

# The study of personal determinants of readiness of modern students to carry out professional activities in the technical area

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**Abstract**—The article presents the results of a study devoted to the studying of personal determinants of readiness of modern students to carry out professional activities in the technical area. The theoretical analysis of the stated problem is presented, as well as the results of empirical research aimed at testing the assumption of possible differences in the manifestation of anxiety and personality orientation with different levels of readiness to carry out professional activities in the technical sphere are summarized.

**Keywords**—*personal determinants, readiness for implementation of professional activity, technical sphere of activity, anxiety of the person, orientation of the person*

## I. INTRODUCTION

The instability of the economic and socio-political situation in modern Russian society, the existence of a variety of ideological attitudes, unforeseen changes in the living conditions of a person require constant personal and professional self-determination.

The relevance of the study is determined by the fact that the stage of transition from youth to youth is the period in the development of the individual when he needs to decide on the choice of professional activity after receiving the appropriate education, analyzing their personal qualities and existing opportunities. Young people who complete their studies at the University and enter a full professional life often demonstrate a lack of readiness to implement practical tasks in the chosen professional field, which can be due to both external circumstances and internal personal determinants.

According to the Law of the Russian Federation "On education" of 29.12.2012 № 273 (ed. 06.03.2018) one of the strategic objectives of General education is to prepare students for a conscious choice of profession. Therefore, professional awareness can be considered as a basis for the formation of a certain professional readiness to carry out professional activities in a particular field. However, when graduating from the University, not all graduates have a clear understanding of their own professional goals and values, not enough have the ability to predict the relationship of the chosen professional sphere with their personal potential.

A study of readiness to the choice of profession was engaged in such domestic scientists as E. A. Klimov, N. S. Prjzazhnikov, G. V. Rezapkina, A. P. Chernyavskaya, etc.

features of the formation of the individual orientation was considered by the following authors: L. I. Bozhovich, A. N. Leontiev, V. N. Myasishev, S. L. Rubinstein. The researchers emphasize that the formation of a high level of human readiness to carry out professional activities and awareness of their personal qualities at the stage of entry into professional activity, is a factor in the success of further professional career [1; 2].

Analysis of the literature shows that the study of professional orientation and self-determination is currently given a lot of attention. The key issues in the educational activities of modern higher education institutions, of course, are the issues of personal development of the student in the situation of formation of his readiness for the future profession. This fact, according to scientists, is due to the fact that it is during the stage of primary entry into the profession that the process of self-determination of a young person in life is carried out, his life and worldview positions are formed, individual methods and methods of activity, behavior and communication are mastered. Thus, clear practical guidelines for future professional activities are formed.

At the initial stage of admission to the Institute, young people often have vague ideas about their chosen profession, are not sufficiently informed about the specific requirements that will be imposed on them as specialists. When the first real knowledge about the profession appears in the process of training, the young man begins to try it on himself, compare it with his desires and, most importantly, opportunities. The process of formation of professional orientation of the person is closely related to its emotional sphere – so, on the one hand, positive emotions increase the effectiveness of professional self-determination, and on the other, the degree of development of professional orientation of the person will determine the priority of certain emotional states.

The inner necessity of a person's life is the realization of his "life plan", in which professional self-determination plays an important role. The modern business and professional world is in dire need of professionally mobile people, competently making independent decisions, able to successfully and effectively find and realize themselves in a changing socio-economic environment. For any adult, such requirements can create a desperate situation. Of course, this fact is also true for boys and girls who graduate from

University and are just entering an independent professional life.

## II. METHODS

The conceptual basis of this research is the theory of professional development created nowadays in modern psychological science. The methods of standardized written survey, as well as a set of psych diagnostic methods were the empirical tools for the implementation of practical goals.

### A. Basic theories

The analysis of the indicator of the level of students working in the specialty, who have just graduated from the University, allows us to state the lack of full readiness of young people to realize themselves in the previously chosen professional field. The study of this issue on the basis of the Vologda State University allowed stating the fact that the level of students working in the specialty, who have just graduated from the University, is 63 %, which is in resonance with the actual social needs.

Due to the actively occurring changes in all spheres of life and extremely fast transforming technical equipment of various life sides, the study of readiness of modern students to carry out professional activities in the technical sphere is of particular interest. According to E. A. Klimov, this sphere is fundamentally different from other spheres and is focused on the creation, application and maintenance of various technical mechanisms and structures [3]. Specialists who realize their professional potential in this field are of particular interest to society – it is the creation, reconstruction, transformation of material technical resources that are particularly in demand in the rapidly changing conditions of life.

The choice of employment is one of the strongest stress factors in the life of an adult. Choosing the scope of application of the labor force, people largely choose its future destiny, the greater part of his adult life. The importance of such a decision is in itself a cause for additional tension. But the young man who for some reason is not ready for employment in a chosen professional field then this might be the cause of increasing his anxiety level. In modern culture, as noted by many researchers, the most pathogenic becomes the emotional sphere, because under the influence of unstable socio-economic factors increases the frequency and intensity of emotional stress on the individual. Thus, anxiety is increasingly becoming a stable personal education, one of the forms of emotional distress.

Quite often in the relevant psychological literature it can be found such a definition of anxiety as "unreasonable fear of the individual". Experimentally proved that high anxiety is a destructive personality trait and adversely affects human activity. Anxiety can be situational (a state that is stable for specific situations: exams, a conversation with a curator) and personal (anxiety as a feature of a person's personality).

For each age period, there are certain areas of life and complexes of problems that cause increased anxiety in most individuals - regardless of the presence of a real threat. The growing up person very often begins to doubt the correctness of the first professional step begins, as a result - anxiety not only disorganizes his professional activity, but begins to destroy his personal structures. At this point, the Central (and

in this sense crucial) in his life is often the question of the practical implementation of acquired in the process of training competencies for the chosen profile of training [4].

The complex of human experiences, including the dominant emotional states, is manifested through the orientation of the individual.

In science there are General orientation of the personality and professional orientation. Professional orientation of the personality is the whole system of managing sustainable human motives and emotional value of the relationship that defines his type of thinking, inclinations, needs and desires and interests. The specificity of the formation of the individual's professional orientation is the following features: in the interest manifested in the professional sphere and in the professional sphere; in relation to professional activity in general, to a particular profession, as well as to the process of professionalization; in the nature and content of professional ideas, including ideas about professional activity in General, about specific professions and about yourself as a potential or actual representative of a certain profession. In the most general form, a professional orientation is defined as a selectively positive attitude to a certain profession or occupation. E. F. Seer defines professional orientation as one of the most important characteristics of personality, while professional orientation, in the author's opinion, is a system of emotionally valuable relations, which determine the hierarchical structure of the dominant motives of the personality and encourage the personality to approve them in professional activity, respectively, their content [5].

### B. Basic model

So, it is very important for us to understand – what determinants determine the readiness of modern students to carry out professional activities in the technical field. Due to the inability to consider certain external causes for the lack of readiness as a sort of constant scientific analysis, we referred to the study that is the personal determinant of the readiness of today's students to carry out professional activities in the technical field. So, we are interested in what personal education actualize, or, on the contrary, block the readiness to realize them in the previously selected at the stage of training.

Under personal determinants refers to a group of factors that determine the external or internal manifestation of a person in a particular area. In our study, interest is concentrated around the internal determinants of personality, as possible sources, actualizing a particular level of readiness to carry out professional activities.

Thus, the theoretical analysis of the stated problem in the psychological and pedagogical literature has allowed establishing a significant role in the formation of readiness of modern students to carry out professional activities of such personal determinants as anxiety of the individual, as well as the General orientation of the individual.

So, on the basis of the above we have formulated the purpose of research – the study of personal determinants of readiness of modern students to carry out professional activities in the technical field. It is extremely important to understand on what personal aspects there will be significant differences between students demonstrating readiness or

unwillingness to effectively implement themselves in the chosen professional field.

The object of the research is the personal sphere of modern students; the subject is specified in the features of manifestation of personal determinants that determine the readiness of modern students to carry out professional activities in the technical sphere.

The hypothesis of the study is the following assumption: there are personal determinants that actualize the readiness of modern students to carry out professional activities in the technical field. In particular, the low level of anxiety and the General orientation of the individual to society and the solution of socially useful tasks are typical for students who demonstrate a greater willingness to carry out professional activities in the technical area.

### C. Original data

In order to verify the proposed assumption, we organized a special empirical study on the basis of the Vologda state University, the Institute of mechanical engineering, energy and transport. The study involved 60 people – students in the areas of training 15.03.01 – mechanical engineering, 15.03.02 – Technological machines and equipment, 15.03.05 – Design and technological support of engineering industries, 15.03.06 – Mechanics and robotics.

The study was conducted in several stages, each of which was consistent with the set of empirical goals and objectives.

At the first stage, in order to determine the degree of readiness of modern students to carry out professional activities in the technical field, we conducted a survey using a specially designed questionnaire. The reliability and reliability of the questionnaire data was achieved by complying with special requirements for the composition of the questionnaire, ensuring appropriate uniform conditions for the survey, as well as by re-interviewing students after a certain period of time. Differences in the questionnaire data at the initial and repeated survey are at an acceptable statistical level (no more than 5%), therefore, we can use the empirical data in solving subsequent research problems.

Analysis of the survey data allowed us to conditionally identify two groups of students – "ready to carry out professional activities in the technical area" (35%) and "not ready to carry out professional activities in the technical area" (39%). As the key questions, the answers to which allowed us to refer the Respondent to a particular group, were as follows: "Express your intention to carry out professional activities in the specialty corresponding to Your direction of training"; "Who do You see yourself in the professional plan immediately after graduation and getting a diploma of higher education"; "Specify the professional sphere, which is the most preferable for You in terms of future employment."

In case of mentioning technical specialties in the answers to all three questions, the Respondent was defined as a group of "ready to carry out professional activities in the technical sphere", in the opposite situation, the Respondent was marked as "not ready". The intermediate variant – when the Respondent specified specialties of the technical sphere at answers only to some of key questions of the questionnaire – was considered as manifestation of partial readiness (26%).

In accordance with the goal and the proposed hypothesis, our research interest was focused on two extreme groups of respondents.

At the second stage of the study, we conducted a diagnosis aimed at determining the level of anxiety, as well as the orientation of the individual in two formed student groups.

### III. RESULTS

In order to determine the level of anxiety in groups of students ready and not ready to carry out professional activities in the technical field, we have chosen the technique of "Personal scale of anxiety" Taylor D. (adapted by T. A. Nemchin). The questionnaire is designed to measure the level of anxiety and involves the allocation of the results of the diagnosis of very high, high, medium, below average and low levels of anxiety.

Personal orientation of students was studied by us with the help of the methodology "Personal orientation" by I. D. Yegorycheva t. This technique is used to diagnose the relationship of the individual to himself and to society. Positive attitude is expressed in the acceptance of the person himself and the other (society) as a whole, tolerant attitude to the past, in the awareness of the importance of themselves and the other as a subject of activity, communication, satisfaction with social status, appearance, in the belief in the feasibility of goals. I. D. Yegorycheva distinguishes 4 personality orientations: humanistic, egocentric, sociocentric and negativistic.

The humanistic orientation of the individual is the lack of individual aspirations for autonomy, the recognition of the right of everyone to self-determination, both individually and within the group. The main value for a person with such orientation is personality. In this type subtypes or accentuations are distinguished: with predominantly positive attitude to oneself – individualistic accentuation of humanistic orientation and with predominantly positive attitude to others – altruistic accentuation.

With the egocentric orientation in the center of the person' attention is she herself, all her activity is focused on herself, her own interests, problems; the person seeks to recognize the society of its special value. The main value for a person with this orientation is himself, his thoughts, his judgments, his interests, his activities, the results of his work. A person with this type of orientation is very demanding in assessing the other, taking him as a whole as much as he is similar to himself, as far as he agrees with his opinion, shares his likes and dislikes.

The sociocentric orientation of the personality differs, first of all, in that the personality does not accept himself. The person does not believe in his own strength, does not believe that he will succeed on his own what he would like to achieve. At the same time, he is sure that others will achieve the desired with ease, at least much easier than he.

The negative orientation of the person assumes that the person accept neither himself, nor others; he experiences the insolvency as extremely uncomfortable internal state.

In order to obtain reasonable data, we have used methods of mathematical statistics, valid goals and objectives of the

study. Due to the unequal occupancy of the groups, we used the nonparametric u Mann-Whitney test to compare two independent samples on a quantitatively measured basis. Mathematical and statistical processing of the obtained diagnostic data using the statistical program SPSS Statistics 21 allowed us to make the following conclusions.

In the group of students who demonstrate readiness to carry out professional activities in the technical field, there is a lower level of anxiety compared to the opposite group ( $p \leq 0.05$ ). This fact may be associated with the continuity of the initial and subsequent professional choice of the young man, with his confidence that he has chosen the appropriate professional direction of his individual characteristics and the subsequent desire to realize themselves in this professional field. A higher level of anxiety in a group of students who are not ready to carry out professional activities in the technical field can determine a certain lack of confidence in themselves, in their choice, in their actual professional interests and opportunities.

Significant differences between the studied student groups are also observed in the parameter "egocentric orientation" is a group of respondents who demonstrate readiness to carry out professional activities in the technical field, this figure is significantly lower in ( $p \leq 0.01$ ). The common features of a person with low rates on this scale are an increased orientation to communication, a high degree of social adaptation in the field of relationships. The presence of high rates of this factor in the first group of respondents can be largely due to the tendency to meet social expectations and the focus to "meet" the expectations of society with respect to subsequent professional actions.

High values for this parameter in the opposite group of respondents initiate such qualities as indifference and indifference to public opinion, which in the future may affect the lack of readiness of a young person to carry out professional activities, training for which was carried out by the educational community for a sufficient period of time.

For the rest of the studied factors, the orientation of the individual significant differences was not found.

#### IV. DISCUSSION

Thus, a specially organized and conducted empirical study allowed us to identify the personal determinants of the readiness of modern students to carry out professional activities in the technical field. As such determinants, we consider the low level of human anxiety, causing confidence in their professional actions, as well as the sociocentric orientation of the individual associated with a focus on public opinion and the desire to meet public expectations, including the expectations of "significant others".

The obtained empirical data can be used in the framework of special programs aimed at the implementation of an integrated approach to work with modern youth in a career-oriented context. Knowledge of certain prerequisites, "blocking" the transition of a young person from the state of optant to the stage of adept, will allow to carry out targeted impact on certain personal education, thereby creating the prerequisites for a more confident and conscious professional action.

This study can be continued in the context of identifying additional personal determinants that actualize the readiness of modern students to carry out professional activities in various fields.

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