## ASSESSMENT OF STUDENTS' SATISFACTION WITH THE DECISION TO STUDY TO BE A TEACHER: DIAGNOSTICS METHODS

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#### Abstract

The relevance of the study is determined by the need to increase the level of students` motivation to choose the teaching profession. It actualizes the problem of theoretical analysis, diagnostic methods development, as well as increasing the level of satisfaction among students with their decision to study to be teachers. The purpose of this study is to substantiate a theoretical approach to the scientific awareness of the problem of students' satisfaction with their decision to choose the teaching profession. The objectives of the research are to modify and improve diagnostic methods, to develop and test the training course aimed at increasing the level of students` satisfaction with their choice of teaching career as physical education and sports teachers. The analysis method was used to study the concept of students' satisfaction as well as its correlation with the academic performance of future teachers. Theoretical methods of study, namely generalization, analysis of pedagogical scientific literature and pedagogical experience were used to identify the level of problem elaboration. The method of questioning, testing, and statistical method (Wilcoxon T-test) of processing the results were used to obtain objective empirical data. As a result of theoretical analysis of attractiveness of the teaching profession in physical education and sports among students, the concept "satisfaction with the choice of the teaching profession in the field of physical education and sports" was considered as a complex. multi-component and multi-level indicator of motivational and professional orientation affecting the level of academic performance and personal growth of future teachers. Diagnostic methods to assess students' satisfaction with their choice of the teaching profession indicated strong correlation between satisfaction with the choice of the profession and the level of students' academic performance. The training course "Pedagogy and interaction in professional activities" aimed at increasing the level of satisfaction among students with the choice of the profession showed a significant increase in the number of students who received the highest scores (+33.4%). The obtained diagnostic results indicate the effectiveness of the implemented pedagogical actions and are confirmed by methods of mathematical statistics. Theoretical approaches to the research problem outlined in the article, the practical development of diagnostic methods, as well as proposals and recommendations for using the course "Pedagogy and interaction in professional activities" in the educational process can be used by researchers and practitioners in the field of pedagogy.

Keywords: Assessment, pedagogy, satisfaction with professional choice, motivation, teacher, diagnostics, academic performance.

## 1 INTRODUCTION

Currently, the choice of profession determines the future professional success of graduates of educational institutions. Young people's satisfaction with work and its effectiveness depends on proper choice of profession. The process of choosing profession is a complex, multi-component, multi-level process that requires knowledge, skills, abilities, inclinations and abilities. An external factor influencing the choice of profession is the need of society for specialists in various fields [1].

The problem of choosing a teaching profession is especially relevant among young people. Recent decades have been characterized by a trend towards a steady decrease of attractiveness of teaching professions among the youth [2; 3]. Statistics confirms that the education system needs young teachers.

The problem of young teaching staff shortage is being considered at the state level of the Republic of Tatarstan. First Deputy Minister of Education and Science of the Republic of Tatarstan Andrei Pominov notes that today more than 16 thousand students are studying to be teachers at universities and institutions of secondary vocational education in the republic. However, there is a high level of staff turnover at schools and colleges. Thus, more than 900 young teachers joined schools last year, but 240 of them soon left. The Head of the Ministry of Education and Science of the Republic, Ilsur Khadiullin underlines that the retention rate of teaching staff is slightly above 70%. One of the reasons for the negative phenomenon is the teachers' dissatisfaction with salaries. Young teachers after graduating

from secondary vocational institutions receive less than 16 thousand rubles on average, after graduating from the university - 18 thousand rubles [4]. Statistics confirms that the majority of teachers in Tatarstan have work experience of 20 years or more, which is 61% of their total number. The share of young people (35 years old) among teachers in Tatarstan - is only 22% [5].

The above actualizes the problem of school graduates' choice of profession and satisfaction with their professional choice [1]. At the same time, it is important to develop students' focus on teaching professions. Undoubtedly, only a deep analysis, theoretical research of possible ways to overcome pedagogical obstacles and practical testing of the proposed solutions will contribute to solving the scientific problem, which today reaches the state level [2].

The scientific problem of students' satisfaction with their choice of profession is the scientific interest of many scientists [6; 7]. Scientists are considering various methods for diagnosing motives and the degree of satisfaction with the chosen profession. A.V. Kulabukhov believes that the use of professionally oriented tests contributes to the correct choice of profession [8]. E.A. Bratukhina, Z. Gan analyze the correlation between motives for choosing profession, educational motivation and students' academic performance [9; 10].

The problem is also considered from the psychological science point of view. H. Brycz, Gorlovich, T.A. Gorshkova analyze the concept of satisfaction with professional activity as a psychological phenomenon and point out the aspects of intersection with the orientation of the student's personality and the motivation for seeking diagnostic information about himself [11; 12].

In our study, the greatest interest is the research of scientists related to the training of teachers. O. V. Masharova identifies the requirements for the formation of students' professional motivation, and also develops diagnostic tools for its assessment [13]. O.M. Miller identifies the specifics of the professional and pedagogical orientation of the first-year students and correlates their professional choice satisfaction with self-attitude [14].

A significant scientific contribution to the development of the problem reviewed is the study of processes, emotional and motivational factors influencing students' satisfaction with their choice of profession and studying at university [15]. Scientists theoretically substantiate and test in practice the possibilities of increasing students' motivation through educational innovative projects, integration of game-based wordwall learning into education, practical professional experience, and e-learning [13;16].

Despite the increasing number of publications, the area of correlation between satisfaction with professional choice and academic performance among sport college students remains insufficiently studied. That is, a contradiction arises between the need to increase the level of applicants` motivation to choose the profession of a physical education and sports teacher and the insufficient theoretical and practical development of the problem. There is also a contradiction between the need to monitor the process under study and the insufficient development of tools for diagnosing the level of students` satisfaction with their future profession. Thus, the purpose of this study is to substantiate a theoretical approach to the problem of students` satisfaction with their decision to choose the teaching profession. The objectives of the research are to identify the level of satisfaction with the professional choice of future physical education and sports teachers, to reveal its` correlation with the learning outcomes of students, to modify and improve diagnostic methods, to develop and test the training course aimed at increasing the level of students` satisfaction with their choice of teaching career.

## 2 METHODOLOGY

In the process of theoretical study of motivation in choosing the profession, and satisfaction with this choice among students of a physical education school, the analysis method was used. Theoretical methods of study, namely generalization, analysis of pedagogical scientific literature and pedagogical experience were used to identify the level of problem elaboration. The method of questioning, testing, and statistical method (Wilcoxon T-test) of processing the results were used to obtain objective empirical data.

Currently, there is no generally accepted scientific approach to defining the concept "satisfaction". Scientists rely on the opinion of psychologists, which allows them to correlate the concept "satisfaction" with an emotional state, which acts as a manifestation of a certain mental form of a need and expresses its active form [15]. This approach considers "satisfaction" as a positive emotional state of a person whose desires have been successfully realized [14]. At the same time, scientists believe that satisfaction arises only if the goal is achieved. In this case, activity increases motivation to continue the activity. [13].

In pedagogical science, the concept "satisfaction with the profession" is considered as an integrative indicator that can reflect the students` attitude towards chosen professions [1]. At the same time, scientists note that students` satisfaction with their professions changes during the process of studying at university [2].

In our study we identify "students` satisfaction with their choice of professions" as a complex, multicomponent and multi-level indicator of motivational and professional orientation, affecting the level of academic performance and personal growth of future teachers and requiring the development of specific control methods and diagnostic tools for its assessment.

In modern studies, special attention is paid to students' satisfaction with studying at university. At the same time, students' satisfaction with the chosen profession is considered to be one of the most important factors influencing students' satisfaction with studying at university and indicates the correlation of this component to their academic performance [2]. Scientists reveal that students who are satisfied with their studies have a predominant motive for obtaining a quality education to master the chosen profession. In a number of research, scientists note a close correlation between satisfaction with professional choice and motivation for educational activities [11; 13; 14].

Scientific works revealing changes in the level of satisfaction with the profession among students during the learning process are of interest for our research. O.A. Andrienko points out that maximum satisfaction with the chosen profession is observed among first-year students. Subsequently, the satisfaction steadily decreases [2]. Most first-year students, lacking knowledge about their own inclinations and intellectual capabilities, have difficulty predicting the success of their professional choice [12].

In O.M. Miller's study it is noted that among senior students the number of those who are not satisfied with their chosen profession is growing. The scientist suggests that such dissatisfaction can be caused by a low level of teaching and by negative aspects of the future profession, which are revealed by students in the process of practice-oriented educational activities [14].

We agree with O.A. Andrienko who notes that third-year students begin to realize responsibility for their professional choice at a new, higher level, and strive to determine the most effective ways of success in the profession. At the same time, in comparison with undergraduate students, graduates show a more positive attitude towards their future profession, since they are confident in their professional competence [3].

The above determines the idea that a thoughtful choice of university and future profession is a prerequisite for satisfaction with training and receiving a quality education [16]. Analysis of psychological and pedagogical literature allows us to consider the theoretical basis of the scientific problem of satisfaction with the choice of profession and suggests the need for experimental research, as well as statistical confirmation of empirically obtained data.

## 3 RESULTS

The experimental part of the study is based on the hypothesis that the level of satisfaction with the choice of profession among future physical education and sports teachers will increase if the developed pedagogical requirements are implemented. The identified pedagogical requirements include the discipline "Pedagogy and interaction in professional activities" in the curriculum, as well as theoretically based diagnostic tools - questioning and testing.

# 3.1 Assessing the level of students`satisfaction with the profession of future physical education and sports teachers

The pedagogical experiment at Kazan Olympic Reserve School with the group of 2nd year students included the usage of the optional discipline "Pedagogy and interaction in the professional sphere", methods for diagnosing the level of satisfaction with the choice of profession and level of academic performance and statistical analysis of results. A motivational survey aimed at assessing the motivational focus on choosing teaching profession was organized for 24 students who decided to study pedagogy using a special course "Pedagogy and interaction in the professional field".

#### 3.1.1 Development of the course "Pedagogy and interaction in professional activities"

The goal of the course "Pedagogy and interaction in professional activities" was to increase the level of satisfaction with the choice of profession among future physical education and sports teachers. The course included the following lecture topics:

- Social significance of the profession of a physical education and sports teacher.
- Professionally significant personal qualities of a physical education and sports teacher.
- Professional and pedagogical orientation of the personality of a physical education and sports teacher.
- Professional and personal development of a physical education and sports teacher.
- Characteristics, structure and content of the professional activity of a physical education and sports teacher.
- Interaction as the basis of the professional activity of a physical education and sports teacher.

Practical classes were aimed at mastering students` practical skills of pedagogical interaction and cooperation in the digital educational environment:

- Educational content in the field of physical education and sports. Development and implementation of electronic educational resources using digital tools.
- Contact and distant teaching forms, teaching methods in the field of physical education and sports and their pedagogical advantages.
- Ethics of interaction for creating educational content using application software.
- Pedagogical control in the educational process using information and communication technologies.

As a final assignment, students presented a project using digital technologies "Digital pedagogical technology in the educational process".

## 3.1.2 The modified method for assessing the level of satisfaction with the profession of future physical education and sports teachers

The assessment of the level of satisfaction with the profession of future physical education and sports teachers was carried out using the modified methodology by N.V. Kuzmina and A.A. Rean before and after the experiment. Students' attitude to 11 factors was assessed, in particular, the negative and positive aspects of social significance of the profession of a physical education and sports teacher, the attitude towards interaction with schoolchildren, the creative nature of the profession, the level of salaries, the opportunity for self-improvement, the length of the working day, the opportunity for career growth. Positive factors were located in the right column of the table (A), and negative ones in the left column (B).

Students were asked to note which of the proposed 11 factors were attractive in their chosen profession, and which had a negative impact on future physical education and sports teachers. For each of the 11 factors, the significance coefficient (SC) was calculated. The significance coefficient was determined by the following formula:

$$K3 = \frac{(n+)-(n-)}{N},$$

where N, was the total number of students, (n+) was the number of respondents who noted this factor in column A, (n-) was the number of respondents who noted this factor in column B. The significance coefficient varied from "- 1 to + 1". It was established that  $SC \le -0.3$  corresponded to a low level of significance;  $0.2 \ge SC \ge -0.2$  corresponded to an intermediate level of significance, and  $1 \ge SC \ge 0.3$  corresponded to a high level of significance of the factor. The results of assessing the satisfaction with the profession of a physical education and sports teacher before the experiment are presented in table 1.

Factors	Number of students	n*	n <sup>-</sup>	Significance coefficient
1	24	9	15	- 0.25
2	24	7	17	- 0.4
3	24	10	14	- 0.16
4	24	9	15	- 0.25
5	24	6	18	- 0.5
6	24	8	16	- 0.33
7	24	10	14	- 0.16
8	24	11	13	- 0.08
9	24	6	18	- 0.5
10	24	9	15	- 0.25
11	24	6	18	- 0.5
Total	264	91	173	- 0.31

 

 Table 1. Assessment results of attractiveness factors of the teaching profession in physical education and sports among students before the experiment.

The results showed a low overall level of satisfaction with the profession (SC = -0.31) and a spread in the significance of the attractiveness factors of the profession. Such factor as correlation of the future job to the student's character had the greatest positive significance (SC = +0.08). The following factors had a negative impact on respondents: low salary (SC = -0.5), long working hours (SC = -0.5), inability to achieve high career (SC = -0.5). The total significance coefficient which is equal to -0.31 indicates a low level of attractiveness of the profession of a physical education and sports teacher among 2nd year students before pedagogical experiment. Below, table 2 presents the final data obtained after the experiment.

Factors	Number of students	n <sup>+</sup>	n	Significance coefficient
1	24	22	2	0.95
2	24	20	4	0.75
3	24	22	14	0.75
4	24	21	3	0.83
5	24	9	15	0.08
6	24	20	4	0.75
7	24	21	3	0.58
8	24	18	6	0.5
9	24	16	8	0.41
10	24	19	5	0.66
11	24	21	3	0.58
Total	264	209	55	0.58

Table 2. Assessment results of attractiveness factors of the teaching profession in physical education and sports among students after the experiment.

The experimental results demonstrated a high overall level of satisfaction with the profession (SC = + 0.58) and the high significance of attractiveness factors (9 out of 11). The most positive factors were such factors as high social significance of the profession (SC = + 0.95), sufficient physical activity (SC = + 0.83), creative nature of the profession, the opportunity to improve own personal qualities (SC = + 0.75) and the opportunity to interact with students (SC = + 0.66). The following factors had a negative impact on respondents: low salaries (SC = + 0.08) and long working hours (SC = + 0.41). The final significance coefficient which was equal to + 0.58 indicated a fairly high level of attractiveness of the profession of a physical education and sports teacher among experimental group students, which

confirmed the hypothesis that the level of satisfaction with the choice of profession among future physical education and sports teachers will increase after the experimental pedagogical work.

#### 3.1.3 Testing students` knowledge: The second stage of the experiment

The second stage of the experiment included testing as a means of final control of knowledge. The test contained 50 tasks including 20 tasks on pedagogy, 20 tasks on information and communication technologies (ICT) and 10 tasks on pedagogical interaction. Each correct answer was worth 2 points. The maximum number of points was 100. Table 3 presents the test results of students before and after the experiment. It was established that 86 - 100 points was a high level, 71 - 85 was an intermediate level, 56 - 70 points was a low level of students' knowledge.

Number	Low level		Intermedia	te level	High level		
of students	Number of students	%	Number of students	%	Number of students	%	
Before the experiment							
24	5	20.8	13	54.2	6	25	
After the experiment							
24	1	4.2	9	41.6	14	54.2	

Table 3. Future teachers` test results before and after the experiment.

A comparative analysis of the entrance and final testing results showed a significant increase in the number of students who received the highest scores (+33.4%). Thus, in the group, before the experiment 6 (25%) students had a high level, and after the experiment – 14 (58.3%) students; 5 students (20.8%) had a low level before the experiment, and after the experiment – 1 (4.2%). The obtained diagnostic results indicated the effectiveness of the implemented pedagogical activity and required confirmation using methods of mathematical statistics.

#### 3.1.4 Statistical analysis of the obtained data using the Wilcoxon T-test

T To assess differences in the levels of academic performance of students before and after the experiment, the Wilcoxon T-test was used, which allowed us to compare the indicators of changes in two different dimensions in the same sample of subjects. The method requirement corresponded to the number of participants in the experiment:  $5 \le n \le 50$  (n=24, that is, 24 students participated). Two hypotheses were formulated.

H0: the level of academic performance of future physical education and sports teachers before and after the formative experiment have not changed upward.

H1: the level of academic performance of future physical education and sports teachers before and after the formative experiment have changed upward.

Next, the errors in absolute value between the values of the indicator before and after the experiment were determined, and the ranks corresponding to shifts in an atypical direction were determined. The total sum of ranks coincided with the calculated one, which was determined by the formula:

$$\sum(\mathrm{Ri}) = \frac{N(N+1)}{2}$$

where N was the total number of ranked observations (values).

The total sum of ranks coincided with the sum of ranks of the difference (= 300). The ranking was done correctly. The calculation results are shown in table 4.

			•	•	
N⁰	Entrance points	Final points	Difference in indicators [d]	Absolute Value [d]	Ranks of the difference
1	80	87	-7	7	11.5
2	63	74	-11	11	19
3	98	95	3	3*	25*
4	77	91	-14	14	22
5	55	70	-15	15	23
6	84	93	-9	9	16.5
7	57	73	-16	16	24
8	72	83	-11	11	19
9	65	67	-2	2	1
10	87	94	-7	7	11.5
11	82	85	-3	3	2.5
12	70	77	-7	7	11.5
13	78	84	-6	6	7.5
14	92	98	-6	6	7.5
15	79	87	-8	8	14.5
16	59	72	-13	13	21
17	90	86	4	<b>4</b> *	<b>4</b> *
18	69	78	-9	9	16.5
19	75	69	6	6*	<b>7.5</b> *
20	76	84	-8	8	14.5
21	71	82	-11	11	19
22	82	87	-5	5	5
23	86	92	-6	6	7.5
24	82	89	-7	7	11.5
300	-	-	-	-	300

Table 4. Assessing the significance of differences in the levels of academic performanceof students before and after experiment using the Wilcoxon T-test.

A typical shift in the indicator was its increase, noted in 21 cases out of 24. In three cases (N $^{\circ}$  3, N $^{\circ}$  17 and N $^{\circ}$  19), an atypical shift towards a decrease in the level was noted. The ranks corresponding to the atypical shift were 2.5, 4 and 7.5. We calculated the sum of ranks corresponding to atypical shifts. The experimental value of the Wilcoxon T- test was found as the sum of ranks corresponding to atypical shifts according to the formula:

Temp =  $\Sigma Rr$ Temp =  $\Sigma Rr = 5 + 8 + 13.5 = 14$ 

We compared Temp with Tcrit, which at a significance level of p = 0.01 and n = 24 was equal to 69. Since Temp 14 < 69, the H0 hypothesis was rejected, that is, the differences can be considered significant. So, with a degree of 99%, the level of academic performance of the experimental group of future teachers after the experiment significantly exceeded that before the experiment.

#### 4 CONCLUSIONS

The usage of the course "Pedagogy and interaction in professional activities" in the educational process contributed to an increase in the level of satisfaction with the choice of teaching profession. So, the results of our study indicated a strong correlation between an increase in the level of satisfaction with the choice of teaching profession in the field of physical education and sports (SC has increased by

+0.89) and the academic performance of second-year students (the number of students with a high level of knowledge increased by 24.9%) after experimental research work.

Statistical analysis of the obtained data using the Wilcoxon T-test showed that the level of academic performance of future teachers after the experiment significantly exceeded that before the experiment with a confidence level of 99%.

The modified diagnostic method for assessing satisfaction with the choice of profession and a disciplinary test developed by the authors allowed us to obtain objective empirical data, evaluate and analyse the level of satisfaction with the profession, as well as the degree of its impact on the academic performance and prove the hypothesis.

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