

# Research of factors influencing the process of adaptation of first-year students to the conditions of higher educational institution

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**Abstract.** The article presents an analysis of the results of the study of the physiological, psychological, social and motivational characteristics of students. The logic of research led to the use of a complex of such research methods as theoretical methods (analysis, synthesis, refinement of concepts), empirical methods (questioning, testing, self-assessment, methods of statistical information processing). Compiled a detailed percentage of the degree of influence of various factors on the course of the process of adaptation of students to new learning conditions. A detailed analysis of all evaluated criteria was carried out, and the adaptation features of the state of first-year students were disclosed. The results of the study can be useful to teachers, curators and representatives of administrative management positions of a higher educational institution in organizing the conditions of the educational process.

## 1 A problem statement

One of the topical problems of higher education is the problem of adaptive abilities of freshman students to the conditions of the educational process in the higher educational institution. Successful adaptation, from the point of view of most domestic and foreign researchers, is the most important condition for the full life activity of a person [1]. The problem of psychological and pedagogical support of first-year students in the process of adaptation to the conditions of training in high school every year acquires greater importance [2]. From how much the student is adapting to a new system of requirements, terms, social relations, training system and life regime, its further attitude towards academic work, as well as interaction with teachers and peers [3].

### 1.1 The objective of the work

In the domestic psychology, such scientists were engaged in the problem of studying adaptation, Rubinshtein S.L., Ananyev B.G., Leontiev A.N., Lomov, B.F., Platonov and

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others. Developed on the provisions of the theory of L.S. Vygotsky concept of activity gave a new stage in the development of this problem. They were invited to the view that the environment determines the development of a person and has a direct influence on this development [4]. Such well-known psychologists as Freud Z., Erickson E., Adler A., Ericks A., Rogers K., Sanford N. and others were engaged in the problem of adaptation. So, as part of a cognitive approach based on the theory of J. Piaget, adaptation is considered as the process of mastering the concepts and norms of the Company, which enters the individual, that is, the personality adapts its behavior of the Company's requirements in which it is at the moment. Shneiderman L. studied the psychology of social changes [5]. And their influence on the individual development of the person is studied by Sanford N. [6]. It is exactly the process of incorporating a student into a new social environment, a multilateral process of restructuring a motivational sphere, a complex of available skills, skills and habits in accordance with the new tasks, objectives, prospects and conditions of their implementation, in the context of this article, we understand under adaptation [7].

Currently, the problem of preparing future teachers is becoming particularly acute in connection with sharply changing conditions in the field of education [8], within which the problem of preserving and promoting the health of students, especially in large industrial cities with environmental tensions becomes paramount [9]. And the increase in motor activity and the accounting of the functional state of students during training in the university contributes to health care, especially during the adaptation period [10].

Review of the scientific literature, analysis of educational programs and the results of pedagogical practice of student's shows that the influence of pedagogical attitudes is definitely reflected in improving the quality of vocational training of university students [11]. However, only the placement of the goal is to improve the quality of vocational training of students of the university and its successful adaptation, and even its implementation, does not yet guarantee the receipt of an adequate result.

As a result of numerous studies of the process of adaptation of students [12], various classifications of factors influencing students were put forward by scientists during adaptation processes [13]. Such classifications were proposed by Milkovskaya I.Yu., Khitsky V.Yu. [14], Lamathevov V.V., Zaripov R.N. et al. [15]. Along with the previously listed scientists, one of the classifications of adaptogenic factors was proposed by Vinogradova O.V., Zhdanov I.A. and Korolenko Ts.P. [16], Medvedeva V.I. [17], whose provisions we will rely with further research. In this classification, two groups of adaptogenic factors that determine the adaptation or desadaptation of the individual can be distinguished.

External factors, including human life conditions, socio-cultural, socio-economic, socio-psychological features of the individual (motivation, satisfaction with the situation chosen by profession and specialty), psychophysiological, technological, social features of the individual.

Interact factors that understand the physiological and mental characteristics, the properties of the nervous system, the features of nerve processes (cognitive processes - the properties of perception, attention, mental states - tensions, fatigue, monotony, frustration, anxiety, fear).

## **2 Results of the research**

Of respondents students of pedagogical areas of MGTU training them were participating as respondents in our study. G.I. Nosova, we used theoretical and empirical methods of research work, including analysis, synthesis, clarification of concepts, modeling method, observation, questionnaire, testing, expert assessment method, pedagogical experiment, methods of mathematical statistics.

Relying on the features of groups of adaptogenic factors, we conducted a study to study the physiological, psychological and social characteristics of freshmen. By certain goals and objectives, we divided this study into two blocks, the purpose of the first of which was the study of the physiological and psychological features of the first-year student, and the main task of the second block was to determine their social and motivational characteristics.

The first part of this study assumed the study of the physical and psychological state of health. The study of the physical state of health has included such directions such as a somatoscopy (outdoor inspection), moisturemeter, physiometry (evaluation of the functional state of cardiovascular, respiratory, nervous systems). As a result of a somatoscopy, a considerable number of students (42%) can be noted the presence of stubbievability developing, in all likelihood, from the period of school learning, and acquiring increasingly severity. It is also possible to observe the presence of medium-or underdeveloped muscles in 63% of the surveyed, and the presence of an asthenic type of physique or norminational with a predominance of asthenic type - in 17%. According to somatomometry, it is possible to note the characteristics of the identifiers of the physique, among which there is a predominance of indicators of a weak or middle body of the physique (61%). Along with this characteristic, the peculiarities of a we away indicator were noted, the results of which are talking about the predominance of students or obesity, or exhaustion, which is directly related to a passive lifestyle and the wrong regime and diet. The percentage of the norm on this indicator among the surveyed was rather small 1-23%.

Next, we proceed to the results of the physiometry, which was carried out mainly by carrying out various samples, in particular, such samples were used by the listing of the functional state of the cardiovascular system as a sample with squats (by E. Yankelovich), a cooper test, Test V.I. Dubrovsky, the heart rate was measured, the middle blood pressure was measured, the endurance and stress resistance coefficient were calculated. When evaluating the functional state of the respiratory system, the respiratory frequency was measured, genuine and barbell samples were carried out. As a result of the assessment of the functional state of cardiovascular and respiratory systems, most of the surveyed indicators are noted within the normal range, coarse or significant deviations were not detected. And when evaluating the functional state of the nervous system as a result of orthostatic, clinostat, pallet samples, and measuring the Kerdo index, deviations are revealed in the state of the nervous system about 25% of freshman.

When examining psychological health, we proposed students pass the heading test and the methodology for determining the level of psycho-physiological comfort. As a result of these methods, a rather large number of subjects (59%), an average or weak type of nervous system is observed, which directly affects the experience of stressful situations, which at the beginning of the training period are quite a lot. Thus, at the end of the physiological and psychological diagnostics of health, freshman students can be said that the main health problems in students are observed in the state of the musculoskeletal system, digestion, as well as the nervous system.

The second part of this study is the questionnaires of the same students to examine their motivational, social and adaptation abilities, studying the subjective relationship of students themselves to this problem and possible solutions. Results of this questionnaire are presented in Table 1.

**Table 1.** Results of the survey on the study of the adaptation abilities of freshmen.

| <b>№</b> | <b>Control questions evaluating the adaptation abilities of freshmen</b>                     | <b>Interest ratio</b> |
|----------|--|-----------------------|
| 1.       | Changing the lifestyle with the beginning of the educational process in the university.      | 79%                   |
| 2.       | Satisfaction with student life.  | 89%                   |
| 3.       | The feeling of comfort in the new atmosphere.  | 89%                   |
| 4.       | Awareness of the selected specialty.   | 93%                   |
| 5.       | The desire to visit training sessions and participate in the educational process.            | 25%                   |
| 6.       | The difficulty in mastering the training load:   |                       |
|          | 1) lack of difficulties;   | 15%                   |
|          | 2) insufficient level of school knowledge for mastering courses without additional training; | 22%                   |
|          | 3) difficulties associated with an unusual schedule;   | 1%                    |
|          | 4) difficulties associated with unusually large amounts of training for training activities; | 24%                   |
|          | 5) difficulties associated with their laziness during the educational process;               | 37%                   |
|          | 6) Complete ability to master training courses.  | 1%                    |
| 7.       | Attendance of classes from 81% to 100%.  | 93%                   |
| 8.       | The positive atmosphere in the study group.  | 94%                   |
| 9.       | The presence of a sense of pressure from someone while in the university.                    | 16%                   |
| 10.      | Availability of difficulties in adaptation to student life:                                  |                       |
|          | 1) at the beginning of training;   | 53%                   |
|          | 2) Until now;  | 11%                   |
|          | 3) No difficulties.  | 36%                   |
| 11.      | Difficulties associated with entering the team.  | 17%                   |
| 12.      | Difficulties associated with learning conditions.  | 23%                   |
| 13.      | Health status:   |                       |
|          | 1) without changes;  | 67%                   |
|          | 2) improvement;  | 4%                    |
|          | 3) reduced (lowered immunity, increased the number of colds);                                | 24%                   |
|          | 4) Health problems.  | 5%                    |
| 14.      | The presence of the following symptoms:  |                       |
|          | 1) difficulties with falling asleep;   | 60%                   |
|          | 2) anxiety mood;   | 30%                   |
|          | 3) The feeling of inability to cope with the situation;                                      | 43%                   |
|          | 4) tension sense;  | 37%                   |
|          | 5) increased irritability;   | 25%                   |
|          | 6) Lack of this symptomatic.   | 53%                   |
| 15.      | Conditions that have favorably affecting adaptation processes:                               |                       |
|          | 1) family support;   | 6%                    |
|          | 2) Desire to learn;  | 39%                   |
|          | 3) School habit to learn;  | 69%                   |
|          | 4) Tips and help curator/teachers;   | 24%                   |
|          | 5) Cultural and leisure activities;  | 75%                   |
|          | 6) mutual assistance in the educational group;   | 59%                   |
|          | 7) Training, games, creative events aimed at improving the level of adaptation.              | 48%                   |

Judging by results of our served we can make a conclusion that the main difficult of successful adaptation is, mainly, learning. Students point that the main reason for difficulties during learning is the insufficiency of school knowledge and, alos, their own

laziness, which indicates self-organization and difficulty of controlling self-activity. Pretty high rate of freshmen notice difficulties of unusually high amount of preparation for knowledge. Especially clear is the difficulty of accepting and unpreparedness of freshmen for the new forms of education (lectures and seminars). We can also notice that most of the mentioned difficulties appear at the very beginning of educational process, but it should not be missed that there is a certain rate of students for whom the adaptation takes far more time than it takes for others. The nature of studying in university itself indicates the difficult life of a graduate, when the outer changes of social sphere are to collapse his activity, relationship with important people and usual lifestyle in general [18]. Influenced by this violations, the mismatch of outer and inner worlds (the image of world) appears, and achieved adaptivity loses its efficiency and stops working [19]. The rate of supposed difficulties connected with entering the collective, forming the new circle of friends and difficulties of adaptation to new conditions is low, but still exists. Freshmen notice the feeling of pressure and stress at the university, and the very low will to go to classes. We can see the students' health state features, 29% of whom suffer some problems: immunity deficit, relieving or exacerbation of gastritis, noticeable vision problems, headaches, vertigo, sleeping deterioration, weight loss due to high rate of stress, or opposite, the fast weight gaining, which connected with passive lifestyle. As well as mentioned sicknesses, students state next list of symptoms: the feeling of inability to deal with situation, stress, anxiety, increased impatience. That is why training the emotional aspect of adaptation for the environment is the integral part of personality development process of a freshman student [20].

According to freshmen, the cultural activities, the studying habit, mutual help at a class, different trainings, games and artistic activities directed to increase the adaptivity level, can accelerate the adaptation process. However, the help of mentors and other professors is, unfortunately underestimated by students. As the main efficiency condition for adaptation of freshmen is 'formative governance' of the process by the deputy director of educational work, the leader of socio-psychological service for the adaptation of students, professors or mentors [21].

### **3 Conclusions**

Thus, based on the study, we can draw the following conclusions:

The effectiveness of the adaptation process and the provision of a favorable adaptation period is the primary task of the educational process of the university;

For a period of adaptation, a large number of different factors depends, among which there are insufficient level of school knowledge, unusually large amounts of preparation for educational classes, unpreparedness to absolutely new forms of training, the mismatch between the outside world and the world internal, the presence of a sense of pressure and voltage while in the university, anxiety, irritability, decrease in immunity, somatic pathology, noticeable vision reduction, headaches, dizziness, sleep deterioration, weight loss (stressful factor) or, on the contrary, a significant set of body weight, which is associated primarily with a passive lifestyle; the training of emotional aspects of adaptation to the medium is an integral part of the process of forming the personality of the first-year student since his personal development and further professional career depends on the successful adaptation of the student since the good adaptation of the student new set is a favorable basis for the formation of a common culture of future specialists!

We hope that our experience will be useful for teachers, curators, and representatives of the administrative managers of the highest educational institution in organizing the conditions of the educational process in the pedagogical universities of Russia. We are willing to discuss the above and other problems in the field of organizing the educational

and educational process of students of freshmen during their adaptation to the conditions of the higher educational institution, to look for ways to solve them.

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