

Modern Pedagogical Practice of Natural Science Training of Future Psychologists in Higher Educational Institutions

Valentyna BILYK¹,
Liudmyla SUSHCHENKO²,
Inesa SHEREMET³,
Solomiia HANUSHCHYN⁴,
Halyna BONDARENKO⁵

¹ National Pedagogical
Dragomanov, Ukraine,
mkryschtanovych@gmail.com

² National Pedagogical
Dragomanov, Ukraine,
ludapetiii@ukr.net

³ National Pedagogical
Dragomanov, Ukraine,
inna.sheremett@i.ua

⁴ Lviv State University of Internal
Affairs, Ukraine,
solo.gannn@gmail.com

⁵ Kharkiv Humanitarian-
Pedagogical Academy, Ukraine,
galllochka234234@ukr.net

Abstract: The educational process is a dynamic phenomenon that changes and develops under the influence of various factors of a social, economic, political, regulatory, material, technical and technological nature, which, in our opinion, determines the need for constant updating of its content in accordance with the requirements of the time. The impetus for the transformation of the content of the natural scientific training of future psychologists, taking into account current trends in the present and current state of development of the neurobiological sciences, was the conceptual basis of the study. Let us characterize the modern practice of natural-science training of future psychologists in higher educational institutions of Ukraine and the peculiarities of creating an integrative course "Fundamentals of modern neurobiology" as a factor that will contribute to the transformation of the content of natural-science training of future psychologists, taking into account current trends in the present and current state of development of neurobiological sciences. The study confirms the feasibility and necessity of transforming the content of modern science education of future psychologists, carried out in higher educational institutions, and factors identified by students-psychologists (the relevance of science education, the lack of the results of modern scientific research in the educational material, the lack of the necessary educational and methodical literature, outdated teaching methods, little free time) that prevent them from improving their quality.

Keywords: *training, education, institutions, students, pedagogy.*

How to cite: Bilyk, V., Sushchenko, L., Sheremet, I, Hanuschyn, S., & Bondarenko, H. (2020). Modern Pedagogical Practice of Natural Science Training of Future Psychologists in Higher Educational Institutions. *Revista Românească pentru Educație Multidimensională*, 12(3),168-181. <https://doi.org/10.18662/rrem/12.3/315>

1. Introduction

In professional literature, we come across various approaches to addressing the problem of professional training of future psychologists, in particular, general science, taking into account the psychological, pedagogical, personal, social and moral aspects. It should be noted not only the validity of this approach, but also the appropriateness of its application at the beginning of the study.

However, many researchers consider the problem from a highly professional position. They highlight a number of purely psychological aspects of the problem of training future psychologists:

- the process of professionalization of the individual;
- the formation of professional self-awareness;
- the formation of a professional self-concept;
- the formation of professional competence;
- development of professional thinking, etc.

This approach is also legitimate, but suitable for use in subsequent stages of the study of the problem. Other scientists as components of the problem of training psychologists distinguish:

- theoretical training;
- methodological training;
- practical training;
- advisory training, etc.

These components are the pedagogical aspect of the problem. Often, various possible specific cases of their professional activity are indicated as components of a single problem of training future professional psychologists:

- work with victim teenagers;
- work with border guards;
- work with married couples;
- work with victims as a result of military operations, etc.

It can be assumed that all these approaches reflect the disclosures of different levels of the problem, some of them consider it as a whole, others only separate components, others - their elementary components, etc. However, none of the researchers reports the approach that underlies nor the criterion for isolating precisely these components of it, prompts an independent study.

According to the epistemological principle «from general to specific», it is first and foremost appropriate to find out what the problem is;

what is the problem of preparation of future professional psychologists from the standpoint of preparation at the university; what are the main components of this process. In general agreement with the views of other researchers, we note that the main aspects of the study should be philosophical, which envisages the clarification of this problem from the standpoint of finding the feasibility of a particular activity, to clarify its meaning, the need, especially from the position of finding a person their place in the world, formation worldview principles of its existence both in the world in general and in society in particular, and also takes into account the availability of freedom of choice in a person, considers from a philosophical point of view the process of forming a person's personality, its professional formation and its characteristics in certain social and cultural conditions. Because searching for a person's place in the world involves choosing certain activities, the problem of training future professionals is connected with the formation of their outlook, reflections on the world and their own place in it (Akhmedova, 2017; Belous and Parkhomenko, 2015).

However, human being, its formation and activity occur in society, so next we consider the social aspect. It is that the activity of professional psychologists, aimed at helping subjects of social relations, involves not only the optimization of various activities and relationships between people, but also the humanization of relationships, the resolution of different social contradictions.

At present, there is a psychologization of society, that is, an increasing penetration of psychology into all spheres of social practice; and it is precisely in the process of training future psychologists that the branches of the national economy are provided with the cadres on which the effectiveness of its activity depends. Ultimately, the quality of professional training of future psychologists depends on the state of affairs in society, in particular, overcoming the long-standing total crisis in which it is.

Since the subject of social activity is the personality of each individual, it is necessary to note the personal aspect. It is that for those who gain the profession of psychologist, and subsequently for their clients, professional activity creates certain personal meanings of behaviour and actions, generates certain needs and motives, which has certain consequences for the formation of personality, both professionals and those with whom they work. It is the presence of such a result that indicates the effectiveness of psychologists. Accordingly, this activity is related to the process of personality formation of the subjects involved in it, and therefore requires not only consideration of this circumstance, but also planning of influence and continuous improvement.

However, the activity of the individual is carried out at the expense of the internal resources of each person, which are his health, therefore, the valeological aspect should be taken into account. It consists in the need to ensure the physical, mental and social health of citizens, children, adolescents and youth, first of all, the formation of motivation for a healthy and sober lifestyle, learning the basics of constructive and conflict-free interaction with others, rational communication, a humanistic approach to building relationships with others and to life in general. The moral side of the problem, which consists in the need for targeted intervention in the affairs and fate of other people, and, accordingly, personal responsibility for the results of their activities, should also include the appropriate level of health from the psychologist himself. Thus, the problem of training future psychologists is associated with the formation of internal reserves of the personality, its activities in society and health (Bushchak, 2016; Vemner, 2019).

Since we are talking about the training of professional psychologists, the main thing should also be the psychological aspect, which consists in the need to find out exactly what knowledge of psychology and in what volume and sequence should be provided in the learning process, how to combine the consideration of traditional problems from the standpoint of various scientific directions, schools, approaches, etc. while avoiding a series of contradictions that arise. It also includes the need to study and take into account the individual psychological characteristics of students, as well as the features of the development of their professional self-consciousness in the process of acquiring the necessary knowledge, skills, as well as the formation of their personality as a whole. It is also necessary to take into account the existing motivation for both acquiring knowledge and further activities, identifying its components, as well as the goals of professional development and activity, as well as the ability to set goals for their achievement, identify possible difficulties, etc. And, since the formation of professional psychologists in the university occurs in the course of a holistic pedagogical process, the pedagogical one, which consists in the need to choose certain methods, techniques and methods of teaching of various subjects, taking into account possible theoretical psychological contradictions in highlighting various problems and topics of training courses, taking into account the individual psychological characteristics of students, etc. It is equally important that it is necessary to form the proper motivation both for mastering the profession and in future activities, the ability to set goals for professional activity and further improvement, development of the ability to set tasks for their achievement and to seek their solution, and the like. So,

pedagogical factors largely determine the process of professionalization of future psychologists in the learning process, and therefore should be taken into account when searching for opportunities to solve the problem under consideration (Customs, 2018 Genkal, 2016; Gritsay, 2017; Komyslan, 2018; Krivoruchko, 2018; Voronenko, 2015).

The main normative document of the institution of higher education, which determines the content of training and regulates the organization of the educational process, is the curriculum, is created in accordance with the standard of higher education from a specific direction of training and approved, according to the regulation of the 23rd article («Autonomy of an educational institution») of the Law of Ukraine «About education», by the decision of the Academic Council of the respective educational institution.

The structure of the curriculum reflects: the schedule of the educational process, the generalized amount of time (hours and credits), a list of normative and selective academic disciplines (including the natural science training cycle) and the sequence of their study, types of studies and the budget provided for the classroom and independent work of students, forms of semester control and state certification, types and terms of practice.

We have analysed the curriculum for the training of future psychologists at the National Pedagogical University named after M.P. Drahomanov, the State Institution «South Ukrainian National Pedagogical University named after K.D. Ushinsky», East National University named after Lesya Ukrainka and Chernihiv National Pedagogical University named after T.G. Shevchenko on the content and organization of natural science training.

2. Literature review

One of the priority areas for the development of the higher education system is the creation of conditions for the effective training of highly qualified specialists who are able to solve the complex tasks of professional activity and professional and personal self-development in the conditions of socio-political, economic, informational and psychological instability of modern society (Vera & Speight, 2003).

First of all, this concerns the professional training of psychologists as specialists who are called upon to assist in the preservation and development of the mental and psychological health of the individual (Garcia-Cepero, 2008).

Today, there are a large number of scientific works devoted to the features and problems of future psychologists.

For example, Hall and Lunt (2005) noted that psychological education in the last two decades has changed dramatically, first of all, the specialty itself has moved from the category of unique to the category of mass professions. This circumstance, in her opinion, gives rise to contradictions and difficulties that were not peculiar to the training of professional psychologists before. It is due to the fact that a contradiction has arisen between the number of psychologists who graduate from higher educational institutions and the quality of their professional training, while the number of psychologists has not simply changed, the order of their numbers has become different.

According to the researcher, the rapid increase in the number of educational institutions, faculties and departments of psychology that train future psychologists does not lead to an increase in the level of professionalism of specialists.

Fursova (2014) when considering the problem of training future psychologists, taking into account the need to search for new approaches and conceptual ideas for its consideration, note that in this extremely important and complex process, the results of studies from different branches of scientific knowledge should be taken into account: philosophy, sociology, economics, technology, psychology and pedagogy.

Jimerson, Oakland and Farrell, (2007) draws attention to another important aspect of this problems are personal. The researcher notes that to solve a number of important, rather difficult tasks that our state poses for specialists at present, only a creative, highly educated specialist, capable of organizing his professional activities, is ready to study throughout his life and knows the art of self-knowledge, self-improvement, etc.

A thorough study was conducted by Kenkel (2009), who carried out a comprehensive, scientifically substantiated analysis of the problem of the psychologist's professionalization, where special attention is paid to the motivational-semantic regulation of the personality during the acquisition and transformation of her professional experience.

The importance of general scientific training of future psychologists is presented in many scientific papers, in particular Peterson (2003), McCutcheon (2009) and Worrell (2007).

3. Analysis and research of the learning process features of future psychologists

In modern higher education, the training of psychologists has such components as the acquisition of theoretical knowledge in the field of psychology and related sciences, the study of which is necessary for practical work at a high level; knowledge necessary for organizing successful practical activities of a psychologist; the formation of practical counselling and communication skills with other people.

A large number of problems of everyday life that future psychologists face in their practice are associated with difficulties in developing and adapting the personality, disharmony of interpersonal relationships, social deviations, and age-related crises. A wide range of such problems requires from the psychologist to have professional competence, intellectual and personal maturity, and developed professional thinking. That is why the corresponding preparation of future psychologists in higher education is extremely necessary.

In this context, the problem of advisory activities of future psychologists takes on a new meaning, the criteria for professional readiness of a specialist are changing.

Undoubtedly, the main goal of psychological counselling is the provision of psychological assistance, that is, a conversation with a psychologist should help a person in solving his problems and establishing interpersonal relationships with others. But to answer unequivocally the question of exactly what and how this psychological help should be provided is not so simple. As a matter of fact, a person who has visited a specialist's appointment should become better than it was «before», and if she really feels better, this may be a criterion for the help provided (Rodolfa et al., 2005). Despite the fact that customer satisfaction is considered the most important indicator of the effectiveness of counselling, the features of the future psychologist to a large extent depend on the nature of the client's problems.

Scientists are of the opinion that the training of future psychologists should take place in a new, personality-oriented paradigm, and it should activate and develop professionally important personal and professional qualities, create a system of professional skills that allow self-realization, acquire a professional culture of communication, professional reflection and intuition. The system for organizing the training of a practical psychologist should include a worldview, professional and personal level, aimed both at

the formation of professional consciousness, psychological culture and professionally significant personal qualities, as well as at mastering the corresponding knowledge system, technology of practical activity of a future psychologist. At the present stage of development of Ukrainian society, future psychologists should study practical psychological experience, form their own professional skills, improve themselves, develop professional thinking, social activity, creativity and creativity, the ability to plan, predict, anticipate and improvise.

The experience of psychologists clearly indicates that one basic psychological education is not enough to acquire the professionalism of psychologists.

In particular, it is possible to determine the ways of forming the professionalism of future psychologists, which can be applied in the process of training (Kaslow et al., 2004). Firstly, it is the acquisition of new useful knowledge in those areas of modern psychology that underlie the practical activities of psychologists, which can be acquired at special further education faculties, courses, seminars, as well as independently through constant acquaintance with the latest scientific and practical publications. Secondly, the preparation and passing of qualification exams to obtain a certain level and undergo an internship under the guidance of more experienced psychologists. Thirdly, the passage of psychological counselling in the role of the client. In this case, the possibility of in-depth professional self-determination and the formation of the personality of a professional is provided.

The problem of analysing the state of training of future psychologists is inextricably linked with the need to form certain professional qualities, abilities, and individual-personality characteristics that are necessary for a specialist of the corresponding profile. In this context, the educational process should provide the conditions for the formation of students such groups of interests, needs, beliefs that directed them to personal and professional self-realization and self-improvement.

As a result of our study, it was found that one discipline belongs to the compulsory natural sciences, provided for in the curriculum for the training of future psychologists at the National Pedagogical University named after M.P. Drahomanov, a fragment of which is proposed in Table 1, namely: «Ecology».

The general list of sample disciplines includes four such disciplines, in particular: «Age-related physiology and valeology», «General biology with the basics of genetics», «Fundamentals of medical knowledge and the protection of children's health», «Pre-medical medical employer in emergency conditions» (Table 1).

Table 1. A fragment of the curriculum for the preparation of future psychologists at the National Pedagogical University named after M.P. Drahomanov

Name	Occupation Type			The amount of hours	Credits ECTS
	Lectures	Workshops	Independent work		
Compulsory disciplines					
Ecology	18	16	56	90	3
Selective disciplines					
Age physiology and valeology	18	16	56	90	3
General biology with the basics of genetics	18	16	56	90	3
Fundamentals of medical knowledge and child health	18	16	56	90	3
First aid medical emergency employer	18	16	56	90	3

Source: Developed by authors

It should be noted that psychology students at the National Pedagogical University named after M.P. Drahomanov should choose three sample disciplines from the proposed list. 3 credits are allocated for the study of the main and any elective discipline of the natural science cycle. So, in this university, future psychologists must master 12 credits of natural sciences, which is 5% of the total volume of credits (240).

In the State institution «South Ukrainian National Pedagogical University named after K.D. Ushinsky» according to the curriculum presented on the official website of the university, the disciplines of natural science preparation that are mandatory for study are: «Anatomy, physiology, evolution of the nervous system», «Psychophysiology. Physiology of behaviour», «Fundamentals of psychological ecology». The list of elective educational disciplines is formed by «Safety of Existence in a Modern Society», «Fundamentals of Medical Knowledge» and «Fundamentals of Valeology». From this list, students can choose one of the proposed disciplines for training (table 2).

Table 2. A fragment of the curriculum for the preparation of future psychologists in the public institution «South Ukrainian National Pedagogical University named after K.D. Ushinsky»

Name	Occupation Type				The amount of hours	Credits ECTS
	lectures	workshops	Lab	Independent work		
Compulsory disciplines						
Anatomy, physiology, evolution of the nervous system	64	32	-	114	210	7
Psychophysiology of behavior	20	10	-	60	90	3
The basics of psychological ecology	18	16	-	58	90	3
Disciplines of free choice of student						
Security in today society	16	16	-	58	90	3
Fundamentals of medical knowledge	16	16	-	58	90	3
Fundamentals of valeology	16	16	-	58	90	3

Source: Developed by authors

So, after making the necessary calculations, we conclude that in the state institution «South Ukrainian National Pedagogical University named after K.D. Ushinsky» future psychologists must master 16 credits of natural sciences, accounting for 6.67% of the total volume of credits (240).

At Lesya Ukrainka Eastern European National University curriculum for training future psychologists, posted on the university's official website, assumes three natural science disciplines that are required to be studied: Psychological Ecology, Human Biology, Psychophysiology, and two selective ones, namely: «Life safety», «First medical aid» (Table 3), one of which, on the recommendation of the dean's office, must be mastered by psychology students.

Table 3. Fragment of the curriculum for the training of future psychologists at Lesya Ukrainka Eastern European National University

Name	Occupation Type					The amount of hours	Credits ECTS
	lectures	workshops	Lab	Concept	Independent work		
Compulsory disciplines							
Ecology	10	8	8	22	132	180	6
Human biology	10	10	10	22	128	180	6
Psychophysiology	8	6	6	18	110	150	5
Disciplines of free choice of student							
Life safety	12	10	-	14	84	120	4
First aid	12	10	-	14	84	120	4

Source: Developed by authors

Thus, at the Lesya Ukrainka Eastern European National University, future psychologists must acquire 21 credits of natural sciences, which is almost 9 (8.75)% of the total credits (240).

In the analysis of the curriculum of the Chernihiv National Pedagogical University named after T.G. Shevchenko, specialty 053 «Psychology» found out that the obligatory for the study of disciplines of the natural science cycle include: «Life Safety», «Anthropology», «Anatomy and evolution of the nervous system», «Psychophysiology». Selective subjects «Fundamentals of Physiology of Higher Nervous Activity» and «Valeology with Fundamentals of Medical Knowledge» are classified in the section «Disciplines of independent choice of educational institution», they are also obligatory for studying (Table 4).

Table 4. A fragment of the curriculum for the training of future psychologists at the Chernihiv National Pedagogical University named after T.G. Shevchenko

Name	Occupation Type			The amount of hours	Credits ECTS
	Lectures	Workshops	Independent work		
Compulsory disciplines					
Life Safety	20	10	60	90	3
Anthoropology	20	10	60	90	3
Anatomy and evolution of the nervous system	24	16	80	120	4
Psychophysiology	30	20	100	150	5
Disciplines of independent choice of educational institution					
Fundamentals of physiology of higher nervous activity	30	20	60	90	3
Physiology with the basics of medical knowledge	40	10	80	120	4

Source: Developed by authors

So, after making the necessary calculations, we conclude that at the Chernihiv National Pedagogical University named after T.G. Shevchenko, future psychologists must master 22 credits of science, makes up a little more than 9 (9.17)% of the total volume of credits (240).

Thus, the analysis of curricula for the training of future psychologists at the National Pedagogical University named after M.P. Drahomanov, State Institution «South Ukrainian National Pedagogical University named after K.D. Ushinsky», East National University named after Lesya Ukrainian and Chernihiv National Pedagogical University named after T.G. Shevchenko in terms of the content and organization of science preparation indicates both the considerable variability of the list of normative and selective science disciplines and the difference in their credit volume.

True, a thorough analysis of the curricula in the natural sciences, indicated in the curriculum for the training of future psychologists at the

universities mentioned above, suggests that although some of them differ in names, they have a lot in common with semantic content.

4. Methodology, Results and Discussions

4.1 Methodology

We consider it appropriate to note that our detailed analysis of the curriculum in natural sciences reflected in the curriculum for the training of future psychologists at the National Pedagogical University named after M.P. Drahomanov, State Institution «South Ukrainian National Pedagogical University named after K.D. Ushinsky», East National University named after Lesya Ukrainka and Chernihiv National Pedagogical University named after T.G. Shevchenko revealed a fairly wide range of expected results of their training. Given this and the previously identified (in the analysis of curricula) heterogeneity and difference in the implementation of science training in the analyzed higher educational institutions, as well as a credit constraint when a student chooses science in the list of sample disciplines, we consider it appropriate to find out the students' opinion: the influence of the modern system of natural-scientific training on the formation of them: understanding the significance of such training, modern ideas about neurophysiological mechanisms of mental processes, the ability to apply the acquired knowledge and mastered skills in the process of development of professionally designed courses and the implementation of health preserving and preventive measures; factors that prevent future psychologists from improving the quality of their science education.

To this end, we conducted a survey of student psychologists. The main purpose of using this survey is to determine the feasibility of increasing the cycles of natural-scientific training at higher educational institutions.

The survey was attended by 538 psychology students from four higher educational institutions of Ukraine. Among them: 161 future psychologists of the National Pedagogical University named after M.P. Drahomanova, 124 students of psychologists of the State institution «South Ukrainian National Pedagogical University named after K.D. Ushinsky», 135 psychology students of the East European National University named after Lesya Ukrainka 118 future psychologists of the Chernigov National Pedagogical University named after T.G. Shevchenko. The questionnaire was held for three months with the help of electronic correspondence and Internet messengers. The selection criterion for our questionnaire was the professional direction of students (these should be exclusively students of a psychological profile). In the process of questioning, a stratified sample was

used. This sample can be considered representative, since during the survey students of different courses, different academic performance and scientific and practical activity were elected. The degree of generality of this sample can be considered as a group, since it includes students who study at higher educational institutions at faculties of psychological profile

The questionnaire itself consisted of seven questions that were supposed to reveal the relevance of introducing natural science cycles into the educational process of future psychologists:

1. Please indicate whether it is advisable to conduct a natural science training of future psychologists in higher educational institutions.
2. Please indicate the impact on vocational training of a natural science training of future psychologists in higher educational institutions.
3. Please indicate the value of influence on your personal development of a natural science training of future psychologists in higher educational institutions?
4. Please indicate the level of interconnection of the effectiveness of your future professional activities in the field of maintaining health from the quality of natural science training.
5. Please indicate how appropriate it is to introduce the principles of natural science self-education.
6. Indicate your level of interest in the prevention of stressful noncommunicable diseases and the safety of human life.
7. Determine the level of your ability using the genealogical method of genetics to determine the likelihood of inheritance of hereditary diseases accompanied by mental disorders.

The survey results of this sample may have slight errors, given the fact that this survey is primary in our study and has a degree of subjectivity in questions. In addition, in order to reduce the degree of error and improve static reliability in the next study, we plan to cover a larger number of students from a larger number of higher educational institutions. In our opinion, the importance of this survey is that we can directly learn the opinions of participants in the learning process. At the same time, we have the opportunity to assess the existing shortcomings and problems that arise in the process of training future psychologists.

4.2 Results

An analysis of the answers to the first question of the questionnaire on the appropriateness of carrying out natural-science training of future psychologists in higher educational institutions showed that 66.62% of 538

respondents from various higher educational institutions fully support the opinion that it is advisable to carry out natural-scientific training of future psychologists in higher educational institutions; 3.89% of respondents see the expediency of such training only in a small amount; 32.16% of respondents do not see the need to implement it at all; and 1.17% of the respondents did not decide on the answer, therefore they chose the option "I am at a loss to answer".

The following two questions of the questionnaire were intended to elicit the opinion of student psychologists on the importance of natural science training in their future professional activities (question 2) and personal development (question 3). A quantitative analysis of the results made it possible to state that 53.72% of psychology students gave a positive answer in terms of the importance of such training in their future professional activity and 58.34% who gave a positive answer in terms of the importance of natural science training in their personal development; 31.95% and 28.48% of respondents indicate its partial importance in future professional activities and personal development, respectively; 10.77% say that such training is not at all significant in their future professional activity, and 7.44% do not see its significance in personal development, 3.56% and 5.74% of the respondents found it difficult to answer the question of significance naturally scientific training in future professional activities and personal development, respectively.

Analysis of students' opinions on the dependence of the quality of vocational training on fundamental knowledge in the natural sciences makes it possible to assert that 47.77% of respondents fully recognize this dependence; 8.63% recognize it only partially; 38.32% do not see such a relationship, and 5.28% of psychology students generally found it difficult to answer this question.

The next question of the questionnaire provided for clarifying the opinions of future psychologists on the dependence of the effectiveness of their future professional activities in the field of health conservation on the quality of natural science training. An analysis of the responses showed that 53.59% of respondents fully recognize this dependence; 7.19% only partially recognize it; 32.91% do not see such a relationship, and 6.31% of psychology students generally found it difficult to answer this question.

An analysis of the responses of psychology students in the formation of their natural science competence found that only 11.57% of students provided an affirmative answer about their full formation; partial formation - 45.35% of respondents; 28.95% of respondents consider it unformed; undecided - 14.13% of respondents.

A separate question of the questionnaire was intended to identify, understand the future psychologists the feasibility of natural-science self-education. The results of the survey made it possible to find out that 39.78% of respondents note its advisability; 7.31% - support its feasibility, but in a small amount; 43.52% - do not consider it expedient to implement it; 9.39% of respondents did not decide on the answer to the question.

The questionnaire also included question aimed at determining the interest of future psychologists in the prevention of stressful noncommunicable diseases and human life safety. A quantitative analysis of the results made it possible to state that 16.67% of psychology students gave a positive answer regarding their interest in the prevention of stressful noncommunicable diseases and 18.18% who gave a positive answer regarding their interest in human life safety problems; 35.41% and 37.16% of respondents indicate a partial interest in the prevention of stressful noncommunicable diseases and human life safety, respectively; 40.21% say that they are not interested in the prevention of stressful noncommunicable diseases, and 34.03% are not interested in the problems of human life safety; 7.71% and 10.63% of the respondents found it difficult to answer the question of interest in the prevention of stressful noncommunicable diseases and the problems of human life safety, respectively.

An analysis of the results made it possible to find out that 36.49% of psychology students believe that the knowledge acquired during the training in the «Fundamentals of Medical Knowledge» discipline helps to conduct educational work on the issues of preserving the mental health of an individual and 31.59% who gave a positive answer the importance of knowledge «Life Safety» in conducting educational work on the preservation of the mental health of the individual; 30.08% and 29.50% of respondents indicate partial assistance of knowledge in the disciplines «Fundamentals of medical knowledge» and «Life safety» from the indicated questions, respectively; 23.16% of psychology students say that knowledge in the basics of medical knowledge does not help in conducting educational work on preserving the mental health of the person, and 28.59% believe that knowledge in the disciplines of life safety does not help in educational work on preserving the mental health of an individual; 10.27% and 10.32% of the respondents found it difficult to answer the question about the use of knowledge in the discipline «Fundamentals of medical knowledge» in conducting educational work on preserving the mental health of the individual and «Life Safety» in conducting educational work on preserving the mental health of the individual respectively.

The next question in the questionnaire is aimed at elucidating the ability of psychology students using the genealogical method of genetics to determine the probability of inheritance of hereditary diseases accompanied by mental disorders. In the process of analysing the results of students' responses, it was revealed that 14.32% of future psychologists believe that they possess such skills; consider that they possess only partially - 25.97%; do not possess - 46.01%; undecided - 13.70% of respondents.

The results of the responses allowed us to state that 30.37% of the psychology students surveyed believed that natural science training helps substantiate professional actions, 29.32% of the respondents see only partial assistance, 27.55% of the respondents insist that there is no such assistance, for 12.76% difficult to answer this question (Figure 1).

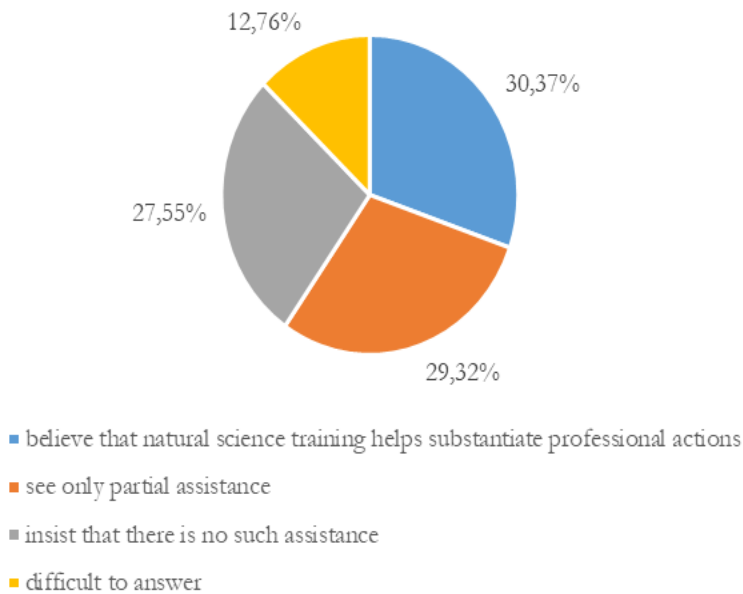


Figure 1. The percentage distribution of a survey of future psychologists on the appropriateness of introducing natural science cycles in the learning process
Developed by authors

5. Conclusions

To summarize the above, we believe that the results of a survey of student psychologists indicate a low percentage of 27.86% of the expected results of the natural-scientific training of future psychologists that are currently being carried out in higher educational institutions. It should be noted that this value is a generalized percentage characteristic of the average

indicators of students' introspection, namely: the average indicator (33.57%) is the understanding of the importance of science training, which reflects the percentage of students who understand the importance of science training in contributing to the justification of professional actions (30.37 %), development of creative potential (28.98%), increasing the level of competitiveness in the labour market (32.85%), increasing the level of culture (42.09%); the average indicator of future psychologists' awareness of modern ideas about neurophysiological mechanisms of mental processes - 24.48%; the average indicator of the ability to use the potential of the disciplines of natural science training in the process of implementing health care and preventive measures is 34.04% and in the process of training professionally oriented disciplines - 17.90%; the average indicator of interest in the prevention of stressful noncommunicable diseases and the safety of human life - 17.43% and motivation for science self-education - 39.78%.

The study confirms the feasibility and necessity of transforming the content of modern science education of future psychologists, carried out in institutions of higher education, and factors identified by students-psychologists (the relevance of science education, the lack of the results of modern scientific research in the educational material, the lack of the necessary educational and methodical literature, outdated teaching methods, little free time) that prevent them from improving their quality.

The study is not without limitations. We used only data on Ukrainian educational institutions. In the future, it is necessary to study in more detail the educational institutions of the second countries of Eastern Europe.

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