

Psychological Guidance of the Socialisation Process of Gifted Students using Information and Communications Technology Means

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Abstract: *Objective:* The purpose of this article is to substantiate the psychological conditions that determine the content, forms, ways of organising, and promoting the process of socialisation of gifted students.

Background: The success of modern man largely depends on his socialisation – the ability to see and understand others, analyse the course of events, to capture the prospects for development. Therefore, the key competencies include, among others, information and communication and social as those that ensure the successful acquisition of knowledge throughout life and entry into society.

Method: A set of methods was used in the study: analysis, synthesis, generalisation, and systematisation of scientific data, observations, questionnaires, document analysis, methods of mathematical data processing. An online testing platform was developed to conduct a survey of students.

Results: The authors proposed and implemented a project aimed at providing psychological and pedagogical support to gifted students; to provide the teaching staff with the necessary knowledge and skills to work with gifted children, to encourage participants in the educational process to use information and communications technology tools in educational activities. A model of psychological support and accompaniment of participants in the educational process has been developed.

Conclusion: The experiment showed positive changes in socialisation in the experimental group in relation to the control group at a significant level. The findings of the study give grounds to conclude that the proposed author's comprehensive approach promotes the socialisation of gifted students.

Keywords: Gifted child, the accompaniment of students, socialisation at school, safety.

INTRODUCTION

Modern society makes increasing demands on the individual, on the competencies that a person must acquire during training, which allows him to act effectively in various spheres of life. The problem of socialisation is exacerbated by the extraordinary development of information technology, their widespread use, and application. This article is really relevant, as today's information technology affects not only the development of society as a whole but also the development of each individual in particular. Currently, much attention is paid to the problems of education of gifted children, their upbringing in primary school, or

additional education. This problem is directly related to the new conditions and requirements of the changing world, which have actualised the idea of constant self-development, self-realisation of an individual, the acquisition of new knowledge and competencies.

Modern theorists and practitioners define psychological support as a “third” side of education, along with teaching and education. The essence of psychological support is to assist in the development of psychological individuality, the construction of personal formations, the development of self-determination, as well as in the implementation of personal growth in times of life crises, internal searches, and choices. It is important to create pedagogical and psychological support for the process of socialisation is to define self-development as “a process of independent, holistic, purposeful, value-oriented activities of an individual for

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continuous self-change in enriching individual experience and spiritual and moral forces in accordance with the internal image of “I” and current social expectations” [1]. Various aspects of the problem of psychological development, support of personality have been the subject of research by foreign [2-4] and domestic [5-8] scientists.

Recently, more and more Ukrainian scientists are involved in solving the problems of the use of information and communications technology (ICT) and teaching aids in higher education at various stages [9-11]. The methodology, theory, history and practice of ICT in education are comprehensively analysed in work [12]. Research on the development of digital competence of teachers in the information and educational environment of general secondary education institution (hereinafter – GSEI), the use of ICT and cloud services in various lessons in the educational process are presented in articles by modern scientists [13-17].

The authors agree with the scientific work [13], which offers an innovative electronic educational resource – electronic platform mobiSchool, which is adapted to the conditions of continuous informatisation of education and contains web-tools for designing and creating authentic electronic environments (web-prototypes) of educational institutions. The authors note that: “Informatisation of the education system leads to the active use of ICT by the subjects of the educational process, which has a positive effect on its effectiveness and contributes to the formation of professional competencies of teachers” [13]. However, this study showed that there is a problem of readiness of a large number of teachers to use such tools in educational activities.

Some authors [18-20] investigated cybersecurity and dangerous content on the Internet, aggressive behaviour of a child on the Internet and its protection. The lack of practical developments in this aspect, as well as modern methods of preventing the negative impact of the Internet on the child, prompted the authors to study the process of socialisation of gifted individuals and develop methods to prevent destructive socialisation of gifted students on the Internet. Therefore, the article aims to cover the system of psychological and pedagogical support of gifted students with the use of information and communication technologies, which contributes to the process of socialisation in general secondary education. The research hypothesis is the assumption

that methodically substantiated use of ICT in educational and pedagogical work with gifted students will contribute to the formation of social competence.

The objectives of the article are:

- to conduct the testing of gifted students;
- to develop a platform for online testing;
- to realise a static verification of the results of the control cross-section;
- to develop methodical recommendations for the formation of gifted students in safe behaviour on the Internet.

MATERIALS AND METHODS

Study Subject

326 students took part in the diagnostic section during the observational experiment. As a result of the analysis of socialisation indicators, a group of gifted students with high and sufficient levels of socialisation indicators was identified, which is 58.3% of the sample (190 students), and a group with socialisation problems in educational teams, which is 41.7% of the sample (136 students) showed the insufficient level of socialisation. Out of 136 gifted students at risk, a control (CG) and experimental (EG) group of 68 people each was formed. Accordingly, at all subsequent stages of the work, purposeful psychological support was provided to gifted students of the experimental group.

Ethical Clearance

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. A study was approved by the Central Ethics Committee of the Ministry of Health of Ukraine, October 07, 2018 (No. H-625). Informed consent was obtained from all individual participants included in the study.

Research Setting

A set of methods was used in the study: theoretical (analysis of research sources, comparison, classification, synthesis of research results, generalisation and systematisation of scientific data); empirical (observations, questionnaires, document

analysis, online testing); methods of mathematical data processing with their subsequent qualitative interpretation and meaningful generalisation.

Testing of gifted students was conducted in order to identify a group of students who need psychological support. The authors also developed a platform for online testing, which allows using a set of diagnostic tools to identify socio-communicative features of development, study the value of gifted students, motivation to learn, their general level of socialisation regardless of time and location of students and provides new ways and methods of working with gifted youth using ICT. To provide scientific and advisory assistance to teachers, officials from experimental institutions created a network centre on Facebook "Tutor in the social network", which during 2016-2018 operated in the areas of: scientific-organisational and psychological-pedagogical support of gifted high school students. Earlier, the authors substantiated the need to create such an interactive centre [21].

Statistical Analysis

Static verification of the results of the control cross-section was used using the Fisher test ϕ . The analysis of research sources allowed stating that the formation of gifted students' behaviour, including on the Internet, is influenced by various factors at the following levels: individual, family, immediate environment (peers, educational institution) and social, which determine behaviour student youth on the Internet and form its specifics. After generalisation and systematisation of scientific data, methodical recommendations were developed for the formation of gifted students in safe behaviour on the Internet, which takes into account the prevention of destructive socialisation on the Internet [22].

RESULTS

Classes were held during 2016-2018 in the form of round tables, practical classes using elements of business and role-playing games, discussions, seminars of various kinds, individual and group consultations and interviews, holding scientific and methodological conferences and symposia, colloquia. Three hundred twenty-six respondents took part in the diagnostic section during the observational experiment (142 men; 184 women). The authors trained teachers for psychological and pedagogical support of socialisation of gifted students using ICT tools, those who participated in the experiment. A special course for

teachers "Gifted students and the Internet" has been developed, taking into account the system of organisational and pedagogical, content and methodological work. There is the need for a series of classes that could solve the theoretical and practical problems of socialisation of gifted students studying in GSEIs; the place and role of the Internet in the lives of adolescents; dangers and potential opportunities for the use of ICT tools to implement educational projects.

To strengthen the work of the interactive centre "Tutor in the social network" a model of psychological support and guidance of participants in the educational process was developed: students, teachers, parents, the administration of the educational institution (Figure 1). It is worth noting that the proposed model was tested in educational institutions and showed positive results. The methodological basis of the system of psychological support and guidance of gifted students are:

- activity approach, which is implemented by involving students in various types of educational and extracurricular activities using Internet technologies;
- a holistic approach to the formation of motivational readiness of students for learning activities;
- differentiated and personality-oriented approaches that implemented on the basis of the results of psychological diagnosis of personality development of a gifted student through the introduction of special ICT in the educational process [23].

The authors reveal the organisational and methodological aspects of the proposed model.

Psychological guidance of students in the process of personal development is:

- selection of effective learning technologies: a selection of the most optimal learning strategies, ways of planning educational work, mode of work and rest, learning ways to cause a working condition during training, etc.;
- establishing productive relationships with the subjects of the educational process (students, teachers, parents), namely, assistance in the development of communication skills, the ability to speak on the merits, maintain positive

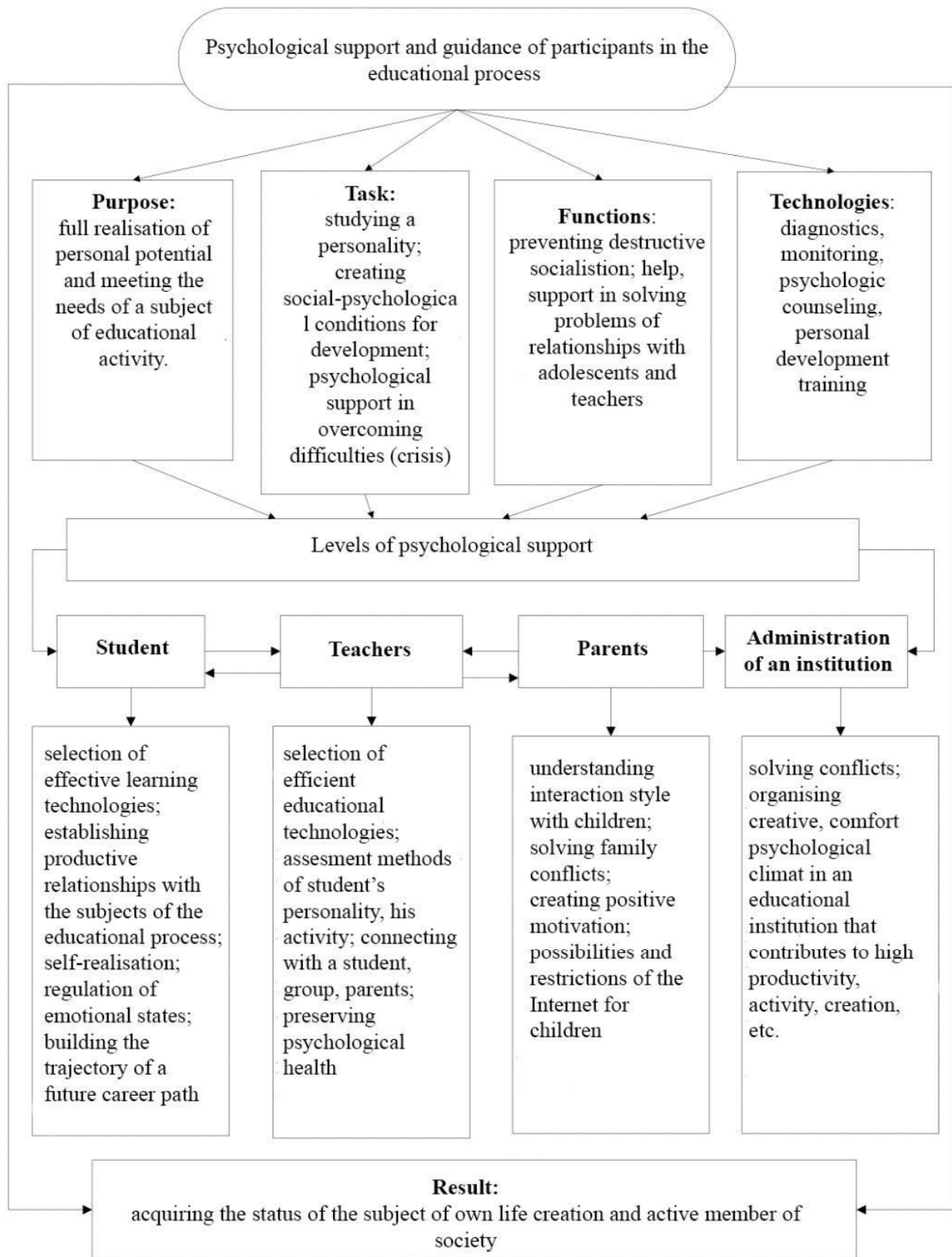


Figure 1: Model of psychological support and guidance of participants in the educational process.

relationships with other people, help in understanding unproductive behaviour, recognising provocations by others, as well as in resolving conflicts, etc.;

- self-realisation, which involves: determining the area where a particular student can express himself; identification and development of necessary abilities for successful educational

- activity; learning ways of self-presentation and attracting attention, the ability to interest yourself, your proposal; ability to use the help of others; ability to make a positive impression on others and arouse the desire to cooperate; awareness of ways of their behaviour that cause rejection, denial, etc.;
- regulation of emotional states, which assists in relieving fatigue, overcoming anxiety, apathy, aggression, frustration, stress, as well as a state of hopelessness, etc.;
 - building the trajectory of a future career path, namely assistance in planning a professional plan, setting realistic goals and analysing ways to achieve them, planning further education; developing qualities that contribute to rapid adaptation in the student body; analysis of strategies for professional advancement, professional development, and improvement.

Thus, the psychological guidance of the personal development of a student can be implemented through specific activities of a psychologist of the interactive centre, namely:

- educational – learning how to communicate effectively and behave in the educational process;
- health – a set of measures that contribute to the normalisation of neuropsychological well-being (relief of stress and fatigue; analysis of human capabilities in the context of specific activities, etc.);
- formative – the formation of the subject's skills and abilities necessary to solve specific problems; assistance in organising the thinking of an individual, encouraging experimentation, empowerment of the individual;
- analytical – analysis of the holistic educational process, the existing system of interaction, effectiveness, application of Internet technologies, etc.;
- organisational – the creation of special activities and interactions aimed at achieving the goal of personal development;
- value – the organisation of special situations for interpersonal interaction, which should promote the emergence of its participants a new meaning, values;
- stimulating-mobilising – various interactive psychological tools, methods that promote the activation of personality during training;
- goal-setting – support for new personal skills, assistance in discovering the abilities of an individual, his resources and the ability to apply them in educational and extracurricular activities;
- mediation – the establishment of multifaceted links between the subjects of the educational process on the organisation of developmental interaction and the implementation of specific goals [23].

Psychological guidance of parents is primarily: help in understanding the style of relationships with children and understanding ways to motivate them to certain actions; analysis of the effectiveness of the incentives and penalties used; assistance in supporting the planning of future vocational training, finding alternatives, resolving family conflicts, etc. During psychological support and guidance of parents, specialists can solve important tasks, including: increasing the psychological competence of parents, teaching parents the skills of prevention and constructive conflict resolution, empowering parents to self-knowledge and protect the psyche from “destructive” thoughts. The methods of work of the psychological service with parents are regular parent meetings, lecture courses, seminars and training, individual and family counselling, etc.

Psychological guidance of teachers includes: assistance in overcoming a negative attitude to work with a student or class; selection of the most acceptable and effective for a particular class of technologies of teaching and education; psychologically competent assessment of a student's personality, his activities; establishing productive contact with a gifted student, group, parents; helping to create an interactive environment in which students and their parents can accept what the teacher offers them; help in maintaining mental health, etc. The determining factor in the personal growth of students is the personality of a teacher. Thus, the organisation of special work with a teacher for the purpose of his self-development can significantly improve the position of a student in the educational process. Important, among other things, in working with teachers is business games as a way to update knowledge and teach reflection [23].

Psychological guidance of the administration of GSEIs covers the tasks of a psychologist on: assistance in predicting the consequences of decisions and planning activities; anticipation and resolution of conflict situations; organisation of a creative, comfortable psychological climate in the educational institution, which contributes to high productivity, creativity, etc. The leading forms of work of a psychologist in order to provide psychological guidance and support to the administration of the GSEIs are: organisation of regular meetings of administration representatives with the teaching staff, parents and students in order to receive feedback on the consequences of decisions; organisational and business games; communicative training, training for the development of tolerance, positive thinking, supportive communication, etc.

It is determined that the socialisation of gifted students can be influenced by five groups of factors: intrapersonal (knowledge, attitudes, ideas, personal characteristics and features); interpersonal (interpersonal communication in small groups: family, friends, peers who provide social support and determine social roles); institutional (rules, instructions, policies of formal structures that may hinder or promote recommended behaviours); population (formal and informal social ties and norms (standards) that operate among individuals, groups, organisations); political factors (local, regional, state laws and policies) [24]. The authors will reveal the influence of factors at the individual, family, immediate environment and social levels (Figure 2).

At the individual level, the behaviour of gifted students on the Internet is influenced by biological and

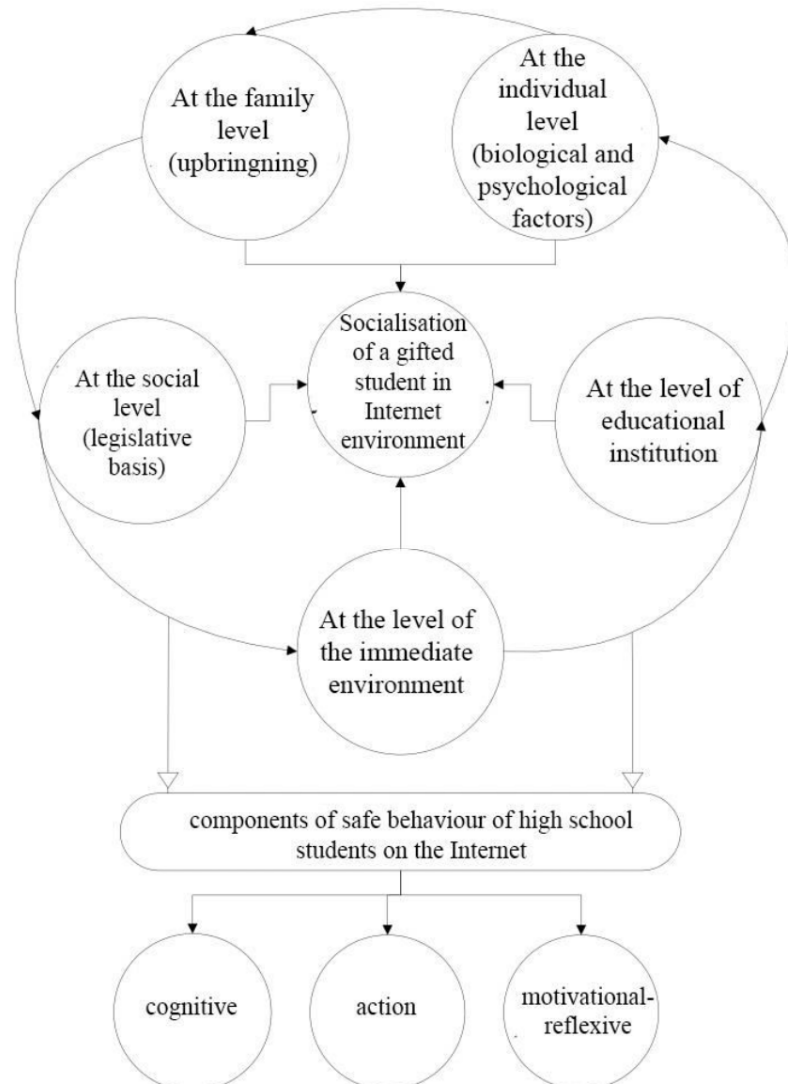


Figure 2: Socialisation of a gifted student on the Internet.

psychological factors. Psychological factors include: low level of claims; unformed motivational sphere; low self-esteem; inability to control oneself and one's actions; lack of skills to overcome conflict situations; insufficient formation of communication skills; the desire to take risks, which is more inherent in gifted students.

At the family level, the socialisation and formation of students' behaviour on the Internet are influenced by the following factors: excessive parental activity on the Internet and positive attitude to the activities of gifted high school students on the Internet (negative example, imitation); social isolation of students (leads to the inability of a child to meet their own needs in grouping with peers and communication with them, the lack of certain hobbies in real life and the inability to demonstrate them to their friends); family conflicts (can lead to the search for new friends-advisors on the Internet); inconsistency in children (students are at high risk of excessive use of the Internet to avoid unnecessary contact with their parents); frequent changes in the place of residence of the family (requires the constant building of relationships with new friends, neighbours, classmates).

At the level of the immediate environment – “peers” – are influenced by the following factors: an example of the negative behaviour of friends and peers on the Internet; competition with friends in cyberspace (often friends can compete in cyberspace through games (number of wins, points and bonuses in the game) and the popularity of personal pages on social networks (number of contact information, places to study and spend leisure time, posted personal photos and video, etc.)); bullying (students who experience intimidation from peers, physical or psychological terror aimed at causing them to fear and subdue them, avoid contact with them in real life, which serves to develop active activities on the Internet).

At the level of the immediate environment – “educational institution” – the following factors that influence the formation of the behaviour of gifted students on the Internet can be identified: bad relationships with classmates and teachers; the emergence of stressful situations at school; lack of complex forms of work in the school environment aimed at the formation of safe behaviour on the Internet; ignorance of students about the risks of the Internet and the rules of conduct in cyberspace.

At the public level, the following factors can be identified: the positive attitude of others to the Internet; the imperfection of the legal framework and principles of activity on the Internet (lack of regulation of the process of receiving information on the Internet allows any user placing any information on websites, to provoke antisocial actions both in real life and in cyberspace).

Given the above, it can be argued that in the process of activities on the Internet, gifted students may be exposed to various risks that exist in cyberspace. According to the analysis of the works of scientists [25], which identify three main types of risk inherent in school-age (physical risk, social risk and self-disclosure risk), the authors have given them characteristics in accordance with the activities of students on the Internet. Analysis of the scientific literature [24, 25], in the structure of student behaviour on the Internet, allows identifying three components that contribute to safe socialisation:

- cognitive component (students' awareness of the Internet as an information space, activities in cyberspace, risks on the Internet);
- action component (skills and abilities of safe activity on the Internet; skills of differentiation of various influences of the Internet; ability to make adequate decisions according to the situation that arose in cyberspace; ability to have a constructive dialogue with virtual interlocutors and resist pressure from them, to control and direct the activity in the Internet network, to define and realise the purpose of the activity in the Internet network);
- motivational-reflexive component (the desire to protect themselves on the Internet, the desire to improve themselves through the Internet, the desire to control emotions while working on the Internet, the desire to adequately express dissatisfaction while working on the Internet, the desire to analyse their own behaviour on the Internet-networks).

The next step of the study was to test gifted students (including online) in order to identify a group of students who need psychological support. A diagnostic platform [26] has been specially developed by the Institute of Gifted Children of the National Academy of Pedagogical Sciences of Ukraine for

online testing. As a result of the psychological support of gifted students on the basis of experimental sites, the following results were obtained. Regarding such an indicator of general socialisation as a social activity, its formation in the EG was found in 89.7% of respondents. This quality was manifested in the solution of cognitive problems, as well as an integrated social initiative, the desire to achieve the goal, interest in everything new and unusual. Creative activity was less pronounced (42.6%), but it almost doubled in the EG compared to the beginning of the experiment, while in the CG only by 2.9%. Gifted students of the EG were actively involved in activities that were not strictly mandatory, such as scientific circles, creative projects using ICT, the Internet Olympiad in Informatics, art groups and more. They increasingly began to show a desire to understand everything, to participate, to try themselves in the most difficult areas of work, not promising rewards or material benefits, which indicates their readiness for innovation. It is important that creative activity is a clear sign of the development of talent.

Indicators on other signs of social activity also increased in the EG: motivation for success (from 20.6% to 36.7%), level of aspirations (from 27.9% to 47.06%), attitude to creativity (from 14.7% to 42.6%). It cannot be said that the corresponding signs remained unchanged in the CG, but this was an increase of no more than 2-4% at a high level. In addition, the number of people demonstrating "focus on work" (41.2%) increased in the EG, i.e. interest in solving business problems, doing the best work, focusing on business cooperation, ability to defend one's own opinion in favour of the case. While in the CG the number of people with "self-orientation (I)" remained unchanged – 27.9%. Quite often, this indicator was combined in the CG with inadequate self-esteem (35.3%). And this – the focus on direct reward, aggression in achieving status, propensity to rivalry, irritability, anxiety, introversion.

Regarding the level of self-actualisation of gifted students of the EG, it should be noted statistically significant changes primarily on the scales: "support", "contact", "creativity" and "sensitivity". Their performance has risen to a high level. That is, this work has caused a number of personal changes that lead to self-improvement, personal development of the subjects. In addition, the number of people with pseudo-self-actualisation decreased significantly in the

EG (10.3%), while the influence of the factor of social desirability remained in 23.5% of gifted students of the CG. It was found that more significant statistical changes occurred in the experimental group compared with the control. Thus, the experimental verification of the effectiveness of psychological support of the process of socialisation of gifted students of GSEIs with the use of ICT showed positive results.

DISCUSSION

The main idea of the study is the use of ICT by participants in the educational process, as well as the potential of the Internet as an environment for individual and group communication, learning tasks, joint projects, psychological counselling, etc. This will promote the process of socialisation of gifted students of GSEIs in the desired areas of personality development. R. Medlin defines the concept of socialisation: "Some people mean social activity: giving children the opportunity to play with friends and participate in traditional extracurricular activities such as sports, school games and graduation parties [27]. Others see a social impact: teaching children to conform to the norms of the majority. For some, it means a social tendency: an acquaintance of children with the culture and values of different groups of people. However, K. Durkin explains socialisation as "the process by which people acquire rules of conduct, belief systems, and relationships that enable them to function effectively as members of a particular society" [28]. Simply put, it is through the process of socialisation that people learn how to become a full member of society. To be a real member of society, it is necessary to learn to interact with other people in society.

Important for this study is that the communication environment of modern children is increasingly occurring in social networks, specialised blogs, the Internet in general. Therefore, the process of socialisation acquires different procedural content. Given the latter, authors define socialisation as a process by which an individual learns the social experience of his social (and virtual) environment in such a way that through the formation of his own "I" manifests the uniqueness of an individual as a person. That is, it is the process of assimilation by a gifted individual of patterns of behaviour, social norms and values necessary for its successful functioning and creative self-realisation in society.

It should also be borne in mind that socialisation can occur in conditions of both education (purposeful formation of personality) and spontaneous influence on an individual. In order to ensure adequate socialisation of gifted students on the Internet, it is necessary to provide timely psychological and pedagogical support and guidance. The purpose of the support is to create within the Internet educational interaction the most favourable conditions for personal development and education of gifted students. Thus, Ju. Suhovershina notes that the concept of "support" is quite common in modern psychology and pedagogy [29]. The analysis of the leading approaches to understanding psychological support makes it possible to define it as the unity of all participants in the educational process in the direction of creating grounds for a positive development of students throughout the process while maintaining maximum freedom and responsibility. Support is focused on creating conditions (pedagogical, psychological, social) for successful learning and development of each individual in situations of interaction.

The authors consider valuable the availability of research on the dissemination of scientific knowledge and the use of ICT among students, who then go to work as teachers, including in GSEIs [11]. However, a survey conducted through google-form showed a disappointing forecast. According to the results of the survey of pedagogical staff of educational institutions, certain difficulties were identified regarding the preparedness of teachers to work with gifted children, as well as the use of modern means of ICT and Internet in general. As a result of processing the personal data (anonymous questionnaires, including through google-form) (428 respondents), a third of respondents (29.9%; 128 teachers) were identified as not ready for such creative activities. A group of teachers who strive for innovation, but lack certain skills and abilities, has been identified. These are mostly young professionals who have been working in schools for no more than 3 years, their share is 30.6% (131 respondents), and a small group of teachers has been identified – 17.3% (74 respondents) who do not want to develop themselves. This group includes mostly teachers with long pedagogical experience and age characteristics (average age 54). It is gratifying that 22.2% of respondents (95 respondents) are constantly working with gifted students at a high professional and creative level (different age categories and work experience). Therefore, it is necessary to strengthen the introduction of ICT in GSEIs directly on the ground.

The results of a study by modern scientist L.I. Tkachenko on the readiness of teachers to use Internet technologies in the process of socialisation led to the following conclusion:

"Teachers in the vast majority (94%) use Internet technologies to meet their professional needs, and only 6% (with some tolerance 10%) use Internet technologies to meet the needs of students in learning and socialisation, i.e. do not use in the vast majority of cases" [30].

The scientist, A. Vojskunsij, notes that "the use of computer networks leads to structural and functional changes in human mental activity [31]. These changes relate to the cognitive, communicative and personal spheres, transform the operational part of the activity, goal-setting processes, need-motivational regulation of activity. Researchers note that the behaviour of gifted students on the Internet mainly depends on several external and internal factors and the conditions of student education [32, 33]. Thus, the Internet creates conditions for the development of new forms of social interaction and social activity of gifted students through various elements of globalisation, wide accessibility and providing a significant number of opportunities to network users.

CONCLUSIONS

This scientific research provides a theoretical generalisation and a new solution to the current problem of socialisation of gifted students. The concept of socialisation of an individual in the Internet environment is specified. It is determined that uncontrolled access to Internet resources can cause serious potential dangers for students. The risk group of gifted students on the negative impact of the Internet in the process of their socialisation was singled out. Also, the groups of factors that affect a personality at each level were studied.

After analysing the structure of users' activities on the Internet, its main elements were identified: motives that encourage students to work on the Internet; goals – images of results, the achievement of which is aimed at the Internet; the means by which activities are carried out on the Internet. Therefore, the prospect of further research is in the study of various aspects of socio-psychological adaptation of gifted students in the information and educational environment of general secondary education.

ABBREVIATIONS

ICT = information and communications technology

CG = control group

EG = experimental group

GSEIs = general secondary education institutions

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