EXPERIENCE OF USING ICT TOOLS FOR MONITORING THE PSYCHOLOGICAL COMPONENT OF THE QUALITY OF TEACHER'S ACTIVITY OF THE HIGHER EDUCATION INSTITUTIONS

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Abstract. The focus of the current research is on the quality of education as a multifaceted category, and the monitoring of the quality of education – as a purposeful and specially organized system of studying, assessment, analysis of data on the state of education of students. Emphasis is on the psychological component of monitoring the quality of education, which involves creating a positive socio-psychological atmosphere for participants in the educational process, both students and teachers. Creating a comfortable atmosphere allows teachers to perform their work effectively, and higher education institutions - implement the main task of ensuring the quality of teaching staff. The article highlighted the experience of monitoring the psychological component of the quality of higher education using various ICT tools - Google services, specially created websites for professional psychological diagnostics, author's programs of psychological testing ("Comprehensive diagnosis of psychosocial development of the teacher's personality using a computer program "Personnel – Ψ"), etc. This study aims to study current conditions, namely the development of digital technologies. The need to use electronic resources (Google services) has increased, which allows you to create text documents, presentations, spreadsheets, forms, drawings, programs and other documents. In order to provide the monitoring of the quality of the psychological component of higher education teachers' activity, Google Form was elaborated to obtain information about the psychological state and satisfaction with the quality of educational services by the participants of the educational process, their relationship, the socio-psychological climate in higher education and others, amongst to respond to social and educational change on time

Keywords: the quality of education, the monitoring of the quality of education, the psychological component, the psychological component of the the quality of education, ICT tools, Psychodiagnostic.

1 Introduction

In the current conditions of the information society, information and communication technologies make changes in all spheres of human life. Relationships between people, organizations, and each other acquire a new format under the influence of various factors: media technology, social media, media, Internet, pandemic COVID-19 and more. Information technology enables more intensive communication, and information may be transmitted to one person or a large community.

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ICTs are especially important for education. After all, just educational institutions shape society, helping to increase the pace of its economic, socio-cultural, political, psychological development, professional development and education of an intellectual elite capable of perceiving, using and producing new information. [1]. Today's challenges require not only new knowledge, information but also strategic reform of higher education in Ukraine, due to "the emergence and rapid development of information technology, commercialization, increasing global competition, the effects of the coronavirus pandemic, etc" [2].

One of the leaders of the information society theory, Masuda, argued that: in the information society there will be no official restrictions on educational institutions; information networks will replace existing education systems; this will reduce the gap between developed and underdeveloped regions; the main form of training will be self-study, and the teacher will act as a consultant on various web platforms; the importance of adult education is growing; replacement of mass education with an education system that meets individual skills and preferences of the individual [3].

Special attention, as noted in the Global Monitoring Report (2005) "The Quality Imperative" is paid to the conceptualization of the quality of education [4], the importance of control and compliance with European standards of educational quality in the information society. It will allow individuals not only to receive a quality education but also to be more independent, plan and control their professional development, and continuously self-progress [5]. At the same time, continuity of education is an important element of it, a condition that will promote self-development, self-education, self-improvement and self-realization of the individual throughout life. In particular, the World Declaration on Higher Education for the 21st Century states that teachers in higher education "should not only act as a source of knowledge but also give priority to instilling in students the ability to learn, the ability to take the initiative" [6].

The quality of education as a key factor in the country's sustainable development plays an important role in creating a single European educational space. The high-quality education itself is an important tool for the creating of the key competences that are significant for the present, the development both of the individual and society, the state as a whole, by ensuring the social and economic growth of the country.

The education right of each individual was regulated by Universal Declaration of Human Rights, and the adoption of the Incheon Declaration "Education-2030: Ensuring of Inclusive and Equitable Quality Education and Lifelong Learning for All" has been set out the fundamental principles for global education development by 2030 [7].

The COVID-19 pandemic has made adjustments to the activities of educational institutions and accelerated the digitalization of educational systems. However, the increased use of digital media has significant limitations. According to the Rome Ministerial Communique, "higher education should take the lead in studying and advising on overcoming and overcoming these constraints, ensuring cooperation and closer dialogue between countries, higher education institutions and systems and with the wider higher education community". Higher education institutions have the main "potential to stimulate significant change - improving the knowledge, skills and competencies of students and society to promote sustainable development, environmental protection and other critical tasks. Building an inclusive, innovative unified open education program will ensure equal access for all to quality education; use of innovative teaching, learning and assessment methods, information tools that will promote international cooperation and reforms; exchange of knowledge and mobility of both students and teachers"[8].

The quality of education is considered to be the heart of education for all [9], positively influencing on the changes in student learning (affective, cognitive, and psychomotor domains) and personal and professional potential [10].

The introduction of information and communication technologies in the educational process provides the quality implementation of teachers of education, training, training of students, the formation of their professional competence in the information society, the development of intellectual and creative potential, which depends on the level of personal qualities such as motivation, success, self-esteem, subjective locus of control [11]. Therefore, updating the experience of using ICT tools to monitor the psychological component of the quality of higher education teacher is extremely important today.

The introduction of information and communication technologies in the educational process of higher education institutions reflects one of the most important trends in the global information society. ICTs can be both an object of study and a means of learning. In other words, there are two ways of their formation: the study of computer science and the use of ICT in professional activities. According to A. Dzyubenko, information and communication technologies of education are "a set of software, hardware, computer and communication tools, as well as methods and innovative methods of their application to ensure high efficiency and informatisation of the educational process" [12].

Information and communication technologies are appropriate and effective for assessing learning outcomes, create new opportunities for individualization and differentiation of the educational process, allows you to easily and quickly adapt to the new requirements of the monitoring of the quality of education, ensuring the creation of an optimal environment for educational services, understanding of human behaviour in the social environment, life cycle development and interaction between biological, psychological, socio-structural, economic, political and cultural factors of the educational process [11].

The monitoring is an integral part of the management of the quality of education; a means of information diagnosing in the process of carrying the managerial decisions, analysing the educational activities, predicting the changes in the educational process etc. The alteration of the living conditions places the new demands on the quality of education, which requires the study and evaluation of education indicators, the monitoring of the quality of education as a major driver of personal growth and development, as well as the consideration of psychological factors of higher education quality that contribute to the development of the creative and safe environment in higher education institutions [13].

Latest information technology is characterized by the presence of a globally voluntarily integrated system of computer networks (web) and its services (e-mail, telecommunications, etc.), which allow you to quickly obtain the necessary information (testing using Google forms, online surveys, forums, etc.). Digital data is easy to account for, statistical analysis and more. However, nowadays, despite the relevance of monitoring studies in the education system, there are no uniform requirements for their organization and application. There are also no general criteria for assessing the quality of education and the ability to take into account the direct impact of monitoring as a tool, a method of influencing the quality of education. This effect can be both direct and indirect.

Thus, the direct influence of the technology of implementation of monitoring methods and its subject area, and indirect allows taking into account the results of monitoring in management decisions, correction of the activities of participants in the educational process [14, 104].

It is expedient to conduct monitoring research:
- to ensure the quality of educational activities and the quality of education;
- to develop strategies, policies and procedures for ensuring the quality of education;
- to study the needs of participants in the educational process;
- to manage educational activities in higher education institutions, etc.

Thus, the monitoring works as a tool for correcting the educational process, the activities of all participants in the educational process (both teachers and students), ensuring the quality of education and the conditions of its implementation.

The quality of educational process and the effectiveness of the knowledge provided are impossible without diagnostics and monitoring, among which the diagnostic forms are questioning and testing. From this perspective, Google Services attracts our attention as an innovative tool of cloud technology, which let us control, collect, summarize and analyse the information through questionnaires (surveys) using simple online forms (Google Form), view the spread sheets, and visualize the survey results in graphs and charts for further analysis.

Google Form is utterly convenient tool, the online-service for forming the feedback forms, tests and surveys in order to organize the remote interaction of participants and experts in the framework of the assessment of the quality of higher education. These are the complex sets of questionnaires or computer programs that provide personality testing, determining its psychosocial suitability for work, study. Complexes may be used to determine the opportunities for professional and personal growth, status and psychological compatibility of team members, learning, selection and distribution of specialists in institutions and organizations, etc.

2 Literature Review

Monitoring the quality of teachers of higher education institutions contains an information system that is constantly updated and replenished" based on continuous monitoring of the state and dynamics of the main components of educational quality on a set of defined criteria to develop management decisions to correct undesirable imbalances based on analysis of collected information and forecasting the further development of the studied processes [15].

Monitoring makes it possible to collect and analyze information to study and evaluate the quality of education and educational activities and make decisions on the development of the educational process based on the analysis of identified typical features and trends. It is the methods of online assessment (online tests) that have significant advantages [16] because they make it possible to measure and evaluate student performance, acquaintance, guide the educational process, accelerate the reporting process, and so on. Online tests help ensure privacy and are more economical.

In general, monitoring studies of educational problems using online applications for testing originated in the 1970s in the United States [17]. The results of the research showed significant advantages, namely: impartiality of assessment, speed of controlled validity of the test, accuracy, scope, and the possibility of international scope.

Researchers [18; 19] have confirmed correlations between online forms and offline forms of testing to measure intelligence and personality abilities. There were no significant differences between the test results. We are impressed by the opinion of J. Pellegrino, E. Hunt, R. Abate, S Farr [20] concerning the use of stable and mobile objects in research through computer technologies (drawing, recording the reaction time of the answer to test tasks, etc.

Reliability, the validity of online tools (reliable, valid data gathering instrument) while studying the attitude of teachers to educational activities, to methods of online assessment on the Internet substantiated E.Gul, O. Cokluk, Ci. Dogan Gül et al. [17].

The quality of education is a problem that worries the whole world community. The qualities of education as a component of the "Education for All" program is a broad concept and without single interpretation defining its essence, content and components by now, moreover, but as Haddad & Demsky [21], claim, it depends on the policy of the state. Quality education includes: students, educational environment, content, process and results.

The Law of Ukraine "On Higher Education" regulates the quality of higher education as "the level of knowledge, skills, abilities and other competencies acquired by a person, which reflects its competence following higher education standards" meets the standards of higher education, ensures the acquisition of quality higher education and promotes the creation of new knowledge" [22].

"National Education Glossary: Higher Education" defines the quality of higher education (Quality in Higher Education) as "a characteristic of higher education that reflects the compliance of learning outcomes, educational processes and institutional conditions with the current goals of personal development and society" [23].

The concept "quality" is constantly influenced by economy, politics, culture, so it should be flexible, capable of changing during the evolution of education and progress [24]. For instance, changeability, fairness, efficiency and quality are often used as synonyms [24].

The quality of education as a multifaceted category by its essence covers various aspects (philosophical, pedagogical, psychological, social, economic, etc.). Thus, the quality is understood as the normative level to which the product of enlightenment corresponds [26]; the level of achievement of certain goals and objectives of education, set of indicators characterizing various aspects of the educational process (content of education, forms and methods of teaching, etc.) [27] and others. The quality of education is about the value of education (with reference to its contribution to the learning process and its outcome) [28].

Control and monitoring of the quality of education, continuous monitoring of the educational process in order to identify its compliance with the desired result and determining, where necessary, corrective and developmental measures, are the important tasks of monitoring aimed at the systematic collection, processing, storage and dissemination of information on the state of education, forecasting with reason of objective dynamics data and the main tendencies of its development and science-based recommendations making to take the managerial decisions according to the improving the efficiency of the education industry functioning; the current adjustment of higher education institution's activity [29] etc.

The monitoring of the quality of the teachers' educational activities in higher education institutions in accordance with the public requirements and stakeholders' needs provides a purposeful and specially organized system of continuous (regular and planned) observation (study), measurement, evaluation, analysis of data on various aspects of teachers' professional activity, consequently, the forecasting, the development of science-based recommendations for timely management decisions due to the improving the quality of the educational process and results.

3 The monitoring psychological component of the quality of higher education

Monitoring the quality of higher education determines the state and effectiveness of the educational process in higher education institutions, its compliance with the requests of society and the individual; alongside, provides an opportunity to anticipate further steps to improve its quality.

According to the "Standards and Recommendations for Quality Assurance in the European Higher Education Area", [30] higher education institutions are in charge of the competence of teachers and providing them with a favourable environment. Creating a comfortable atmosphere allows teachers to perform their work effectively and higher education institutions - implement the main task of ensuring the quality of teaching staff.

Monitoring the procedures for ensuring the quality of education in higher education should, first of all, give a clear answer to the question of creating a positive socio-psychological atmosphere for participants in the educational process, both students and teachers. After all, the quality of the educational process depends on the teaching staff. Therefore, to ensure the quality of higher education, the leadership of the Free Economic Zone should create an environment in which the teacher: values his/her professional skills, seeks to improve, develop, generate original ideas, and implement them in the educational process. Moreover, the teacher wants students to intensify their activities; to develop tolerance; to form critical thinking, their worldviews and so on [31]. These and many other issues need special attention of the Free Economic Zone.

Monitoring of quality assurance procedures in higher education institutions should give a clear answer to the question of how clear, transparent and fair the enrolment procedures are; opportunities for the professional development of teachers; ways to stimulate scientific activity, conducting research; motivation to implement innovations, creative teaching methods and the use of new technologies.

Monitoring is one of the most crucial tools which changes the information space, improves efficiency, objectivity and accessibility of information, allows identifying problems that have arisen in the process of achieving educational goals; identifying trends in education to develop appropriate educational policies, and identify psychological atmosphere in the educational institution. Thus, monitoring serves as a mechanism for ensuring quality education.

The Higher education quality as transformative process leads to a focus on psychological factors of quality of higher education which contribute to the development of a creative and safe educational environment [13] *The psychological component of the monitoring of the quality of education* involves the providing the information about the psychological status and satisfaction with the quality of educational services of the participants of the educational process, their relationship, the socio-psychological climate in higher education institutions, etc.

The criteria of this component are: satisfaction of the requests and needs of the listeners, and indicators: 1) the level of satisfaction of the requests and needs of the listeners; 2) the relevance of the training content to the listeners' professional needs and the stakeholders' requests of as a whole; 3) the listeners' psychological status and level of satisfaction with the quality of educational services; 4) the nature of the relationship between the participants of the educational process and the level of satisfaction with them; 5) the socio-psychological climate in higher education institution as an indicator of the level of development of organizational culture [28, 6].

Therefore, it should be indicated, as the educational practice shows, the regular study and the assessment of the data is directly or indirectly carried out mainly by the first three indicators.

Hereat, the analysis of data on the relevance of the quality of education to the requests not only of listeners, but also of stakeholders, as a whole, indicates the expediency of intensifying the processes of self-education, self-knowledge and self-development of education workers, improving their qualification. In particular, this is evidenced by the results of a large-scale study made by us during 2014-2019 (about 1000 respondents from all regions of Ukraine who passed the advanced training at the Central Institute of Postgraduate Education SHEI "University of Educational Management") the attitude of the education institutions' employees to their psychological competence, by which the ambivalent character was revealed [29]. In particular, assessing positively the results of the acquisition of psychological competence in higher education institutions, the respondents-educators mainly note its need to influence other participants of the educational process. Simply a small part of the listeners (less than 10%) remarks the expediency of using the acquired knowledge for introspection, reflection of the process of their professional and personal development.

In regards to the indicators "the nature of the relationship between the participants of the educational process and the level of satisfaction with them"; as well as the "the socio-psychological climate as an indicator of the level of development of organizational culture", they were, despite all actuality, practically not monitored. Thus, the psychological component of the monitoring of the quality of education is not fully implemented and requires the special study, the procedure of which is greatly facilitated by the use of Google services.

4 ICT TOOLS in the educational activity

It is well known that information and communication technologies are currently considered to be a wide range of digital technologies used to create, transmit, disseminate information and provide services (Internet, e-mail, software, psychodiagnostic etc.). Google services include many concepts (infrastructure, platforms, software, data, etc.).

In the study, we will understand information and communication technologies as a set of various technological tools and resources used to ensure communication, ensuring the quality of education and the quality of educational activities, creation, dissemination, storage and management of information by determining the most complete and optimal content of personal competence of participants, their professional knowledge, skills, abilities and qualities [11]. In particular, you can use traditional - Google services, and supplementary specially designed websites for professional psychological diagnosis [36], author's psychological testing programs, for example, "Comprehensive diagnosis of psycho-social development of the pedagogical worker with the computer program "Personal – Ψ" (V. Kyrichuk) and others.

According to L. Burlachuk, computer psychodiagnostic [33] is a research field that involves the usage of computer technology to examine and analyze the results, likewise the development and application of computer tests. This research area aimed at developing tools and methods of computer psychological diagnostics, accompanied by the boost of fundamentally new types of research and working methods with psychological information [34].

S. Maksymenko and O. Kokun substantiated the theoretical, methodological and practical principles of designing diagnostic websites to ensure the practical implementation of remote (online) professional psychological diagnostics. According to scientists, compliance with the policies proposed by them guarantees psychological diagnosis websites: attracting visitors, maintaining the required level of their confidence and interest; provides anonymity, clarity, convenience and ease of use; has a high information value, richness of content and scientific nature; allows to differentiate respondents and help to receive feedback from them [35].

The main function of Google services is to meet the users' needs required the remote processing and storage of data [36]. Google services is a full-fledged educational tool which enables most effectively to create the own online space and form a personal educational environment for teachers and students of higher education institutions. Google services is a flexible cost-effective model that can be easily and quickly adapted to new software requirements, supporting the standardization of such software and various applications, simplified maintenance through centralized updates. Moreover, they are supported by various devices (tablets, laptops, desktops, etc.) of teachers and students; can be used both in educational institutions and abroad; enable to save time and increase security through the remote control and maintenance, etc. [37]. Using Google services enables to develop the digital competency (the ability to consciously and critically use the digital society technologies), as well as the information and communication competence as a person's ability to use information and communication technology in practice to meet individual needs and solve the socially significant, in particular, professional tasks in a subject area [38].

There are many types of Google services, but in the context of the problem under study we are interested in the service of the Google Drive cloud storage that can help organize the monitoring of the quality of education etc. In order to work with it, the Gmail should be created. The browser-based application is available for free to create any number of Google Forms (web pages) that host a form or a questionnaire. Google Form opens up an extremely wide field of opportunity and creates an opportunity to achieve the stated goal in a short time and collect answers to your questions.

5 The monitoring procedure of the quality of the psychological component of the educational process.

Therewith, the improvement of the internal system of the ensuring with the monitoring of the quality of education in higher education institutions, we have compiled a series of express methods (based on Google Form) on the indicators "the nature of the relationship between the participants of the educational process and the level of satisfaction with them", "the socio-psychological climate in higher education institutions as an indicator of the level of development of organizational culture", etc. scientifically-based recommendations for further improvement of the quality of the educational process in the educational institution by the psychological component.

Google Form permits: to make the questionnaire available to respondents as soon as it is created, upon it can be edited, meanwhile the questions can be opened and analysed; to embed it on a site page, distribute it through mobile networks, where it can be filled by potential respondents; the service automatically to generate a spreadsheet to collect and process the responses to the author of the form, and to display the results of the survey as a spreadsheet (or filtered list) which has all the features and capabilities of a regular Google chart; the service to make it possible to view the answers of all the respondents and separately each of them individually without a spreadsheet, but with the appropriate statistics in the diagrams and graphs data given in qualitative and percentage values formats; to summarize the answers in graphical and numerical format.

We have created the Google Form [29], namely "The Quality of the Educational Process: the Psychological Component" containing four techniques. The first method due to the assessment the psychological atmosphere in the unit (team) proposes to choose the opposite by contents pairs of words (by A. Fiedler), which allows describing the nature of interpersonal relationships in the unit [39].

Fig. 1. The interface of Google forms for learning the quality of the educational process.

The respondent chooses the correct answer for him/her and puts a mark in each pair (1 to 7), thereby choosing closer to the right or left word, which indicates a more pronounced sign of interpersonal relationships in the unit, such as "agreement" or "disagreement", "satisfaction", "dissatisfaction", etc. (**Fig. 1**).

The screenshot highlights the title of the study "The Quality of the Educational Process: the Psychological Component", as well as the Method 1 instruction for the respondents to determine the psychological atmosphere in the team.

During the implementation of the second methodology for the diagnosis of psychological atmosphere in a small production group (authors – V. Shpalynskyi, E. Shelest) [40], in the adaptation of O. Bondarchuk), on a 5-point scale, the respondents rate the degree of their favourable climate for the team (goodwill, trusting relationships, joy for success of colleagues, relations with management, adherence to rules in the team, etc.) (**Fig. 2).**

Fig. 2. The interface of Google forms for learning the psychological climate (Method 2).

Referring to **Fig. 2,** the Method 2 "Rate the proposed statements on the 5-point scale by the algorithm: 1 point – strongly disagree; 2 points – disagree; 3 points – hard to say; 4 points – agree; 5 points – completely agree" is shown on the previous screenshot.

Based on the answers of the respondents, the Google Form gives an opportunity to determine the level of favourable (high, above average, average, below average and unfavourable) psychological climate in the team.

Likewise, the Methods about learning the group cohesion (Sisor Index, adapted by O. Bondarchuk) and the psychological security of the educational environment, allowing determining the level of the psychological security in the educational environment (by I. Baeva, modified by O. Bondarchuk [40]), (The Methods 3 and 4 respectively) were applied.

After filling in the Google Form, the respondent must click the button "Submit" (**Fig. 3**).

Referring to **Fig. 3.,** the screenshot shows the option of choosing the answers for the employee's protection "From the unfriendly attitude of the administration" and "How satisfied are you with your life as a whole?". The "Submit" function is visible at the end.

After receiving the answers, we are able to review them, create a spreadsheet or chart where it is possible to examine the statistics for each question, analyse appropriately, evaluate etc. The results of the answers can be obtained in the form of the linear scale **Fig. 4** or diagrams **Fig. 5.**

The example of the analysis of the answers in the form of the linear scale to the question "Would you go to another unit if this opportunity happened (without changing other conditions)?" and "What are the relationships between the members of your unit?" is given in **Fig. 4.**

The results of the study provide the following answers to the question – "yes, I would strongly like to move", "I do not know, it is hard to say", "would rather move than stay", "see no difference", "most likely would stay in to my unit", "would strongly like to stay in my unit".

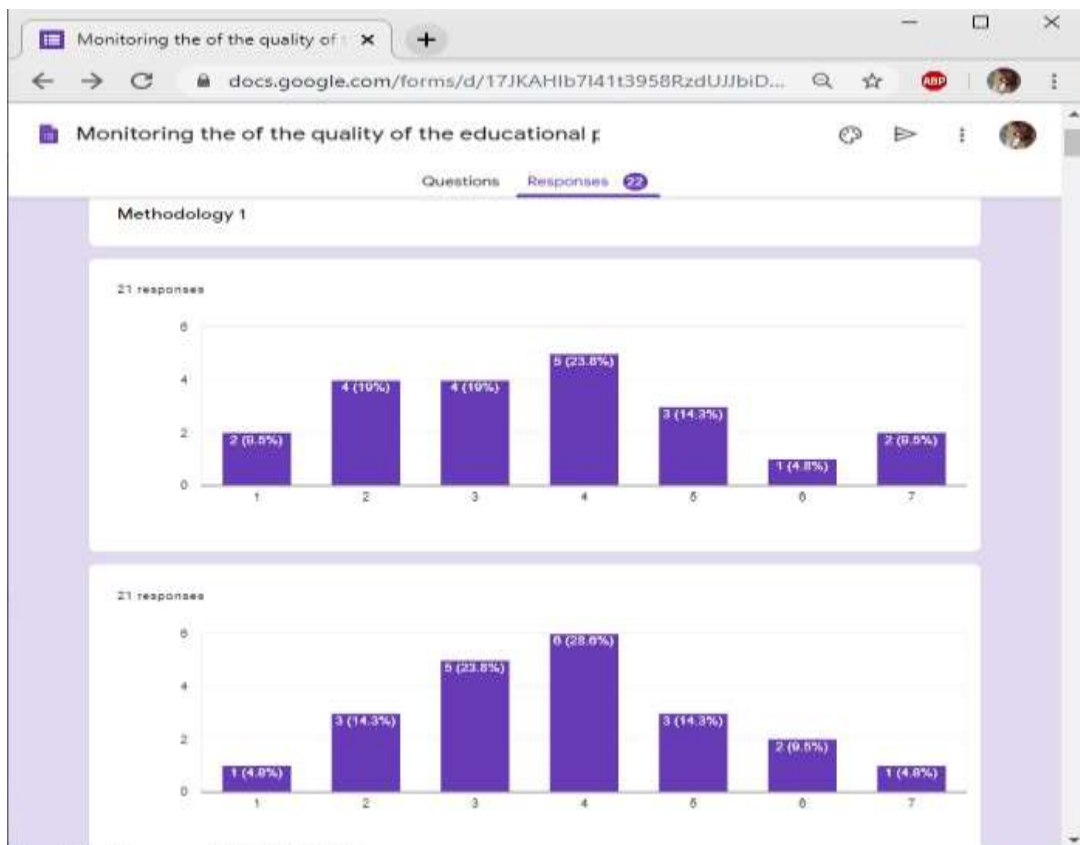**Fig. 3.** The interface of the "Submit" function.

Fig. 4. The statistical analysis of the answers to the questions in the form of the linear scale.

The analysis of the results enables to make a deep analysis of the psychological conditions, as well as facilitate the development of recommendations, programs for improving the social and psychological climate in the educational institution.

Thus, in particular, the analysis of the results of the pilot survey of the Yuriy Fedkovych Chernivtsi National University and SHEI "University of Educational management" teachers, the case of which is given in **Fig. 5.**, allows to conclude about the significant problems of the psychological assurance of the quality of education, nevertheless, as it is seen from the figure, just 47.8 % of teachers consider the relations in the team as favourable. 25% of respondents would change the jobs. It is quite problematic to provide a student-centred approach to the organization of the educational process in such situation

Accordingly, it is urgent to develop the special psychological and managerial measures to minimize the revealed negative tendencies in the activity and interaction of higher education institutions teachers.
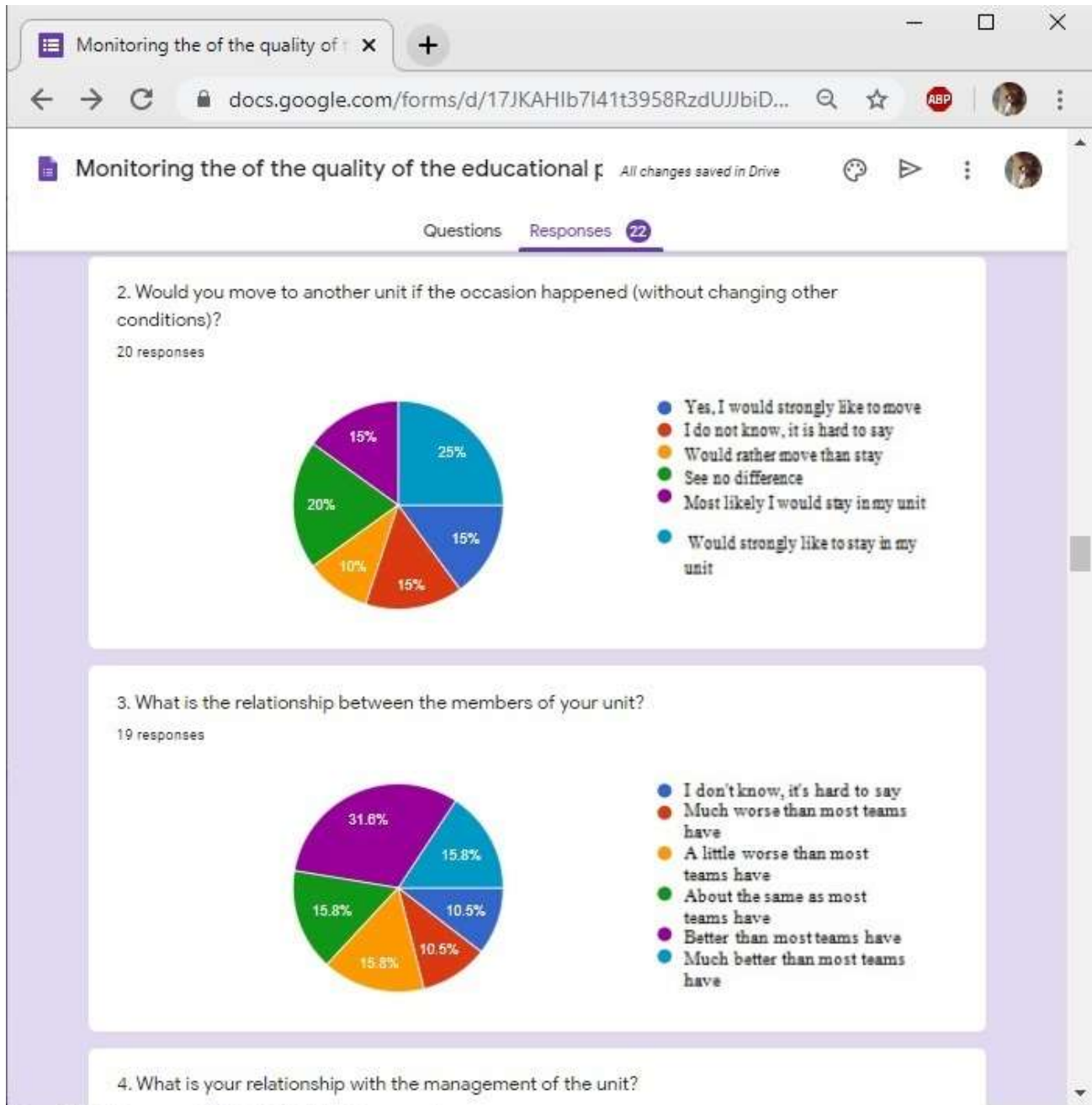
Fig. 5. The statistical analysis of the answers to the questions in the form of diagrams.

To ensure the psychological component of the quality of higher education and its diagnosis, the teacher of the Department of Management Psychology CIPPE SHEI "University of Educational Management" V. Kyrichuk developed a computer program "Comprehensive diagnosis of psychosocial development of the teacher "Personnel – Ψ".

The comprehensive program allows for personality testing determining psychosocial suitability for work in various fields of science and production, opportunities for professional and personal growth, status and psychological compatibility of team members and more. It is practicable to use the complex also for the study, selection and distribution of specialists in institutions and organizations.

The program allows you to direct testing in different directions (Fig.6):

1. "Data" - This section allows you to enter personal data, edit data on existing staff, save and download data from a file.

2. "Polls" - The section includes questionnaires and allows you to print them, i.e.:
 personality type;
 features of interpersonal relationships;
 features of professional-pedagogical activity;
 socio-psychological attitudes;
 personality orientation;
 motives and motivation of activity;
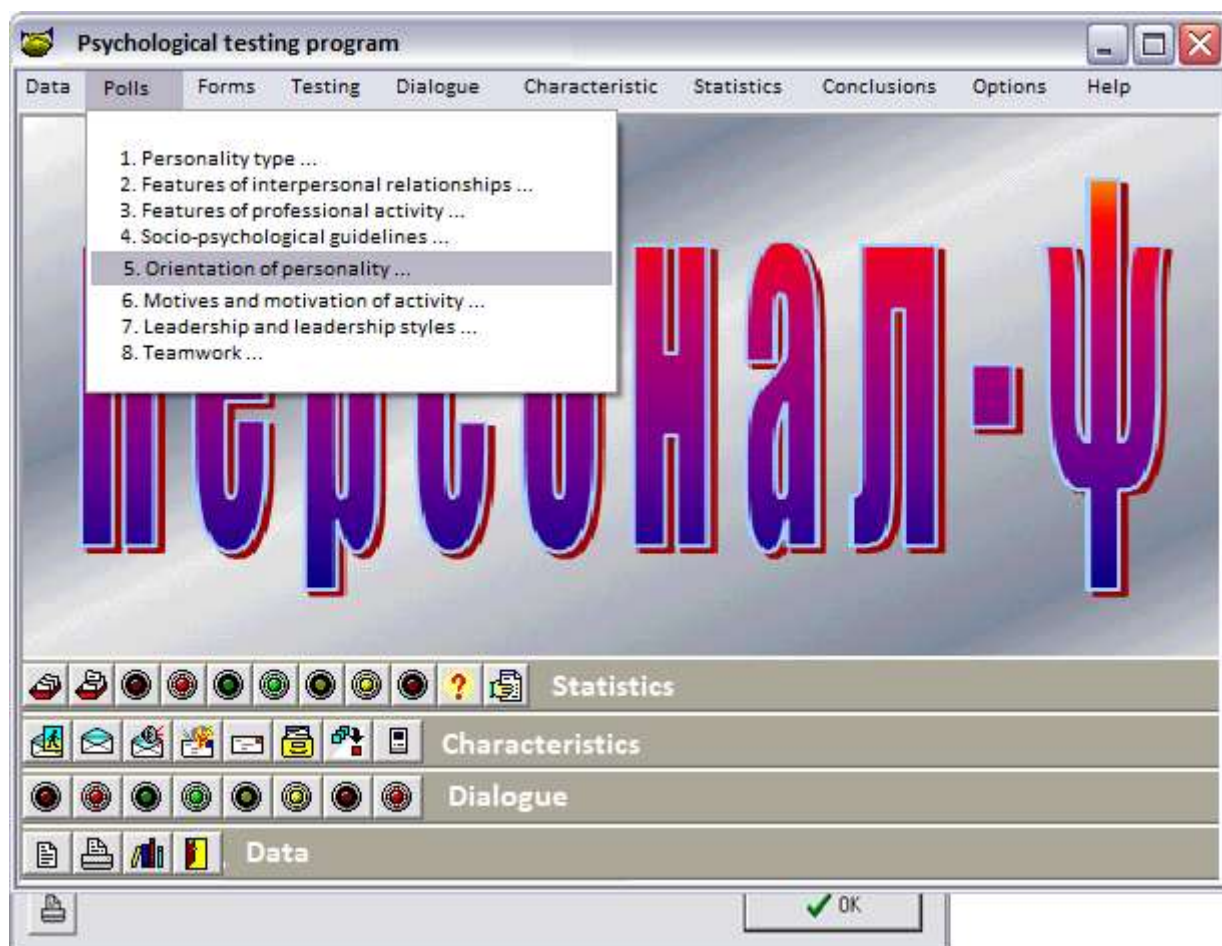 leadership and leadership styles;
 teamwork

Fig. 6. The interface of Complex diagnostics of psycho-social development of individual educational worker using a computer program "Personnel - Ψ"

3. "Forms" - The section includes answer sheets and allows you to print them.

4. "Testing" - The section allows you to enter the results of blank testing.

5. "Dialogue" - This section allows you to test with questions on the monitor screen.

6. "Characteristics" - The section includes test results, allows you to view and print text and graphic characteristics of the tested persons

7. "Statistics" - The section includes statistical information for the team and also allows you to select staff for various social and psychological criteria for the study.

8. "Conclusions" - The section includes problems and potentials of one or a group of respondents, as well as to design an algorithm for solving problems through potentials.

9. "Options" - This section allows you to configure the technical parameters of the program.

10. "Help" - The section includes help with the program.

Fig. 7 shows an example of a test interface with the input of results into the database of the program for processing. Besides, it is possible to view and print statistical data according to the socio-psychological guidelines of the team, which is sorted by social indicators or selected in the section "Selection of persons for statistics".
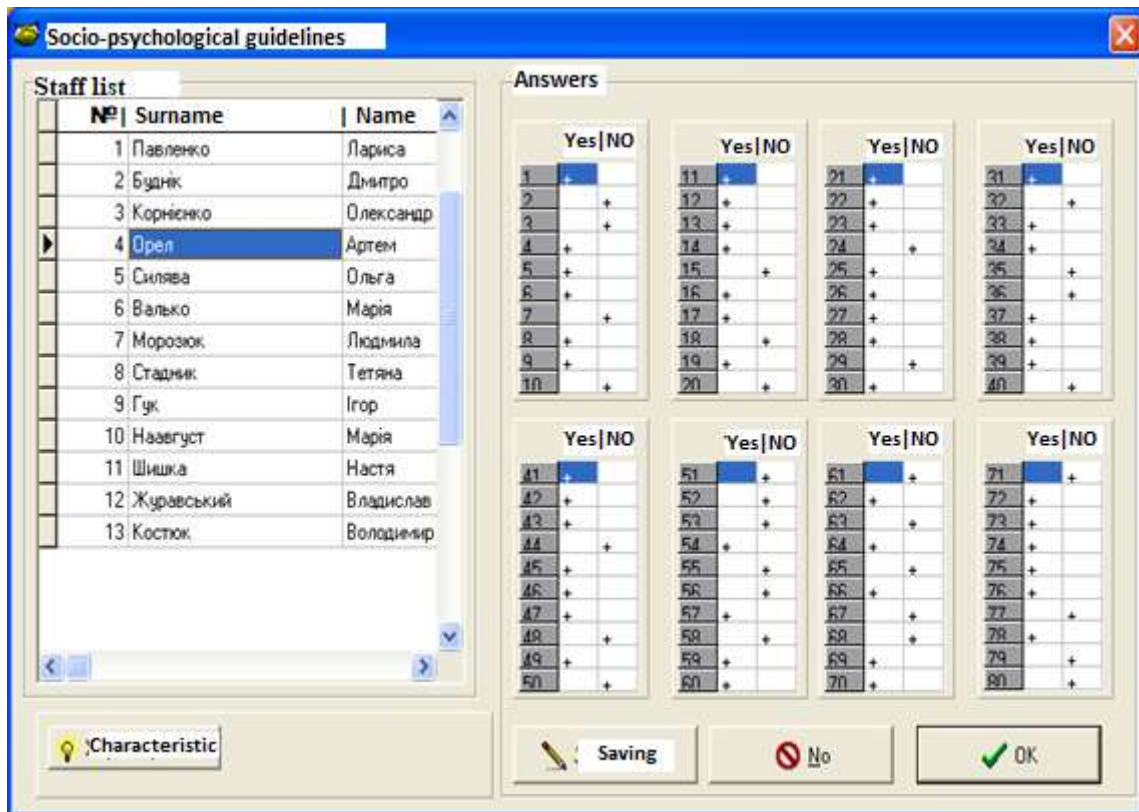
Fig. 7. The testing interface with entering the results into the database of the program to be processed

The program includes a group of techniques (questionnaires) that allow you to obtain diagnostic information that lets you quantitatively and qualitatively compare the individual (group) with other individuals (groups) according to some psychological and social parameters
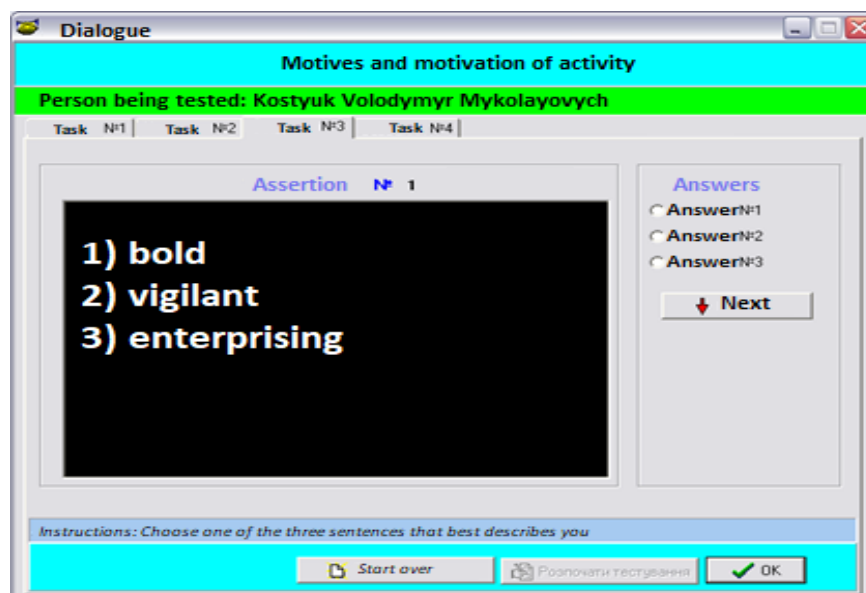

Fig. 8. The testing interface in the form of a simple dialogue with the user

The program allows testing in the form of a simple dialogue with the user: to study the motives and motivations of the individual, professional traits, aspirations and preferences, leisure activities, opportunities to work in a team, etc. (**Fig. 8).**

It is acceptable to see the graph on the vertical axis shows the number of people who correspond to one of the levels of motivation, and on the horizontal axis four types of motivation. The table shows the level of motivation for each person separately

The program generates a personality characteristic based on the results of all passed tests. The characteristic or type of personality contains a description of the vital qualities as a bunch of the most developed abilities; analysis the possibilities of realization of qualities in practice. The program also determines the features of the teacher's thinking (theoretical or practical); communication; peculiarities of value, motivational, cognitive spheres; ability to work in a team; leadership qualities, etc. (**Fig. 9).**
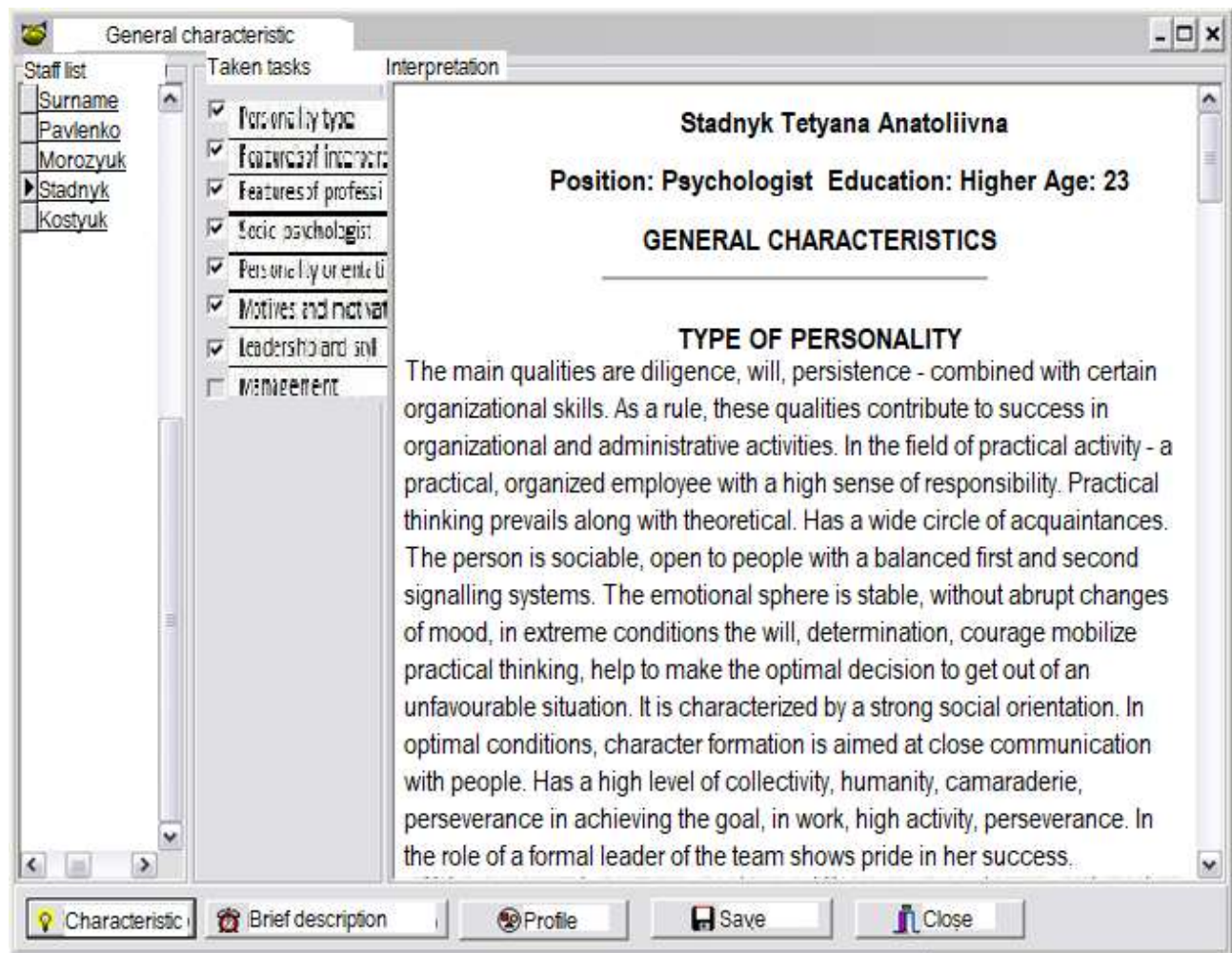

Fig. 9. The interface of generating the program characteristics based on the results of all tests passed

The computer program "Personnel – Ψ" enables to determine the psychological portrait of the team on the teachers' individual characteristics in the team of higher education (**Fig. 10).**

The psychological portrait takes into account the following indicators:

☐ personality type (12 types),

☐ orientation (orientation can be determined as for individual and for the team as a whole)

☐ interpersonal relationships (authoritarianism, moderation, dependence, aggression, ability to cooperate, altruism, etc.),

☐ priority values (process, result, altruism, selfishness, work, freedom, power, money),

☐ teacher as a professional (value priorities, psycho-emotional style, self-esteem, teaching style),

☐ motivation (aspiration, success, willingness to take risks, avoidance of failures, etc.),

☐ management style (authoritarian, passive, democratic),

☐ leadership (leadership, management styles and self-management in the team),

☐ driving style (levels of truthfulness for each individual and in the team as a whole)

The program saves data about respondents, creating a database. In the section "Statistics" you can search and elect staff according to socio-psychological criteria.

Fig. 10. The interface "Psychological portrait of the team" of the computer program "Personnel – Ψ"

According to the selected parameters, the program formed a portrait of the individual or group of respondents as a whole, which makes it possible to predict and project the rise of business and interpersonal relationships of the individual in the team. (**Fig. 11**).
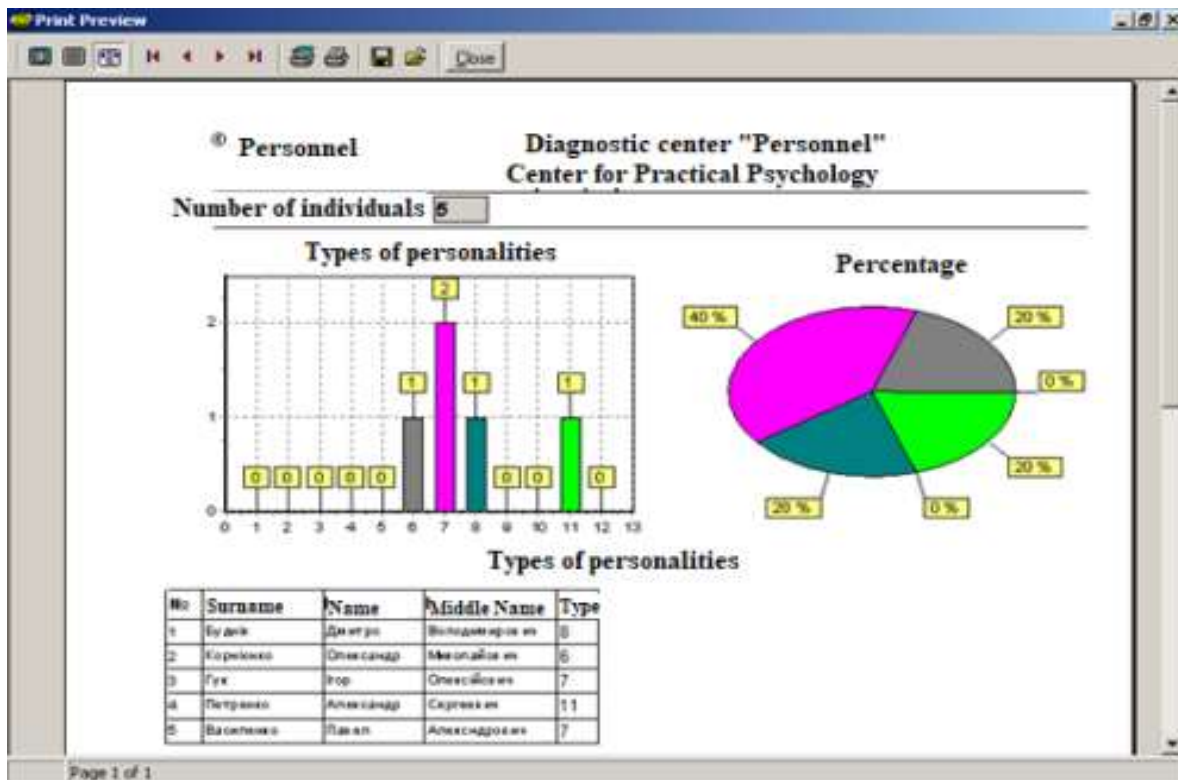

Fig. 11. The interface of the "Statistics" section of the computer program "Personnel – Ψ"

Fig. 11 shows the graph on the vertical axis shows the number of people who correspond to a certain type of orientation, and on the horizontal axis six types of orientations. The percentage of types of orientations in the team is also shown. The table shows the focus on each person separately.

The computer program "Personnel – Ψ" according to the test results offers to review the problems and potential capabilities of the person and the whole team (**Fig. 12, 13).**

№	Problems	Persons
1	Uncertainty about one's own abilities	9,
2	Tendency to self-oppression, obedience, passivity	4,
3	Lack of self-confidence, positive selfishness	1,3,5,6,7,8,9,
7	Lack of conformism, criticism, ability to find common grou	3,5,6,8,13,
9	Hyperresponsibility, sacrifice in the interests of others	1,9,
10	Indifference to the problems of others, unwillingness to he	3,6,7,13,
11	Insufficient level to the work process	2,8,
12	Lack of confidence, perseverance, desire to succeed	13,
14	Lack of interest in work	3,
15	There is no independence in choosing a solution	3,
22	The need for help and support, unstable position when ma	2,3,7,
24	Excessive desire to work	1,6,9,
25	Unstable self-esteem, which interferes with interaction wi	1,7,8,13,
26	Excessive self-demand	3,
27	Feelings of dissatisfaction with work, anxiety, fear, insecuri	2,
28	Lack of manifestation to help others	3,13,
29	Giving yourself too much for the benefit of others and to th	5,6,
30	Deep experience of failure, deviation from moderate, reali	9,
38	Lack of desire to change their actions, behavior,	13,
51	Insensitivity when communicating with people	3,
53	Initiator of the conflict	3,12,
54	Organizer of opposition to any leader	3,12,

Fig. 12. The interface of the section "Statistics" "Problems of the team"

Fig. 12 shows that the program analyses the existing problems in the teaching staff, alongside determines the number of people who have another case. The program presents the following: insecurity in their abilities; tendency to self-oppression, obedience, submission to all, passivity; lack of conformism, criticism, ability to find common ground; hyper-responsibility, sacrifice in the interests of others to the detriment of oneself; indifference to the problems of others; insufficient interest in the work process; lack of confidence, perseverance, desire to succeed; there is no independence in decision-making; the need for help and support; excessive desire to work; unstable self-esteem; excessive self-demand; feelings of dissatisfaction with work, anxiety, fear, insecurity; lack of manifestation to help others; too much self-sacrifice for the benefit of others and to the detriment of oneself; deep experience of failure, deviation from a moderate, realistic lifestyle; insensitivity when communicating with people; initiator of the conflict, organizer of opposition to any leader, etc.

In addition, the program allows you to determine the potential of the teacher and the entire teaching staff of the educational institution (Fig. 13): the ability to organize the work of the group, the tendency to leadership; loyalty to others; self-confidence, independence to have one's own opinion; conformism in adapting adequately to the situation; desire for cooperation, tendency to compromise; attention to the concerns of others, emotionality, desire to support others; the process of work captures on a par with the end result; confidence, persistence in achieving the result; the presence of positive selfishness for the benefit of oneself and others; persistent desire to work; the ability to independently choose a decision or action; purposefulness, the presence of strong-willed qualities; a sense of the reality of receiving and spending money; a positive psycho-emotional state increases work efficiency; property of positive self-education; adequate assessment of success in activities and status in the team; confidence in situations of achieving real goals; realism in choosing goals in order to achieve success; high risk appetite; close acceptance of students' interests and problems; high degree of acceptance of oneself and others, good psycho-emotional state; lack of supremacy, authoritarian tendencies, etc.

Fig. 13. The interface of the section "Statistics" "Potential opportunities"

After testing, it is possible to view and print the results, also the computer program "Personnel – Ψ" offers socio-psychological guidelines for both the individual and the team of teachers, in general (**Fig. 14**).
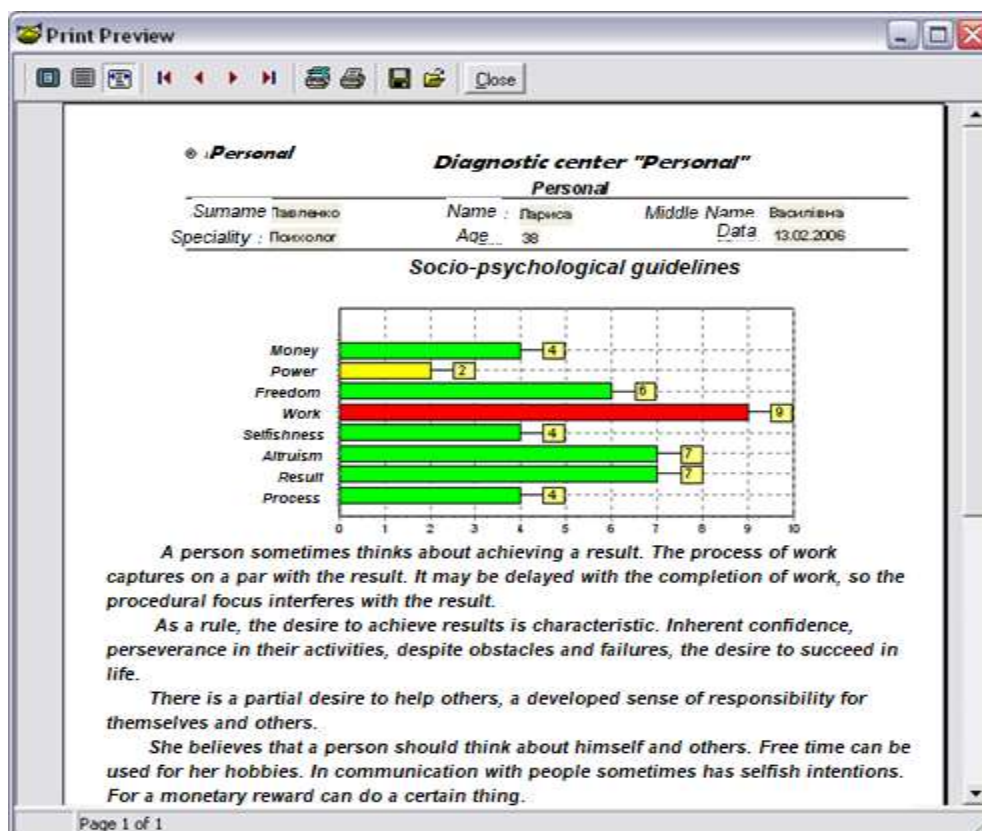

Fig. 14. The interface of the program section "Personnel – Ψ" "Socio-psychological guidance"

Thus, monitoring the quality of the psychological component of educational activities in higher education institutions using the computer program "Personnel – Ψ" showed the feasibility and effectiveness of its use.

The program allows not only to explore the psychosocial development of teachers but also identify problems, offer socio-psychological guidelines, taking into account the potential of the individual (of the team), improve the quality of education and educational activities in higher education.

6 Appraisal of ICT as a tool for monitoring the quality of education.

In nowadays conditions, the importance of lifelong learning is growing, which gives impetus to the development of new models, ICT, which contribute to the emergence of both new approaches to learning and new forms and methods of interaction [41]

ICT is not only a tool for learning that allows you to solve real problems of the educational process, using simulation systems to analyze situations [42], but also provides an enabling environment that helps teachers and students create a climate of collaborative knowledge building, thereby changing their traditional roles [43] and forming a new understanding the process of teaching, learning, developing methods to transform these new views into educational practice [44].

Among the advantages of using ICT, in particular for monitoring the psychological component of the quality of education in higher education institutions, scientists [34; 35; 45] identify:

 increase the efficiency of activities due to (due to) the speed of data processing and the ability to cover a large amount of research (scale) in a short time by simultaneously testing many respondents;

 the ability to focus on solving exclusively professional problems;

 clarity, reliability and validity of research and exclusion of data processing errors that can be made by manual calculation of the original data;

 standardization of diagnostic conditions due to the same instructions for all respondents;

 the possibility of both presentation and re-examination of the survey results separately by each respondent and all together;

 the ability to be more precise and more open to respondents during testing due to the confidentiality and automation of testing;

 opportunity to enrich the experience of teachers with the help of a computer, interpretation of test results;

 the ability to collect statistical data of the respondent (team) and store test results for a long time;

 re-diagnose, analyze and compare data.

O. Kokun substantiated the theoretical, methodological and practical principles of development of diagnostic website design for the practical implementation of the computer for professional psychological diagnosis personality (on the Internet).

Researchers claim that adherence to the principles defined by them guarantees: attracting visitors and maintaining a certain level of their confidence and interest; ensuring anonymity, clarity, convenience and ease of use; high information value, content and scientific nature of websites; differentiation of respondents and assistance in obtaining feedback. Scientists have developed websites for professional psychological diagnostics, which have been implemented and tested in practice (http://prof-diagnost.org and http://hr-test.org).

The sites have different orientations and contribute to the solution of various research tasks: psychophysiological support of becoming a specialist by the type of professions "person-person"; study of psychophysiological patterns of professional self-realization of the individual; adaptation of the scale of psychodiagnostic methods, occupational stress and the scale of occupational disability, etc.

The monitoring of the quality of education with Google Form enables swiftly to get the feedback from the participants of the educational process on the quality and outcomes of the educational activity. This is evidenced, in particular, by the validation of the Google Form created in the pilot study, which confirmed the efficiency in obtaining information, analysing the quality and percentage values in graphical and numerical format, reaching a large number of participants in a short time.

It is noteworthy, that the data from a Google Form spread sheet is easily imported into other spread sheets (including SPSS) with aim of in-depth processing of results using factor, cluster or regression procedures and other kinds of statistical analysis.

Based on the evaluation of the monitoring results of the quality of education, a set of corrective and developmental measures is determined in accordance with the conceptual goals and objectives of the functioning and transformation of the educational system presently [39].

Consequently, the usage of Google services, the Google Form notably, contributes to the improvement of the internal system of the ensuring the monitoring of the quality of education, the development of science-based recommendations for the further improvement of the quality of education in higher education institutions with the psychological component, and furthermore, the improvement the competitiveness and attractiveness of educational institutions in regard to the analysis of their resources.

The documents and spreadsheets, created by using Google services, are stored on a Google server (or can be saved to a file) [46], which is one of the key benefits of the program, since the access to the given data may be entered from any computer or mobile phone connected to the Internet.

Furthermore, the obtained resources can be used to adjust the management system in the educational institutions, managing goals, vision, mission, the educational environment [47], as well as to increase motivation and efficiency [48], to train a person to learn and apply modern international relations.

Conclusions

The authors describe research related to monitoring the psychological component of higher education quality through the introduction of information and communication technologies in education - a set of various technological tools and resources used to ensure communication, quality of education and quality of educational activities, creation, dissemination, preservation and management information by determining the most complete and optimal content of the formation of personal competence of participants in the educational process, their professional knowledge, skills, abilities and qualities. These are Google services, specially created websites for professional psychological diagnostics, author's programs of psychological testing ("Comprehensive diagnostics of psychosocial development of the pedagogical worker's personality with the help of the computer program" Personnel – Ψ"), etc. ICT capabilities open up a vast range of possibilities, allow you to create sites, programs, text documents, presentations, spreadsheets, forms, drawings and other documents.

The organization of monitoring the quality of the psychological component of education using Google Form allows not only to determine the nature of relationships between participants in the educational process and their level of satisfaction, and the socio-psychological climate as an indicator of organizational culture but also to make management decisions and forecast the educational environment; promptly intervene and make appropriate adjustments to the learning process; specifically, plan work on the relevant problem in higher education institutions; to create conditions for comparison of own estimation of activity of pedagogical collective with independent estimation.

Thus, there is an urgent need to develop a reliable and effective set of tools for holistic and operational monitoring of the quality of education through Google services, not only for the psychological component but also for all criteria and indicators of higher education, which determines the prospects for further work.

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