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### Abstract

All participants in educational relations are worried about the problem how to improve the quality of education, with everyone representing it through the prism of their value system. In this connection there is a need to structure these representations. It is necessary to begin with bringing into a unified system the representations of education direct customers – students. The aim of our article is to analyze how pedagogical university students perceive the quality of their education. On the basis of the survey involving 117 respondents from Elabuga Institute of Kazan Federal University (Elabuga, Republic of Tatarstan) and the Northeast Federal University named after M.K. Ammosov (Yakutsk, Republic of Sakha (Yakutia)) we analyzed such criteria as quality of teaching, quality of learning, formation of universal competencies, personal qualities necessary for modern teachers and the creation of appropriate conditions by a university (digitalization of the educational environment, academic mobility) for students' self-development. The t-Student criterion was used to determine the differences between the respondents' competencies, knowledge, abilities, skills and qualities that they had possessed before entering the university and those that were formed during the university study. The obtained data indicate a high assessment of the quality of education by the students. The results also showed the educational process strong and weak points that students of the two federal universities face. Thus, focusing on one of the customers' (students') views will allow teachers to manage the educational process effectively and improve its quality.

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### Introduction

The quality of education all over the world and at all times has been one of the most significant social phenomena, since it determines the most significant social task – the formation of personality, the system of views, values, and knowledge. However, due to the emergence of a large number of educational organizations at the present stage, the issue of assessing the quality of education is becoming increasingly important (Donohue, 2020; Zikirova et al., 2019). It is especially relevant in relation to pedagogical university education in Russia, which is due to the current unfavorable situation. A large number of young people annually graduate from

pedagogical universities in the country. At the same time, there is still a shortage of qualified personnel in preschool educational organizations and schools (Shpilina et al., 2019; Nikolaevna et al., 2019). This means that graduates either do not have motivation for professional activity or do not feel that they are sufficiently qualified specialists who are ready to work in the educational system.

In the authors' opinion, both of these may be due to the insufficiently high quality of education. For example, Bryan Caplan claims that education is a waste of time and money. Education serves not so much training as the development of such qualities as hard work and fairness that are usually appreciated by employers (Caplan, 2018). It turns out that universities do not implement the specific tasks of professional training in a particular educational program specialization (Bronnikov et al., 2018). This argues in favor of the poor quality of education. It is known that education as a system should be considered in the unity of activity of the teacher and student. In the situation of a University, this is the teaching and student's academic activities, as well as the conditions that are created for them by the educational organization itself. Accordingly, the quality of education should be considered in the unity of these components. Indeed, this problem is relevant for modern research (Markert et al., 2017; Zikirova et al., 2019; Zaripova, 2019; Kalimullina et al., 2021). However, the opinion of participants in educational relations is rarely taken into account. It is considered more subjective. The university's strategy is mainly determined by the state and university administration. In our opinion, first of all, the quality of education must be viewed through the prism of not just participants, but customers of educational services (students).

Our research focuses on variables of educational quality and teaching quality as assessed by students. Studying education quality assessment done by students is necessary to find ways that allow solving the problem of education quality improvement by universities in general and teachers in particular; building an effective strategy of students' and teachers' mutual cooperation, creating a favourable learning atmosphere at universities. The importance of this study lies in its applied value, since it provides essential information for teachers about the students' attitude to the quality of education in the two universities under analysis, which will allow developing further modernization programmes for teacher education aimed at improving the quality of education. The purpose of our study is to analyze the pedagogical university students' perceptions of the quality of education that they get.

### **Research Questions**

The study is based on the following questions:

1. How is the quality of teaching viewed by students to affect pedagogical education in Russia?
2. How is the quality of learning viewed by students to affect pedagogical education in Russia?

### **Literature Review**

A starting point will be to analyze such a category as "quality". One of the aspects of the concept of quality is the degree of dignity, value or suitability of a thing or action, therefore, it corresponds to what they should be.

However, this definition certainly needs to be clarified when it comes to the quality of education (Ushakov, 2008).

The quality of education is implemented mainly through regulatory requirements – laws of the Russian Federation, regulations and documents of the Ministry of Education, a system of state standards, licensing, certification and accreditation mechanisms, demand for certain types and branches of education, standard requirements for specialists and internal organizational mechanisms of the university. However, it is also possible to take into account and measure the humanitarian parameters of processes and educational effects, such as the degree to which educational goals correspond to their results at the level of an educational institution, the different parameters of a particular person's education result (quality of knowledge, degree of formation of abilities and skills) correspond to each other, the degree of conformity of theoretical knowledge and skills with their practical use in life and further professional activities (Saenko et al., 2020; Kustati and Al-Azmi, 2018; Nureeva et al., 2019). The presented idea of the quality of education in the case of higher education can be supplemented by the quality of teaching, the educational and methodological base, methodological support. The analysis of various approaches to determining the quality of education leads to the identification of its following indicators: quality indicators within the education system; subjective indicators (taking into account the opinions of consumers, the data from socio-pedagogical monitoring); economic indicators (access to education for various social classes and people living in different territories).

A systematic analysis of higher education quality often also reveals it through the quality of education of a university graduate, including general cultural and professional training (Ushakov, 2008; Gabidullina et al., 2020). It is necessary to control the quality of education in order to adapt it to the needs and requirements of society (Borchenko, 2016; Bozhkova et al., 2019). It must be understood that education today is a significant factor in the moral development of an individual and the spiritual-moral development of society as a whole. The problem of improving the quality of education due to this is of a social nature; education, especially higher education, is of state importance. Moreover, the quality of education is often reduced to the quality of training, others reduce it to the level of personality development, and others consider the quality of education as the graduate's readiness for life activity by the following characteristics: readiness for professional activity, family life, reasonable leisure activities, continuing education, health care (Lincényi and Laczko, 2020). However, many of the listed parameters cannot be assessed here and now, but only after years (Saidova, 2016). Mashukova says that the internal system of education quality assessment should be carried out in the following areas: assessment of the quality of educational results; assessment of the quality of educational process implementation; assessment of the quality of conditions ensuring the educational process (Mashukova, 2017). Thus, the quality of education should be considered as a comprehensive characteristic of education, expressing the degree of its compliance not only with certain educational standards but also with the needs of a student, i.e. the person, in whose interests educational activities are carried out (Ladnushkina, 2015; Palyanitsina and Akhmedova, 2020). Indeed, in the authors' opinion, a fairly acceptable way to determine the quality of education is to identify the degree of orientation of a university and the entire education system as a whole to the "client's" needs and requirements (Ruben, 1995). The reflection and introspection of those who consume the product, in this case – the educational one, can be the solution to the problem of improving the quality of education (Bruno

et al., 2018). Moreover, in professional pedagogical education, it is necessary to consider such conditions as socio-professional competencies and the phenomenon of students' psychological well-being as prerequisites for their self-fulfillment (Minakhmetova et al., 2019; Shagivaleeva et al., 2017). Already at the stage of professional training, a future teacher must fully master the skills of introspection, which can be formed in a situation of analyzing one's personal qualities, professional competence, and the conditions created by the university to develop the personality of a future professional (qualified teaching staff, digital technology).

Therefore, the indicators of the quality of education most often are the quality of teaching (Malini, 2017), the content of the educational program (Markert et al., 2017), the quality of teaching (Praetorius et al., 2017) in modern studies. We can definitely say that the effectiveness of the pedagogical process depends on the quality of the professors' teaching and the educational and cognitive activity of the student. The effectiveness of the pedagogical influence depends on the level and characteristics of the relationship between the professors and students. It should be noted today that improving of the quality of higher education is also seen in increasing the share of e-learning (Denić, 2017).

## **Methods**

### **Study Design**

Research on the assessment of the quality of education, as a rule, focuses on the generalized content and quality of relations, leaving a gap in the literature on the role of a number of significant criteria evaluated by the participants in the educational process (students). In the course of work on the study, we used the following methods: analysis of the scientific literature on the research problem, questionnaires, methods of mathematical and statistical data processing. The data obtained in the study were qualitatively and quantitatively analyzed. We subjected to preliminary analysis and structured all the answers and judgments of students. We specified such categories as teaching, learning, competence, universal competence, digitalization of education, academic mobility. These categories were the main variables necessary for an exhaustive description of the quality of education. We used the method of comparison when analyzing questions and answers. Students had to evaluate the degree of development or representation of the studied factor before starting studies at the university and at the time of the survey. To confirm the objectivity of the results, statistical research methods were used (Student's t-test). The criterion made it possible to determine the differences between the competences, knowledge, abilities, skills, qualities that were already formed in the respondents before studying at the university and formed during the period of study at the university. Thus, we have determined that the study at the University contributes to the personal and professional development of students, in their opinions.

### **Participants**

The study sample consisted of 117 students from two Russian universities: Ammosov North-Eastern Federal University (55 respondents) and Yelabuga Institute of Kazan Federal University (62 respondents). A sample made up of students from universities located in different regions of Russia can ensure the objectivity of results. Among the respondents were students specializing in English, German(26students); Russian Language and

Literature (31); History (36); History and Social Studies (24). Training in these profiles is conducted in both Universities. We did not consider those profiles for which training is conducted only in one of the above Universities. Thus, we used stratometric selection in the formation of the sample. The general population is divided into groups (in our case, academic groups) that have certain characteristics (gender, age). We selected subjects with appropriate characteristics. The group of subjects included 73 girls and 44 young men, the 1st year students- 25 people, the 2nd - 26, the 3d - 23, the 4th - 17, the 5th - 26 people (see Table 1).

Table 1. Sample of Research

<b>Respondents</b>	<b>Number of respondents</b>	<b>Percentage ratio</b>
Students	117	100%
<b>Ammosov North-Eastern Federal University</b>	55	47%
<b>specializing:</b>		
“English, German”	12	11,11%
“RussianLanguageandLiterature”	14	9.4%
“History”	19	17.1%
“HistoryandSocialStudies”	10	9.4%
<b>gender:</b>		
Girls	31	26.5%
Youngmen	24	20.5%
<b>Academicgroups:</b>		
Course 1	13	11.11%
Course 2	11	9.4%
Course 3	10	8.55%
Course 4	8	6.8%
Course 5	13	11.11%
<b>Elabuga Institute of Kazan Federal University</b>	62	53%
<b>specializing:</b>		
“English, German”	14	12%
“RussianLanguageandLiterature”	17	10.3%
“History”	17	18.8%
“HistoryandSocialStudies”	14	12%
<b>gender:</b>		
Girls	42	35.9%
Youngmen	20	17.1%
<b>Academicgroups:</b>		
Course 1	12	10.3%
Course 2	15	12.8%
Course 3	13	11.11%
Course 4	9	7.7%
<b>Course 5</b>	<b>13</b>	<b>11.11%</b>

## **Research Instruments**

To collect the data we developed a questionnaire on students' assessment of such criteria for the quality of education. The questionnaire comprises 42 questions, which are grouped by such criteria: as the quality of teaching (for example, university teachers' level of competence (their knowledge and experience in a specific field of science and practice; teachers' power of observation (i.e. capability to notice students' essential characteristic features), etc.), learning (for example, level of knowledge gained at the university in specialized academic disciplines, level of intellectual abilities, desire for internal improvement, discipline, etc.) and the formation of universal competencies (ability to implement search, critical analysis and synthesis of information, apply a systematic approach to solving the assigned training problems, ability to determine the range of educational tasks in the framework of the goal and choose the best ways to solve them, based on available resources and limitations, etc.), mastered in accordance with the Federal State Educational Standard for Higher Education (undergraduate) in the direction of preparation "Pedagogical Education". Besides, the questionnaire includes the criteria related to the personal qualities necessary for a modern teacher and the availability of certain conditions at the university (digital educational environment, academic mobility) for students' self-development. The novelty of this questionnaire is that it groups indicators that were previously considered as single and scattered criteria for the quality of education. In addition, there are practically no studies that enable students to assess the quality of education. This kind of research is usually conducted only within the universities themselves.

Prior to the study, the questionnaire passed a pilot survey by those students of Elabuga Institute of KFU who were not involved in the main study. As a result of this survey, an expert in the field of pedagogical education Professor Akhmetov L.G., doctor of pedagogical sciences, recognized the questionnaire as valid. Students rated all the listed criteria on a 10-point scale, where 10 points mean that the phenomenon is at a high level, 1 point denotes that the quality in question is at its minimum.

## **Data Collection Procedures**

The study was conducted for six months. At the first stage, an analysis of the psychological and pedagogical literature on the research problem was carried out, a questionnaire was compiled, and a pilot study was conducted. In the second stage, we applied the questionnaire. The study involved 117 students, which corresponds to the representativeness of the sample. All students volunteered to participate in the study. The data collection term lasted two months. Before starting the study, the authors received the approval and permission of the universities' administration.

The questionnaires were emailed to students, thus a continuous survey of students was organized. This is most acceptable from the point of view of the geographical location of the respondents (the two different regions of Russia are located in different parts of the country). In addition, the principle of objectivity of information collection was observed (a survey organized without the researchers' personal participation helps to remove barriers between them and the respondents) confidentiality and anonymity (students could create a new e-mail

and send answers to questions and questionnaires under an assumed name). All the 117 respondents sent their answers to the questionnaire. It should be noted that throughout the entire process of data collection, neither the respondents, nor the researchers encountered any problems associated with participation in the study. The students spent from 40 to 60 minutes to fill out the questionnaire. After receiving the data from the respondents, all the results were formatted in Excel spreadsheets. After inserting all the data, they were analyzed, and statistics on the results were obtained.

### **Data Analysis**

Our study involved several parts of the quantitative analysis of the results. First, we obtained data characterizing the quality of teaching (the level of university teachers' competence, the teachers' willingness and ability to engage in teaching activities, the teachers' power of observation, the teachers' ability to establish contacts with the external environment, the teachers' ability to establish contacts with the internal environment). The indicators defining this criterion are reflected in average values in the entire group of the respondents. This may be useful when determining the indicator that is most pronounced among university professors. Descriptive analysis was used. Next, the criterion of the quality of learning (the level of knowledge gained at the university in specialized academic disciplines; the desire for internal improvement, discipline, perseverance, etc.) was considered. Indicators for this criterion were considered from the perspective of average values for the entire group of respondents before entering the university and during the university study. Descriptive analysis was applied. Differences in mean scores were checked using the t-student criterion and analyzed. To study the students' intelligence types' development according to H. Gardner, percentage values were used and their descriptive analysis was conducted.

Next, we examined the formation of universal competencies (the ability to determine the range of educational tasks within the framework of the goal and choose the best ways to solve them based on the available resources and limitations; the ability to carry out subject-subject interaction with teachers; the ability to carry out subject-subject interaction with fellow students; the ability to make their contribution to the work of the team, etc.). Indicators for this criterion were considered from the perspective of average values for the entire group of respondents before entering the university and the influence of the university conditions on the formation of the competency. Descriptive analysis was used. Differences in mean scores were checked using the t-student test. The influence of university conditions on the quality of learning and the formation of competencies is logical in our study that is based on the methods of mathematical statistics.

### **Results**

The quality of teaching, which was evaluated during the study by future teachers, should consist not only of actions to manage students' educational-cognitive activities but also of the skills, abilities, and knowledge of a teacher, his/her personal qualities that serve as a prerequisite for successful, effective teaching. We analyze the results of the study from the perspective of the main research questions that we have set for ourselves.

**Results 1: How is the quality of teaching viewed by students to affect pedagogical education in Russia?**

Students rated the quality of teaching on a 10-point scale in the range of average values from 7.42 to 8.77 (see Table 2).

Table 2. Quality of Teaching

<b>Criterion</b>	<b>Group average</b>
University teachers' level of competence (their knowledge and experience in a specific field of science and practice)	8.5
Teachers' willingness and ability to be engaged in teaching	8.65
Teachers' power of observation (i.e. capability to notice students' essential characteristic features)	7.42
Teachers' ability to establish contacts with the external environment (colleagues from other universities, other educational organizations)	8.4
Teachers' ability to establish contacts with the internal environment (colleagues, students)	8.39
<b>Teachers' research activities</b>	<b>8.77</b>

Students rated the teachers' research activity uppermost (the average score for the group of respondents was 8.77). Students also say that teachers are generally passionate about teaching activities (the average score is 8.65). Students think that university teachers have a high level of competence in the subjects taught (the average value for the group is 8.5). The assessment of active communication and keeping in touch with colleagues from other educational organizations can be placed further in the authors' rating (8.43). The assessment of the ability to maintain relationships with colleagues and students of one's own university turned out to be slightly less (the average score is 8.40). However, teachers' observation skills, i.e. the ability to notice the significant characteristic features of students in the interaction, were assessed by respondents slightly below the above indicators (the average score for the group of subjects is 7.42).

**Result 2: How is the quality of learning viewed by students to affect pedagogical education in Russia?**

One of the important components in solving this issue is the process implemented by the student himself - learning. A student's learning means the process of systematic mastery of the necessary knowledge, abilities, skills and, ultimately, the competencies of a future teacher. The educational-professional activity requires a student to be very responsible and conscious in relation to learning, since partner-subject relations are built between the teacher and the student, which require the separation of responsibility between each side for their activities. The success of the study will depend on the knowledge, skills, and abilities acquired by a student before entering the university, his/her desire for self-development, motivation for mastering pedagogical competencies, as well as on his/her individual characteristics. These include general and special abilities that ensure the speed and strength of the development of knowledge in various fields of science and practice; discipline, efficiency, observation. The highlighted qualities and characteristics of a student served as criteria for

assessing the quality of learning and were reflected in the corresponding part of the questionnaire (see Table 3).

Table 3. Quality of Learning

<b>Criterion</b>	<b>Group average before University study</b>	<b>Group average when studying at University</b>
Level of knowledge gained at the university in specialized academic disciplines	-	7.67
Level of knowledge and skills in working with Excel files	5.87	7.28
level of knowledge and skills in working with a text editor	7.83	8.67
Level of knowledge and skills in working with cloud technology	5.77	6.79
Foreignlanguageproficiency	5.02	7.44
Desiretolearn	-	7.88
Level of intellectual abilities	-	7.79
Desireforinternalimprovement	-	8.54
Discipline	9	8.81
Perseverance	7.88	7.79
Efficiency	7.71	8.34
<b>Power of observation</b>	<b>7.87</b>	<b>8.3</b>

When asked about the level of students' knowledge of major subjects, students averaged 7.67 points. As for the questionnaire on the level of "digital competence" mastered by students before entering the university, the following average results were obtained: the ability to work with Excel files – 5.87; with a text editor – 7.83; with cloud technologies – 5.77. Students rated the level of development of this competence at the university higher: the ability to work with Excel files – 7.28; with a text editor – 8.67; with cloud technologies – 6.79. The questionnaire contains questions to assess the level of English language proficiency before entering a university and while studying in it. According to students, before entering the university, the average English knowledge score was 5.02, at the time of study – 7.44.

The questions in the questionnaire also reflected the motivational aspect of learning at the university. Students have a desire to study (average value – 7.88) and think that they have the necessary intellectual abilities for this (average value of assessing intellectual abilities – 7.79). As for the question "How much do you strive for internal improvement?" the average score was 8.54. Answers to these questions indicate an active position of students, their desire to reveal their potential during training at the university.

A question was also asked about what abilities students think they have. Out of 117 respondents, 23 people found it difficult to answer this question. Perhaps these students take too much upon themselves, so they do not think they are capable, unique in any field. Or, they have evenly developed many intellectual abilities, which

does not give reason to single out one of the abilities. It can also be assumed that the students found it difficult to formulate an open-ended question, and it would be easier for them to answer it if they were offered answers in the form of a menu. Ninety-four respondents could identify certain abilities. These abilities were correlated by the authors with the types of intelligence according to Gardner (see Table 4).

Table 4. Students' Prevailing Intelligence Types according to H. Gardner

<b>Dominant kind of intelligence</b>	<b>Number of respondents</b>	<b>Percentage</b>
Bodily kinesthetic	50	42.73%
Linguistic	36	30.77%
Musical	36	30.77%
Personal	33	28.2%
Logical and mathematical	24	20.51%
Spatial	7	5.98%
<b>Do not have outstanding abilities</b>	<b>23</b>	<b>19.66%</b>

Most often, students indicated abilities related to bodily-kinesthetic intelligence (50 respondents). Linguistic (36 people) and musical types of abilities (36 people) were the second frequently mentioned ones. Musical abilities indicate the ability to both perform musical works and create them. Spatial intelligence was in the last place, only 7 respondents indicated it.

The quality of learning also depends on such personal qualities of students as discipline, perseverance, efficiency, and observation. As for students' discipline before entering the university, the average value of the group was 9 points. At the moment, according to respondents, the average value of their discipline was 8.81 points. Such quality as persistence was evaluated in a similar way. Before entering the university, the average score was 7.88 and at the moment the average score was 7.79. In terms of students' performance before entering the university, the average value in the group of respondents was 7.71 points. At the moment, according to students, the average value of their performance was 8.34 points.

When assessing the quality of education, it is also necessary to focus on the level of formation of a future teacher's universal competencies, regardless of the field of study. The content of these competencies is determined by the Federal State Educational Standard for Higher Education – Bachelor's Degree (see Table 5). The first universal competency involves the ability to search for, critically analyze and synthesize information. The average score for the level of competency development was 7.48. The average score for assessing the conditions created by the university was 8.04 points. The second universal competency implies the ability of a future teacher to determine the range of educational tasks and choose the best ways to solve them. The average score for students assessing their ability to optimally solve educational problems was 7.64. The conditions created by the university were rated on average by 7.9 points. The following competency involves the ability to carry out the subject-subject interaction and influence the work of the team.

Table 5. Universal Competencies

Content of the competency	Group Average	
	Maturity of competency	University conditions for competency formation
ability to implement search, critical analysis and synthesis of information, apply a systematic approach to solving the assigned training problems.	7.48	8.04
ability to determine the range of educational tasks in the framework of the goal and choose the best ways to solve them, based on available resources and limitations	7.64	7.9
ability to carry out subject-subject interaction with teachers	7.94	8.09
ability to carry out subject-subject interaction with fellow students	8.63	8.56
ability to contribute to team work	7.94	8.43
ability to carry out business communication in oral and written forms in the state language of the Russian Federation and foreign languages	7.6	7.62
ability to perceive the intercultural diversity of society in social and ethical contexts	7.62	-
how well the university environment creates the conditions for the development of a tolerant attitude towards:		
- people of other culture	-	7.81
- dissent	-	7.63
- representatives of various subcultures	-	7.42
ability to manage your time, build and implement the path of self-development	7.15	7.15
ability to maintain your physical fitness, maintain a healthy lifestyle	6.6	7.33
ability to create and maintain safe living conditions in:		
learning activities	8.44	8.62
Leisure activities	8.48	8.54
Internet access for educational purposes in the educational buildings of the university.	-	7.88
students' using gadgets in the classroom to solve learning problems.	7.31	-
<b>Readiness for academic mobility</b>	<b>6.79</b>	-

According to students, they can build subject-subject relationships with teachers (with an average of 7.94) and

think that teachers create conditions for this (on average by 8.09 points). The ability to build relationships with fellow students was rated an average of 8.63 points. The merit of teachers in this was estimated at 8.56 points. The ability to contribute to the work of the team was rated at 7.94 points. The conditions teachers create for this were estimated at 8.43 points.

The ability to carry out business communication in oral and written forms was evaluated by students on average by 7.6 points. They think that the university helped them in this by an average of 7.62 points. Students rated their ability to perceive the intercultural diversity of society in social and ethnic contexts at an average of 7.62 points. They also believe that teachers purposefully form tolerance for people of a different culture by an average of 7.81 points, dissenting views by 7.63 points and for representatives of different subcultures by 7.42 points. The students rated the ability to manage their time and design the trajectory of their professional development on average by 7.15 points. The conditions the university creates for the formation of time management skills received the same score. Students rated their ability to keep fit and lead a healthy lifestyle by 6.6 points. According to respondents, the university environment contributes to this by an average of 7.33 points. The respondents assessed the ability to create and maintain safe living conditions (in educational (8.44 points) and leisure (8.48 points) activities) at a high average rate. In their opinion, the university also provides safe living conditions (average values of 8.62 and 8.54). One of the conditions of accessibility and quality of education is an indicator of the digitalization of the educational environment. Accessibility of the Internet at the university was rated by students at an average of 7.88 points, the use of gadgets in the classroom to solve educational problems was rated at 7.31 points. Students who participated in the study are aware of the external academic mobility provided by the university (94% of respondents are aware and only 6% are not aware of this possibility). As for the question "How much are you ready to receive the experience of studying at a university in another country (under an academic mobility program)?", the average value obtained was 6.79 points.

## **Discussion**

By the quality of teaching, students rated the research activity of teachers above all. A teacher understands that for the formation of the professional position of a future teacher, he/she must empirically accumulate knowledge about the modern education system. The research activity reflects the level of a teacher's professional qualification, makes him/her and the research team recognizable in a specific field of research. This makes it possible to satisfy one's own professional interests through scientific publications, participation in international conferences, communication with like-minded people.

Students also say that teachers are generally passionate about teaching activities. The profession of a teacher implies the presence of creative abilities, for the implementation of which pedagogical communication creates the ground. Pedagogical creativity presupposes the existence of a set of general creative qualities characterizing any creative person, regardless of the type of activity: erudition, sense of innovation, the ability to analyze and introspect, flexibility and breadth of thinking, activity, volitional powers, developed imagination, the ability to predict. A teacher's creative personality is characterized by a special pedagogical enthusiasm, a clear understanding of "super-tasks" of pedagogical work – the education of a future competent teacher. It is

important for such a teacher to be a mentor for students, an innovator demonstrating the variability of solving problems and thoughts.

Students think that university teachers have a high level of competence in the subjects taught. A teacher's competence includes a focus on teaching. In practice, it is manifested through the teacher's attitude toward work and professional success, which students see and notice. Such a teacher is an example for students; they perceive him/her as a creative person who has a need for self-improvement and self-fulfillment. The assessment of active communication and keeping in touch with colleagues from other educational organizations can be placed further in the authors' rating. The assessment of the ability to maintain relationships with colleagues and students of one's own university turned out to be slightly less. According to students, the teacher is more focused on interaction with the external educational environment than with the internal one. Most likely, this assessment can be called objective due to the modernization of the education system and the teacher's needs to meet the requirements of professional mobility, the desire to improve his/her competence through collaborations with representatives of the scientific community, both Russian and international.

However, teachers' observation skills, i.e. the ability to notice the significant characteristic features of students in the interaction, were assessed by respondents slightly below the above indicators. On the one hand, this situation can be regarded as the teacher's orientation toward the research activity, preoccupation with it. Perhaps this is due to the increasing requirements for a university teacher as a researcher, since a teacher's scientific achievements are an important indicator of the university's credibility, its recognition at the world level. On the other hand, this situation can be explained by the fact that a teacher is more focused on his/her professional growth, while spending less energy on the search for an individual personality-oriented approach, which is what students feel in the process of interpersonal communication with the teacher.

Thus, considering the first question of research, we can note that, firstly, students give high marks to the quality of teaching at their universities. Secondly, the highest praise was given to the teachers' research activities. It is necessary to agree with the obtained indicator, since the research activities of teachers and other criteria that make up the quality of teaching increase the recognition of both individual teachers and the university as a whole. Scientific laboratories and research conducted by university professors are of interest to world universities working in the same direction. The teachers involve students into their research, and they conduct analysis in the framework of course projects, the activities of scientific laboratories, etc. All this, of course, contributes to improving the quality of education in Russia and promoting Russian education in the university world ranking.

When asked about the level of students' knowledge of major subjects, students averaged value, tending to a high level, testifies to the willingness to master the profession of a teacher. According to statistics from university admission committees that took part in the study, the average student score for the Unified State Exam in 2018 was 69.26 out of 100 possible points (students of Ammosov North-Eastern Federal University – 65 points; Elabuga Institute of Kazan Federal University – 73.51 points). This indicates that students have the ability to learn at average and above-average values. Therefore, they have the necessary basis for the quality assimilation

of academic disciplines at the university, which is reflected in the survey result.

Digital competence is one of the important competencies of a future teacher. This competence requires skills and abilities in working with cloud technologies, text editors, Excel files and high mastery of digital technology in general to solve future professional tasks. According to the researchers, students have difficulty designing their learning activities using digital mobile devices. The average values show an increase in digital competence among students during their studies at the university. Differences in average scores were verified using Student's t-test. The significance of differences was found in the ability to work with Excel ( $p = 0.006$ ) and a text editor ( $p = 0.037$ ). No differences were found in the ability to work with cloud technologies. Thus, according to students, teachers' competencies related to using cloud technologies are not sufficiently formed. Perhaps this result is due to the lack of teachers' competence in this matter. At the same time, the administration of universities understands the need to improve teachers' digital competence and organizes appropriate continuing education courses.

Another important competence of a modern teacher is the ability to conduct intercultural communication, which requires knowledge of an international language (English). The questionnaire contains questions to assess the level of English language proficiency before entering a university and while studying in it. It should be noted that 37% of the respondents were students specializing in Foreign Language. Differences in mean values are statistically confirmed. Thus, students feel an increase in language proficiency.

Answers to the questions in the questionnaire also reflected the motivational aspect indicate an active position of students, their desire to reveal their potential during training at the university. Most often, students indicated abilities related to bodily-kinesthetic intelligence. Such students prefer physical activity, sports, manipulation of things, theatrical performances, role-playing games, physical labor; demonstrate dexterity, good coordination, ability to control one's own body and quick switching of attention. Linguistic and musical types of abilities were the second frequently mentioned ones. Developed linguistic intelligence is shown by people with a good sense of language, memorization of words, who easily listen to others and know how to tell interesting things. Musical abilities indicate the ability to both perform musical works and create them.

Personal intelligence suggesting the presence of such abilities as understanding oneself and participants in the interaction, the ability to feel changes in the mood of others, empathy, took the third place in the students' answers. Such qualities are necessary for a teacher. Next is the students' logical-mathematical intelligence. It includes the abilities associated with mathematical and logical calculations, the identification of cause-effect relationships. Spatial intelligence was in the last place. This type of intelligence involves the ability to think in three dimensions. These people like performing such tasks as mazes and puzzles in leisure time.

This ratio of abilities requires explanation. The respondents were young people aged 18 to 24, therefore, first, bodily-kinesthetic abilities are due to the natural need for physical activity, as well as a fashion for a healthy lifestyle. Second, a future teacher needs to have developed linguistic abilities, since the language is a working tool. Thus, it may be said that students have chosen professional education in accordance with their abilities.

Musical intelligence is at the same level of development. This can be explained by several points: 1) a feature of age (passion for music); 2) the availability of music education for all social groups in Russia. A high level of songwriting and playing musical instruments by many students at university artistic events is proof of developed musical abilities. Such a teacher will be able to organize interesting events in curricula and extracurricular time. Third, the personal intelligence of a future teacher will allow him/her to quickly navigate in relations with participants in the educational process, motivate them, and create comfortable conditions both for themselves and for students. Fourth, spatial intelligence is desirable for teachers of mathematics and physics, and there were 14 such respondents, so only 7 respondents indicated that their spatial intelligence was highly developed.

The quality of learning also depends on such personal qualities of students as discipline, perseverance, efficiency, and observation. The questionnaire contained questions regarding the development of the above qualities before entering the university and at the moment. There were no significant differences between the average values for discipline ( $p=0.49$ ). Students consider themselves highly disciplined both in the past and in the present. They can obey the requirements and rules of the learning process. Perhaps discipline is one of the qualities ensuring admission to the university, as well as helping students to cope with academic tasks, to complete the work they have begun, to be successful.

Such quality as persistence was evaluated in a similar way. No significant differences were found between the average values for persistence ( $p=0.06$ ). The data obtained indicate that students have a high level of perseverance, i.e. students can achieve their goals, overcoming difficulties. These results are correlated with discipline results. Both qualities are indicators of a person's developed will.

Differences between the average performance values at a tendency level were revealed. It can be seen that the students' working capacity is currently higher than before entering the university. Most likely, this is due to the high requirements for studying at a university: a high rate of mastery of educational material, development of professional skills, fulfillment of public assignments and active participation in university life; all this requires really high performance. There were no statistically significant differences in the average values for observation. The results can be rated as high. Such students, both during their studies at the university and before admission, consider themselves capable of noticing the characteristic and essential properties of people, phenomena, and objects. Thus, it can be argued that applicants who have entered a university already have such personal qualities as discipline, perseverance in achieving a goal, attentiveness to details, at a high level of development, while their performance improves while studying at the university. The presence of these qualities provides a favorable forecast for the formation of a teacher's personality in the learning process and further self-fulfillment in professional activities.

The first universal competency, studied by our respondents, involves the ability to search for, critically analyze and synthesize information. In their answers, students rated their own level of its development and gave an assessment of the conditions created by the university for its formation. No statistical differences between these average sample values were found ( $p=0.17$ ). Thus, it can be noted that students are satisfied with their ability to apply a systematic approach to solving tasks and the conditions created for this. The second universal

competency implies the ability of a future teacher to determine the range of educational tasks and choose the best ways to solve them. No statistical differences were found between these average sample values ( $p=0.48$ ). Thus, graduate students feel up to cope with professional tasks, using available resources, as well as highly appreciate the role of the university.

The following competency involves the ability to carry out the subject-subject interaction and influence the work of the team. According to students, they can build subject-subject relationships with teachers and think that teachers create conditions for this. No statistical differences between these average sample values were found. The ability to build relationships with fellow students and the merit of teachers: no statistical differences were found between these average sample values. The ability to contribute to the work of the team and the conditions teachers: no statistical differences were found between these average sample values.

It can be seen that university teachers pay great attention to the development of subject-subject, business relations, teamwork, and students note a high level of their formation. This corresponds to the requirement of the teaching profession – the ability to qualitatively, effectively interact with participants in the educational process. The ability to carry out business communication in oral and written forms and what they think that the university helped them in this by: no statistical differences were found between these average sample values ( $p=0.09$ ). For a future teacher, it is very important to be able to competently carry out business communication, since language is the main professional resource of a teacher.

It can be seen that students can show tolerance to different people. Such a teacher will be able to find an individual approach to each student and fulfill his/her professional duty. The students rated the ability to manage their time and design the trajectory of their professional development on average by 7.15 points. The conditions the university creates for the formation of time management skills received the same score. Based on a 10-point scale, these values fall into the zone above the average. It can be said that, according to respondents, the university does not create enough conditions for a student to independently search for his/her personal identity, for self-organization of time and designing the path of self-development.

Students rated their ability to keep fit and lead a healthy lifestyle and according to respondents, the university environment contributes to this by: no statistical differences between these average sample values were found ( $p=0.16$ ). It can be seen that students care about their health only at an average level, while the university, according to respondents, also does not pay enough attention to this problem. The respondents assessed the ability to create and maintain safe living conditions (in educational and leisure activities) at a high average rate. Thus, students feel comfortable in educational-training activities and beyond them.

One of the conditions of accessibility and quality of education is an indicator of the digitalization of the educational environment. No statistical differences between these average sample values were found ( $p=0.16$ ). Thus, according to students, digitalization at the university is above average. Students actively use digital technologies in the educational process both for quick information retrieval and for communication with fellow students and teachers.

It is impossible to imagine a modern education system without students' academic mobility, which is aimed at improving the quality of education, introducing its new forms and technologies, increasing students' competitiveness; in this case, external mobility is more valuable. External academic mobility is an exchange of students between Russian and foreign universities for a certain period of time, so students can visit recognized knowledge centers where leading scientific schools are formed and, as a result, a student has the opportunity to choose an individual educational path, to acquire better educational services. Students who participated in the study are aware of the external academic mobility provided by the university. However, this value indicates that not all students are ready for academic mobility, despite the fact that everyone can use it. It should be noted that both universities cooperate with universities of different countries of the world (North-Eastern Federal University: German Federal Republic, Kazakhstan, China, Korea, Japan, Austria, France, the USA, Canada; Elabuga Institute of Kazan Federal University: Germany, China, Bulgaria, Czech Republic).

The results obtained as part of the answer to the second question of the study suggest that there are differences in the following criteria for the quality of learning before entering a university and while studying at a university: the level of knowledge and skills in working with Excel files, the level of knowledge and skills in working with text editor, the level of foreign language proficiency. When analyzing the average values for the formation of students' universal competencies and the influence of the conditions created by the university on the formation of competency, no statistically significant differences were found for the following indicators: the ability to search, critical analysis and synthesis of information; the future teacher' ability to determine the range of educational tasks and choose the best ways to solve them; the ability to carry out the subject-subject interaction and influence the work of the team; the ability to build relationships with fellow students; the ability to contribute to the work of the team; the ability to carry out business communication in oral and written forms; the ability to perceive the intercultural diversity of society in social and ethnic contexts; the student's ability to manage his time and design the trajectory of his professional development; the student's ability to create and maintain safe living conditions; accessibility of the Internet at the university; the use of gadgets in the classroom to solve educational problems. This means that students are satisfied with the conditions that universities create for high quality education. The obtained results indicate the high quality of the education management system in the universities involved in the study. The experience of implementing the educational programs of these universities can be extended to other universities in Russia.

## **Conclusion**

The questions raised in this study are related to the analysis of the ideas of pedagogical university students about the quality of their education. The analysis of the results showed that students highly rated the quality criteria for teaching: university teachers' level of competence, teachers' willingness and ability to be engaged in teaching, teachers' power of observation, teachers' ability to establish contacts with the external environment, teachers' ability to establish contacts with the internal environment, teachers' research activities. Students rated the conditions positively conditions for students' vocational training, for example, the use of digital technologies in the educational process; students' personal qualities, intellectual abilities and practical skills, providing high learning outcomes, which is confirmed by the methods of mathematical-statistical processing of the results. The

teacher's focus on personal interaction with students and students' motivation in expanding the boundaries of self-development due to academic mobility are not highly appreciated. Thus, 1) our study showed that the experience of two Russian universities: fully ensures the quality of education of students studying in them and can be a guide for other Russian universities seeking to improve the quality of education; 2) the students' view on the quality of education allowed us to identify its problem areas. Nevertheless, the study has its limitations, since only two federal universities act as respondents. 3) Future studies may rely on data collection through observation and documentation, using data collection or using a quantitative or experimental form of research on an even wider sample of respondents and a wider range of assessed indicators.

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