) answer the question. Generally, team’s game is appreciated. Team’s members need to be united and decide all put questions and tasks only together.

**Research results.** With helping the observation method and through the records and oral interview it was stated that every year the number of teams and observers admitting to participate in the games becomes more. It shows a great interest in the tournament competitions, the possibility of intellectual and personal communication among students, exchange of views. Despite the linguistic and national characteristics of the participants in the tournament competitions there is a tolerant attitude among them and friendship prevails.

While using the observation method a systematic fixation of various aspects of tournament competitions by means of a protocol was carried out.

Every year, before the game’s beginning, interviews and polls are conducted to find out what students expect from participating in history tournament competitions. Every year a number of participants are changed. It’s from 90 to 120 participants, respondents who took part in the survey about 100 people participates.

There was put a question before the participants: «What do you expect from tournament competitions?» 64% of them said they would like to win the competition and gain experience in scientific discussion; 31% of students noticed that they wanted to test their strength in intellectual competitions, check the level of their own knowledge on the history and skills of scientific communication and get acquainted with students from other regions of Ukraine. 5% of participants said that they had taken part in competitions firstly and hoped to get pleasure and new acquaintances.

To determine the dynamics of the growth of interest in tournament competitions in comparison during the five years we analyze the number of participants in tournament competitions from the first to the fifth year. There were examined the achievements of students of 3rd and 5th courses in educational and scientific activity at several universities (Borys Grinchenko Kiev University, H. S. Skovoroda Kharkiv National Pedagogical University, Pavlo Tychyna Uman State Pedagogical University) (submission results in Fig. 1).

![Figure 1. Dynamics of the level of educational achievements of participants of tournament competitions](image-url)

As a result of the study, it was discovered that students who studied the science themes prior to the tournament and participated in tournament competitions (public defence and opposition) had significantly higher levels of academic achievement than their classmates. The level of their own achievements is increased significantly compared with the period when they have not yet taken part in tournament competitions. According to their classmates and teachers, these students became more sociable and competent. These university graduates connected their lives with active political or community activities.

The analysis of the accumulated points for courses taught in the academic programs «History and Archeology» showed that the success rates of the tournament participants improved sharply. Even the participants of those teams that did not reach the finals of the tournament increased their learning level by the end of the school year.

This student assessment was made through the analysis of the collected information about students’ academic achievements (results of current and final control), kindly provided by the academic offices of three universities: Borys Grinchenko Kyiv University, H. S. Skovoroda...
Kharkiv National Pedagogical University, Pavlo Tychyna Uman State Pedagogical University.

The academic office conducted a survey and analyzed the results of the current and final control of the participants of the tournament during the year after their participation in the tournament.

The members of the organizational committee together with the teachers of the Department of History of Ukraine worked out a questionnaire to identify the level of achievements of students as a result of tournament games and determine the level of scientific discussion (Submission results in Fig. 2).

**QUESTIONNAIRE**

1. Do You have experience in conducting discussions in the tournament format?

2. Do You have public speaking skills, the ability to hold the audience’s attention?

3. Are the tasks of the tournament different from the learning format at Your educational institution?

4. What difficulties arose in the process of preparing the scientific task of the tournament?

5. What elements of the tournament game turned out to be difficult for You?

6. Which role in the tournament format do You find more attractive and important?

7. Did you gain new knowledge of history in preparation for tournament competitions and during tournament rounds? Which one?

8. What suggestions for discussion and organization of tournament competitions do You have?

As a result of the analysis of the responses of participants in the tournament competitions in history, the following conclusions were drawn:

- The format of the discussion that takes place during the tournament is rarely used in universities. A defence of own scientific work in higher educational establishments takes place mainly during defence of diploma and term papers, where in the overwhelming majority the role of an opponent acts as a teacher – a member of the examination commission. Sometimes, students discuss roundtables and conferences but this is another format. According to the survey results (90 respondents out of 117), only 28% have little experience of conducting the discussion.

- The majority of students note the insufficiently high theoretical level of training and ability to work with historical sources.

- Complicated tournament competition, lack of team experience, lack of skills to make decisions and form the opinion of the entire team. In the tournament competitions in 2015, out of 31 teams, only 4 have shown a good team game. In 2016 – out of 39 teams – 9 teams have already demonstrated a high level of team play (Submission results in Fig. 3, 4).

- The most attractive result of the survey turned out to be the role of the opponent. 78% of participants noted that this role had allowed them to disclose any scientific problem and find the right solution.

- A good deal of students noted that during the tournament competitions they communicated with jury members (scholars from all over Ukraine) and got much historical information according to important achievements in historical science, new ideas and concepts, little-known historians so far.

- The participants of the tournament had interesting suggestions done in organization of the tournament competitions. They offered that the following tournament competitions should be held in the format

![Figure 2. To identify the necessary communication skills of tournament participants](image)

![Figure 3. Dynamics of the growth of interest in tournament competitions in 2015-2019 (the number of participants)](image)
of two leagues. It was motivated by the fact that there are many students of non-historical profession who are interested in studying this science. They are: economics, political science, philosophy, philology, information technology, engineering and technical sciences, etc.

**Discussion.** During the tournament, students and scholars considered and discussed issues of Ukrainian and foreign history, in particular, issues related to the history of Kievan Rus, the medieval history of Europe and Ukraine, the era of capitalist relations and modern history. Previously – for 3 months, students conducted research, the results of which were presented at the presentation during the tournament. The results of this study showed that tournament participants show a high level of communication skills, they acquire the skills to present their own scientific ideas. The level of teamwork demonstrates the ability to work in society.

Substantiating their scientific achievements, students consider theoretical and pragmatic issues, which is a key competence for modern political and social debates.

During the tournament, scientific communication is evolving and new standards are being developed for scientific and critical analysis of public communication.

**Conclusions.** To sum up we can say that 18% of participants have 3–4 years of experience in tournament games. It was found that during the tournament competitions communicative competencies are formed. Most participants (92%) acknowledged that the level of organization was rather high. It was one of the reasons why annually they had participated in the tournament.

Thus, the study shows that tournament competitions in history are an important factor in improving the quality of educational activities of student youth. The development of critical thinking in preparation for competitions contributes to a deeper assimilation of academic material on history and the ability to apply this knowledge in practice. In preparation for tournament competitions, students develop the ability to conduct research, develop and defend their own research projects.

Due to tournament competitions a perspective in the field of science emerges. It is connected with a problem of creating a scientific discussion colloquium among students interested in studying science and experienced domestic and foreign scientists. An important problem is the study of students' mastery of methods of independent work and its impact on the quality of education in general.

**References**

Admiraal, W., Vermeulen, J. & Bulterman-Bos, J. (2019). Teaching with learning analytics: how to connect computer-based assessment data with classroom instruction? Technology, Pedagogy and Education. https://doi.org/10.1080/1475939X.2020.1825992

Andersson, E. (2020). A transactional and action-oriented methodological approach to the political socialization of youth. *Education, Citizenship and Social Justice, 15* (3), 243–257. https://doi.org/10.1177/1475939X19853807

Eyre, D. (2007). *What Really Works in Gifted and Talented Education.* The University of Warwick. https://www.eegl.org.uk/sites/default/files/Gifted%20and%20Talented%20-%20what_really_works%20-%20Deborah%20Eyre.pdf

Feliú-Mójer, M. I. (2015, February 24). *Effective Communication, Better Science.* Scientific American. https://blogs.scientificamerican.com/guest-blog/effective-communication-better-science

Monks, F. J., Pfluger, R. (2005). *Gifted Education in 21 European Countries: Inventory and Perspective.* https://www.pef.uni-lj.si/fileadmin/Datoteke/CRSN/branje/Gifted_Education_in_21_European_Countries_Inventory_and_Perspective__2005__.pdf

Terman, L. M. (1954). The discovery and encouragement of exceptional talent. *American Psychologist, 9,* 221–230. https://doi.org/10.1037/h0060516.

Xing, W., Lee, H. & Shibani, A. (2020). Identifying patterns in students' scientific argumentation: content analysis through text mining using Latent Dirichlet Allocation. *Educational Technology Research and Development, 68,* 2185–2214. https://doi.org/10.1007/s11423-020-09761-w

Aniskina, N. (2005). *Pedagogichna pidtrymka obdarovanosti [Pedagogical support of giftedness]*. Shkilnyj svit.

Lazar, M. G. (2011). Communication in modern science: sociological and ethical aspects. *Uchenye zapiski RGGMU, 18,* 236–246. http://elib.rshu.ru/files_books/pdf/18-24.pdf
Це дослідження спрямоване на вивчення ролі конкурсних змагань, зокрема студентських турнірів з історії, у розвитку наукової комунікації в студентській молоді в процесі навчання в закладі вищої освіти. Експеримент, який став частиною дослідження, включає 130 респондентів, 100 з яких – це студенти – учасники турнірних змагань, а 30 осіб – члени журі, які оцінювали турнірні ігри і брали участь в цих змаганнях.
дослідженні цього інноваційного явища. Для визначення ефективності турнірних змагань та їх ролі в розвитку наукової комунікації було використано метод спостереження для виявлення проявів початків і поведінки учасників турнірних змагань на різних етапах гри. Порівняльний метод застосований для виявлення особливостей турнірних змагань у системі олімпіад, конкурсів, що проводяться в Україні. Метод опитування використано для виявлення рівня досягнень учасників під час турніру та впливу турнірних змагань на подальше навчання та наукову діяльність студентів. Результати дослідження довели, що турнірні змагання з історії є важливим чинником у розвитку наукової комунікації студентської молоді. Вони сприяють розвитку в здобувачів високої освіти критичного мислення, зацікавленості працювати в команді, вміння самостійно здійснювати наукові дослідження і захищати публічно власні ідеї. У результаті дослідження було виявлено, що студенти, які розробляли проекти наукових тем до турніру і брали участь у турнірних змаганнях (публічному захисті та опонуванні), мають значно вищий рівень навчальних досягнень, ніж їхні однокурсники. Відповідно до результатів дослідження рекомендується створення наукових дискусійних колоквіумів між студентами, які цікавляться науковою дослідницькою діяльністю та науковцями.

Ключові слова: змагання з історії; наукова комунікація; науковий пошук; студентська молодь; турніри.

РАЗВИТИЕ НАУЧНОЙ КОММУНИКАЦИИ СТУДЕНЧЕСКОЙ МОЛОДЕЖИ СРЕДСТВАМИ ТУРНИРНЫХ СОРЕВНОВАНИЙ

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Это исследование направлено на изучение роли конкурсных соревнований, в том числе студенческих турниров по истории, в развитии научной коммуникации у студенческой молодежи в процессе обучения в высшем учебном заведении. Эксперимент, который стал частью исследования, включал 130 респондентов, 100 из которых – это студенты – участники турнирных соревнований, а 30 человек – члены жюри, которые оценивали турнирные игры и участвовали в исследовании этого инновационного явления. Для определения эффективности турнирных соревнований и их роли в развитии научной коммуникации были привлечены метод наблюдения для виявлення проявлень чувств і поведінки участников турнірних соревновань на різних етапах гри. Сравнительный метод применен для выявления особенностей турнирных соревнований в системе олимпіад, конкурсів, проводимих в Україні. Метод опроса использован для выявления уровня достижений участников во время турнира и влияния турнирных соревнований на дальнейшее обучение и научную деятельность студентов. Результаты исследования показали, что турнирные соревнования по истории являются важным фактором в развитии научной коммуникации студенческой молодежи. Они способствуют развитию у студенческой молодежи критического мышления, способности работать в команде, умения самостоятельно осуществлять научные исследования и защищать публично собственные идеи. В результате исследования было выявлено, что студенты, которые разрабатывали проекты научных тем к турниру и участвовали в турнирных соревнованиях (публичной защите и оппонировании), имеют значительно более высокий уровень знаний, чем их однокурсники. В соответствии с результатами исследования рекомендовано создание научных дискуссионных коллоквиумов между студентами, интересующимися наукой, и опытными отечественными и зарубежными учеными.

Ключевые слова: научная коммуникация; научный поиск; студенческая молодежь; соревнования по истории; турниры.

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