ARPHA Proceedings

Proceedings IFTE-2020, 1161-1178
doi:10.3897/ap.2.e1161

VI International Forum on Teacher Education

System-Forming Dominant of Professional Qualities Formation of a Teacher on the Basis of Contextual-Network Technology

Emilia P. Komarova * (a), Natalia I. Viyunova (b), Svetlana K. Gural (c), Alexander S. Fetisov (d)

(a) Voronezh State Technical University, 394026, Voronezh (Russia), 14 Moskovskii Prospect, vivtkmk@mail.ru
(b) Voronezh State University, 394006, Voronezh (Russia), 1 University Square, vjunova@mail.ru
(c) National Research Tomsk State University, Tomsk (Russia), 634050, 36 Lenin Avenue, gural.svetlana@mail.ru
(d) Central Branch of Russian State University of Justice, 394006, Voronezh (Russia), 95 October 20th Anniversary, asfet-2011@mail.ru

Abstract

Due to the rapid globalization of the modern educational space, pedagogical education in Russia characterized by the process of large-scale modernization, which has led to growing problem of educator training as a multicultural personality capable of network collaboration with educators of both domestic and foreign countries. Orientation on the educator training capable of expressing responsibility and self-independence in the decision making, creativity and initiative is becoming the primary trend in the State policy in the context of educational sphere, that is viewed as the factor of development not only of the personality of a student, but also of an educator.

The goal of the paper is to argue a theoretical foundation of the professional qualities of an educator in the context of contextual-network technology, the basis of which are the ideas of contextual education, androgogy, ideas of network learning. These trends are more focused on the problems of the professional qualities formation of an educator in the context of a health-saving educational environment in which the personalities of education interact to obtain a holistic picture of the world.

However, the practical experience of professional qualities formation showed insufficient development of this problem in accordance with the requirements of the FSES HE and the introduction of digital technologies in the learning process, which is confirmed by regulatory documents, in particular the Russian Government's Resolution on the Approval of the State Program of the Russian Federation "Education Development (from 26.2017 No.1642)."All abovementioned trends have updated the need to develop the problem of professional qualities formation of an educator.

Research methods of research are: theoretical (analysis of philosophical, psychological and educational literature, theoretical modeling of structural and meaningful basis of the study process; empirical (questionnaire, business games, projects); diagnostic (analysis of activity products, summative phase, pedagogical experiment, methods of mathematical statistics).The concept of "professional qualities of an educator is revealed" and the system of

* Corresponding author. E-mail: vivtkmk@mail.ru

professional qualities of an educator is argued, and its effectiveness is proved.
Contextual and network technology is developed and the author's program «Professional Qualities Formation of an Educator in the Context of Health-Saving Educational Environment" contributed to the health saving and the natural potential of an educator and motivated an educator to achieve the results and pedagogical comfort.

***Keywords*:** system-forming dominant, professional qualities formation of an educator, digital resources, program, health-saving educational environment

Published by Kazan federal university and peer-reviewed under responsibility of IFTE-2020 (VI International Forum on Teacher Education)

Introduction

The relevance of the study is determined by the need to theoretically justify the professional qualities of an educator in the context of contextual-network technology (training system) due to a number of factors (Komarova et al., 2019).

The last decades have been characterized by deterioration in physical and mental health, both educators and students that is proved by statistics on the number of students and educators registered in the dispensary - 50%. One of the priorities for correcting this alarming situation is the development of physical culture and sports. The following factors have been revealed: the need to form the professional qualities of a modern educator in accordance with the requirements of the FSES HE; the actualization of educational resources in accordance with digital technologies introduction, the strategy for the development of physical culture and sports, the updated program of the «ready for labour and defence».

Modern education is in the process of large-scale modernization. One of the main theoretical trends in which the innovations are realised in competence paradigm is the integration of synergetic ideas in a wide variety of knowledge fields. According to Budanov's ideas (2007), the modernization of education is characterized by the integrity and interdisciplinarity based on ideas of transparency, emergence and non-linearity allowing to consider the process of professional qualities formation of an educator as transparent and self-organizing system (Haken, 2013; Budanov, 2007).

From the point of view of Markova (1996), the professional qualities formation of an educator are realised in a health-saving educational environment, and are considered as an interdisciplinary systemic education that requires a poly-professional approach to the identification of the psychological foundations of

cognition principles that requires a reconceptuaization and modernization of the technology of professional development: goals, objectives, approaches and methods of learning (Markova, 1996; Fetisov, 2019).

In a rapidly changing world, the main professional quality of the educator should be the constant willingness of an educator to demonstrate to learners the ability to learn. The manifestation of creativity (Kelly, 2003), responsibility and autonomy in decision-making - all these qualities of a successful professional educator should be fully typical of an educator (Kapterev, 1982). According to Kapterev (1982), the educator should have not only so called "special pecularities of an educator" or "mental properties", but also moral-will qualities.

Another subjective feature of pedagogical activity is resilience in relation to the "emotional burnout syndrome" (Aminov, 1997) at the level of psychophysiology.

The retrospective analysis allowed to highlight the following professional qualities of the educator: invariant (initiative, professional competence, organizational abilities, authority, etc.) (Komarova, 2012); variative (fairness, poise, discernment, resourcefulness, purposefulness, etc.); integration of invariant and variable professional qualities ensures the formation of the educator emotional intelligence, critical style of thinking, professional self-realization, etc.).

Thus, the professional qualities of an educator are systemic transformation of the personality, based on the integration of personal-active, contextual, integrative-personal (Breakwell, 1993), acmeological, etc. approaches and professional experience of an educator. In the context of this study, the process of professional qualities formation of an educator (Slastenin et al., 2012) is considered as complex of its subjective properties, which is provided by all stages of both personal and professional development of an educator in the conditions of health-saving environment. The content characteristics of an educator are pedagogical, educational, technological, monitoring and subjective components.

Methodology

The theoretical and methodological basis of the research in this paper is presented by scientific works at the philosophical level: ideas on the integrity of an active personality (Berdyaev, 2003); at the general scientific level: a systemic approach (Averyanov, 1985) allowing to present the components of the professional qualities of an educator as a complete set; synergistic approach (Budanov, 2007) based on ideas of transparency, emergence, non-linearity, allowing to consider the process of forming the professional qualities of an educator as an open self-organizing system; personal-active approach (Vygotsky, 1984), which considers the process of forming the professional qualities of an educator as a purposeful activity;

The essence of the interaction of educational entities that realize their creativity, the ability to choose their own ways of doing things to achieve their goals; contextual approach (Verbitsky, 2017), ensuring the formation of the professional qualities of an educator in the maximum approximation of the educational process to the features of the upcoming professional activity.

The goal of the study is to develop professional qualities of an educator on the basis of contextual-network technology and the author's program "Formation of the professional qualities of the educator in the context of a health-saving environment" (Fetisov et al., 2017).

According to the goal of the study, the author's program for the formation of the educators' professional qualities in the context of the health-saving environment (training system) and contextual-network technology of professional quality formation (Fetisov, 2019) was developed. The creative potential of the professional qualities formation of educator is the author's program "Professional Qualities Formation of an Educator in the Context of a Health-Saving Educational Environment (Training System)" based on an integral pedagogical model using contextual and network technology (Fetisov, 2019).

In the course of implementing the program of the professional qualities formation of educator in the context of the health-saving educational environment, three blocks are used including: Block 1 (the theoretical-methodological problems of the health-saving educational environment - module 1; functional and dynamic patterns of the formation of the health-saving educational environment of the school - module 2); Block 2 (the essence and structure of the professional qualities of a modern educator - Module 1; "Portrait of a Modern Educator" and others - Module 2; organization and method of receiving tests to determine the level of development of coordination abilities, flexibility, strength, organization and management of volunteer activities in the process of implementation of the sports program and healthy lifestyle - modules 3, 4); block 3 (interpersonal interaction of educational subjects in the context of health-saving educational environment - module 1; All-Russian project "Sambo in the School of General Education"

Contextual network technology was based on contextual education, networking ideas, principles and technologies; ideas of andragogy. Thus, contextual-network technology represents the integrative unity of three sources: the theory of contextual education (Verbitsky, 2017), network learning (Bogomolov, 2006; Siemens & Weller, 2011), ideas of andragogy (Gromkova, 2003; Noulz, 1998).

The purpose of contextual network technology is to develop the professional qualities of an educator in the context of a health-saving educational environment through the implementation of integral principles, forms, methods and means of networking.

The digitalization of education and digital transformations in technology have an impact on "digitalization" in various spheres of life (Scardamalia & Bereiter, 1994; March, 2001). This is confirmed by the Russian Education Development Program (Government of the Russian Federation, 2017), which aims to develop a digital educational space. In order to determine the skills of digital education, educators were surveyed and three areas of development of digital education were formulated: the educator with low level digital literacy – 44.2%, educators possessing of visual communication means, educators with a low level of ownership of network training - 25.3%. 5.

The requirements for mastering digital technologies have been defined: the use of quality digital resources; implementing a mixed learning model personification; the use of network collaboration ownership of remote educational technologies and clusters of contextual network technology.

In accordance with the plan and objectives of the organization and experimental work, a block of diagnostic methods were prepared, supported by Larichev (2002), Sidorenko (2002), Fetiskin et al. (2008).

Research methods

- theoretical (analysis of philosophical, psychological and educational literature, analysis and synthesis of scientific categories and empirical phenomena, theoretical modeling of structural and meaningful foundations of the study process, generalization of innovative and own pedagogical experience, systematization, classification and specification of data, content analysis;

- empirical (questionnaire, interviewing, testing, expert evaluations, self-assessment, generalization of independent characteristics, business games, design techniques; observation (direct, indirect and long-term observation, self-observation); diagnostic (analysis of products of activity, fomative and summative assessment, forming pedagogical experiment; diagnosis of levels of professional qualities of the teacher; quantitative and qualitative analysis of the results using the rank criterion Wilcoxon, the method of correlation analysis, Pearson's correlation ratio, statistical method of grouping).

Experimental work was carried out from 2003 to 2019 in the natural conditions of educational institutions.

An overall number of people 1,227 took part in the experiment, including 31 educators who were teaching students on a program developed by the author of the dissertation, 9 experts who were advising both educators - students of refresher courses, and educators who implement the process of retraining teachers.

Results

Experimental work on the implementation of the model of the formation of the educators professional qualities was carried out in three interconnected and mutually conditioned phases: formative, summative and, final (final). At each stage, the objectives were solved by appropriate methods and means.

The summative assessment allowed the following tasks to be solved:

- to identify and substantiate the criteria and indicators for assessing the qualifications of the educator's professional qualities;
- to select a set of diagnostic techniques to identify levels of fitness of educator;
- to formulate the level meaningful characteristics of the components of the formation of the educator's professional qualities (motivational-value, cognitive-gnostic, active-organizational, reflexive-evaluation);
- to analyze the results of summative phase of experimental work and to form control and experimental groups.

In order to diagnose the formation of the professional qualities of an educator, we have identified and justified the following criteria: motivational, knowledgeable, praxiological and reflexive.

The motivational criterion is determined by the interest and goals, professional actions of an educator in the context of a health-saving educational environment. Indicators of motivational criterion are the motivation of the professional qualities formation of an educator; the need to achieve success in professional activities; the value of the profession of physical culture, which is important for society and his personality.

To determine the levels of motivational criterion of professional qualities formation of an educator in the context of the health-saving educational environment of the educational organization used the method of Samfir in the modification of Rean "Motivation of Professional Activity" (Samfir & Rean, 2008), study of the need to achieve by Orlov (1987), Rokich's methodology "Value Orientations" (2005).

The results of the diagnosis of motivation of professional activity, given show a fairly even picture of the motives of professional activity, in which external negative motivation in almost all respondents prevails to a noticeable degree. This result is most likely due to the emotional instability of the teacher's personality and lack of activity in the process of forming the most important professional qualities and competencies.

The diagnostic method of Orlov (1987) was used to identify the levels of need for achievement.

Analysis of the results shows that the need of achievements of an educator in Voronezh, Kursk and Volgograd educational institutions plays a prominent role such qualities as: diligence, confidence, perseverance, determination, patience, the meaning of education. At the same time, random circumstances, luck plays a significant role in the promotion of the career. Educators have an interest in developing their abilities, professional qualities, in the performance of professional plans and prospects of life.

Values of orientations, which are important for professional activity and for society, were determined on the basis of Rokitch's diagnostic methods (2005), which identify terminal and instrumental values that set goals in the profession and life, as well as the preferred means of achieving them.

Analysis of terminal values shows a significant difference in the values-goals of educators. Thus, the indicator "Active Activity Life" for educators of the Kursk Institute of Educational Development is in the 5th place, and the Volgograd Institute of Vocational Education - in 16th place; "Love" in the Kursk Institute of Educational Development is in first place, and educators of the Lipetsk Institute for Educational Development - in 16th place. Such test results appear to be related to different insights into performance, creativity, joy, success and frustration in professional activity and personal life.

Among the instrumental values of educators, high results were obtained on the indicator "Open mindedness" (1, 1, 2, 3 places in educational institutions, respectively), "Honesty" (6, 3, 1, 2 places). Disappointingly, the low result in terms of "Intransigence to the shortcomings of oneself and others" (16, 17, 16, 18 places in the ratings), "Self-control" (15, 15, 15, 17 places), "Courage in the justification of one's opinion, views" (17, 13, 17, 15 places), which indicates a lack of autonomy in beliefs, low self-regulation of mental states, lack of self-regulation.

Presented results on three indicators of the motivational criterion for the formation of the professional qualities of educators were determined individually, then the average score was summed up and calculated, the levels were identified.

Analysis of the results of the testing shows that educators studying in Voronezh, Kursk, Volgograd, Lipetsk Institutes of Education Development have fairly close levels on the motivational criteria for the formation of professional qualities: the low level was found in more than half of respondents to the Voronezh and Kursk Institutes of Education Development (52.5% and 54.8% respectively), and in Volgograd and Lipetsk just under half (46.7%, respectively). The average level was found in 10.9% of respondents (11.1%, 10.0%, 11.8%, 10.9% respectively). The results on the motivational and value component of the trainee-educators

can be estimated as low. Most of the students are not motivated to develop professional qualities during the development of skills.

The knowledge criterion is related to the formation of the teacher's pedagogical and methodological culture, the problems of physical education, the basics of a healthy lifestyle, the features of interpersonal interaction between the subjects of the educational process in a healthy environment, etc. Indicators of knowledge criterion are: knowledge in the field of physical culture; awareness of perception of professional knowledge; independence and depth of judgment in the field of physical culture.

To determine the levels of formation of the cognitive component of the professional qualities of an educator in the context of the health-saving educational environment of the educational organization, a diagnostic method developed on the basis of the methods of Derkach et al. (2000) and others was used.

Groups of significant professional qualities of the teacher were edited, where the leading rank was occupied by organizational qualities (4.18 points), the second place was taken by intellectual qualities (3.84 points), the third place - communication qualities (3.36 points), the fourth place - moral qualities (3.17 points), the fifth place - emotional-strong qualities (2.86 points).

In accordance with the logic of the study, a level assessment was carried out of the active and organizational component of the formation of the professional qualities of an educator in the context of a health-saving educational environment. The measure of this component was the praxiological criterion, and the indicators were: the orientation of the individual, the desire to master organizational abilities in the field of physical culture, the ability to self-development and self-education.

Analysis of the results of the test showed the predominance of the educators' personality on communication (on average 38.0%), slightly lower results on the focus on the case (31.1%) The prevalence of the personality's focus on learning confirms the commitment of respondents to joint activities, to assist in difficult professional and life situations. And on the case (31.1%), which form negative manifestations in business cooperation, because in this case it turns into rivalry and aggressiveness, which is not always useful for achieving the goal.

The praxiological criterion is due to the development of various ways of activity, self-fulfillment in work, creativity, professional development on the basis of design, organizational, technological and communicative aspects of the teacher's professional activities. Indicators of the praxiological criterion are: mastery of various activities in the field of physical culture; manifestation of motor activity in all areas of educational activity; self-development and self-education in the field of physical culture.

The "Communicative and Organizational Inclinations" (COS-2) technique was used to determine organizational abilities and their desire for development in the field of physical culture.

The testing shows the predominance of low level of organizational tendencies in almost all respondents (Voronezh Institute - 51.3%, Kursk Institute - 49.4%, Volgograd - 52.3%, Lipetsk - 50.2%), high level in general by institutions showed only 15.6% of respondents. The communicative tendencies of all respondents were higher than the organizational (low level respectively: Voronezh Institute - 43.2%, Kursk Institute - 37.5%, Volgograd - 40.2%, Lipetsk - 43.1%).

The ability to self-develop and self-educate the educator's personality and his readiness to form professional qualities were evaluated with the help of the test by Andreev (2011).

Testing showed that the ability for self-development and self-education among educators is at the average level (respondents scored respectively: Voronezh Institute - 38, Kursk Institute - 35, Volgograd - 32, Lipetsk - 35 points), which is 51.0% of the total number of respondents. The low level was found in 43.0% of listeners, high - only in 6.0%.

Analysis of the diagnostics of the active-organizational component of the formation of professional qualities showed that more than half of respondents to the Voronezh and Kursk Institutes of Education Development have a low level in this indicator (51.7% and 50.2% respectively). Respondents from the Volgograd Institute of Vocational Education and the Lipetsk Institute for Educational Development (46.6% and 46.7% respectively) had slightly higher results. Further development of educators organizational and communication abilities is required, and active actions on self-development and self-education are required.

The reflexive criterion reflects the attitude of the teacher to himself, self-esteem of his pedagogical activity, his understanding of the situation on the principle of "here and now" and planning his own activities for the future. Indicators of reflexive criterion are: the development of professional self-awareness; self-awareness as a professional; understanding of one's strengths and weaknesses in professional activities.

In order to identify the levels of reflexive evaluation component of the formation of professional qualities of educators, the diagnosis of self-control by Snyder (1974) was used.

Diagnosis of the degree of self-control and emotional lability in stressful conditions was carried out with the help of the test by Prokhorov (2012).

The results of the test on the state of stress resistance of educators showed that the average level (from 5 to 7 points) have more than half of respondents (50.2%), low level (from 8 to 9 points) showed 47.1% of respondents, high level (0 to 4 points) was found only in 2.7% of listeners.

To assess the reflection in the professional activities of teachers, the adapted method by Karpov (2003) was used.

Diagnosis of the reflexive-evaluation component of the formation of the professional qualities of teachers revealed the following: only 6.7% of respondents found a high level; Average - 50.8% of respondents; 42.5% of respondents.

The results of the final stage of the experiment on the formation of the professional qualities of the teacher in the context of the health-saving educational environment of the educational organization are presented in the Table 1.

Table 1 - Level characteristics of the formation of the teacher's professional qualities at the summative phase of the experiment (according to every criterion)

Levels	**Motivational**	**Knowledgeable**	**Praxeological**	**Reflexive**	**Integrated Results**
High	10,9	11,1	14,1	6,7	13,2
Medium	38,8	40,7	37,5	50,8	43,8
Low	50,3	48,2	48,4	42,5	43,5

Analysis of quantitative and qualitative results of the final stage of the experiment allowed to determine the rank indicators of significant qualities of the teacher: professional, reference, emotional comfort, semantic barriers. They are represented in the Table 2.

Table 2 - Significant qualities highlighted by teachers at the final phase of the experiment

№	Quality	Ranked
A	Professionalism:	
	Professional competence	1
	Intelligence	2
	Creativity	3
	Responsibility for the health of all subjects of education	4
	Psychomotorism	5
	Organization	6
B	Referentiality:	
	Authority	1
	Initiative	2
	Commitment	3
	Activity	4
	Demanding	5
	Self-control	6
C	Emotional comfort:	
	Intelligence	1
	Self-esteem	2
	Empathy	3
	Communication	4
	Tolerance	5
	A sense of humour	6
D	Sense barriers:	
	Trust	1
	Encouraging learners	2
	The ability to think creatively	3
	Respect for yourself and learners	4
	Age	5
	The need to improve your professional level	6

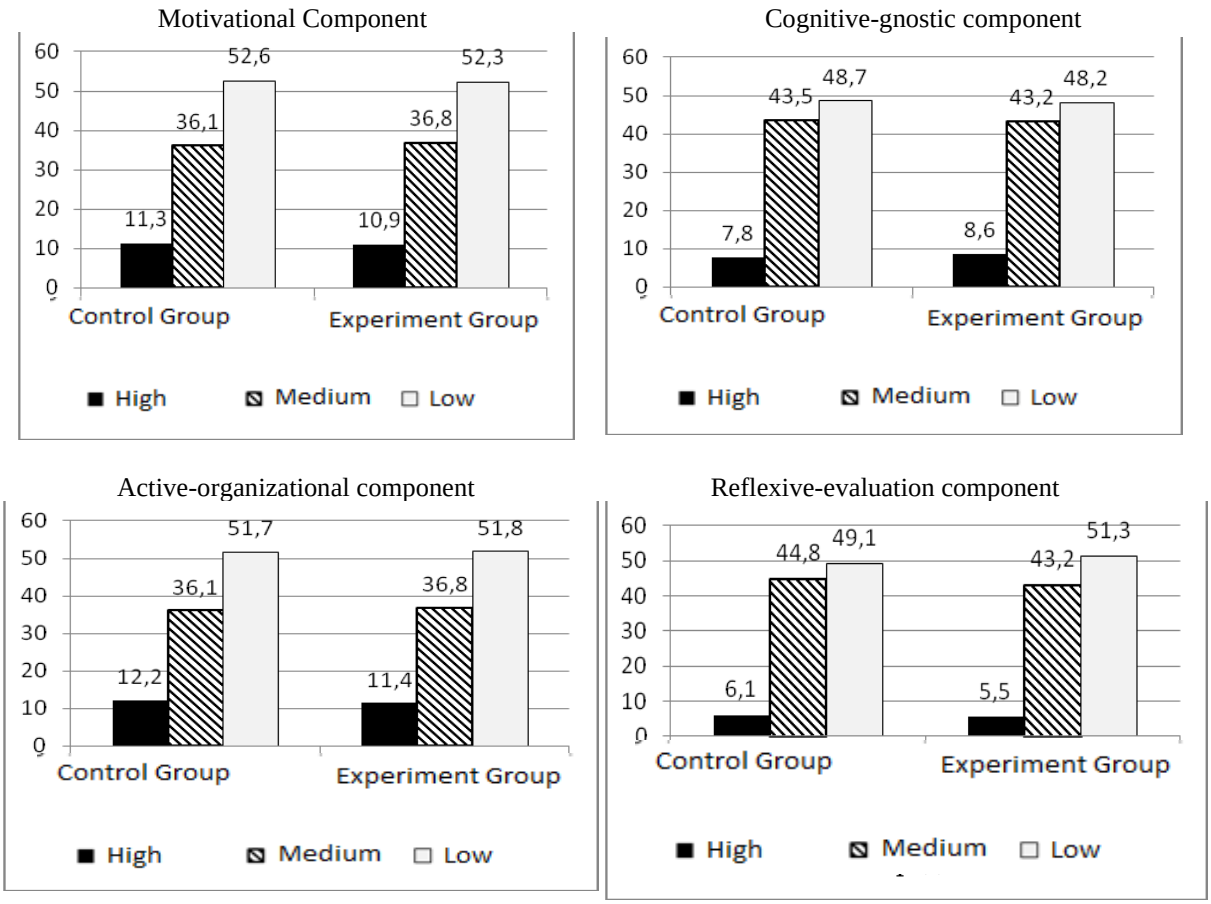

Figure 1. Diagrams of the results of diagnostic components of the formation of the educator's professional qualities at the summative phase of the experiment.

Discussions

Analysis and interpretation of the results of the summative phase of the experiment As a result of rapid diagnostics at universities: Voronezh IRO, Kursk IRO, Volgograd IPO, Lipetsk IRO - it was found that educators taking part in the experiment are mainly aware of the importance of forming professional qualities of educators of a new format, as well as the impact of health-saving educational environment on the formation of professional qualities of the educator. A health-saving educational environment includes a combination of material factors in the organization of the educational process, starting with classrooms. The impact of the health-saving environment on the formation of the professional qualities of the educator is investigated. Meanwhile, 69.0% of respondents on average in universities were able to correctly determine the essential characteristics of the professional qualities of educators. 49.0% of students are

familiar with the principles of interpersonal interaction of educational subjects. Respondents were not able to fully identify the list of professional qualities of the students of the advanced skills. The following qualities were highlighted: maintaining health - 80.0%, sociability, sociability - 85.0%, tolerance - 80.0% stress resistance - 61.0%, responsibility - 55.0%.

Respondents from four universities are as follows: 11.0% of educators are "fully satisfied" at the university, "satisfied mainly" - 35.0%, "not satisfied" - 54.0%.

These criteria and indicators of the results of the statistical experiment show that 43.8% of educators have the formation of professional qualities at the reproductive level; the high creative level was 13.3%.

Statistical verification of the knowledge criterion to identify differences in the level of the trait studied in the sample groups of respondents was carried out using the "Criterion" (Fisher's angular transformation), and the student's t-criterion was used to identify differences in the distribution of the trait. Significant differences were found between the control and experimental group in terms of "Knowledge in physical culture," "Professional-significant qualities" and "Self-reliance." Thus, it can be concluded that the groups are not significantly different from each other.

Table 3 - Statistical Check of the Criterion for the Criterion (Fisher's Angular Transformation) and The T-Criterion of the Student at the stature

Indicator	**Statistical criterion**	**The emerging experiment**
Physical knowledge	φ-criterion (Fisher's corner conversion)	0,206, p>0,05
	Student's t-criterion	0,31, p>0,1
Professional-significant qualities	φ-criterion (Fisher's corner conversion)	0,204, p>0,1
	Student's t-criterion	0,8, p>0,1
Independence	φ-criterion (Fisher's corner conversion)	0,205, p>0,05
	Student's t-criterion	0,19, p>0,1

As a result of the observational stage, we can conclude that the most developed indicators were: the development of professional sports skills, the maintenance of the sports form of the desire to show a constant interest in professional development in the field of physical culture, the perseverance to the achievements of sports results, the value of the profession (motivational criterion); the desire to increase professional knowledge, awareness of perception of professional significance (knowledge criterion); mastering different sports in the field of physical culture, manifestation of motor activity (praxiological

criterion); development of professional self-awareness as a professional understanding of their strengths and weaknesses in professional activities (reflexive). The least developed were the following indicators: the perception of themselves as an active organizer of sporting events, knowledge in the field of physical culture at the stage of formation. In general, respondents have a full understanding of the most significant professional qualities, which are expressed in the ability to accumulate knowledge in the field of physical culture, generate new original ideas, but not all respondents have the ability of self-educatiton and self-development.

During the course of the experiment, we found common professional qualities among educators: knowledge of the specifics of disciplinary impacts on students (professional competence); nurturing a careful attitude to a healthy lifestyle, responsibility for the state of health (knowledgeable criterion); to achieve success in professional activities, the desire for career growth, the formation of motivation among teachers in solving professional problems, creativity (motivational criterion); the desire to expand the scope of professional activity, the ability to independently and actively involve students in new projects (praxiological criterion); readiness for constant analysis based on the reflection of their pedagogical activities, stress resistance in problem situations, empathy (reflexive criterion).

Thus, the results of the study, obtained in the summative phase of experiment, confirm the need for targeted development of professional qualities in teachers through the implementation of an integral pedagogical model and the author's program "Formation of professional qualities in the context of a health-saving educational environment (training system)".

Classes with teachers at the formative stage were held at refresher courses under the developed program. The composition of the group was determined by the results of the final stage of the experiment using the following criteria: motivational, knowledgeable, praxiological, reflexive.

This paper describes only the summative phase of the experiment.

Conclusion

The paper presents a summative phase of the formation of the professional qualities of the educators in the context of contextual and network technology while observing methodological approaches that can not only interact with each other, but also amplify and improve others, expanding them and adjusting them to take into account the leading mechanisms for the formation of professional qualities of the educator on the basis of contextual-network technology. The advantage of application in the process of the formation of the professional qualities of the educator on the basis of the author’s program and context-network technology

relying on the integrative unity of the principles of the theory of contextual education, network learning, andragogy incorporating context-network technology clusters in digital education (forms of contextual education, digital literacy, means of visual communication technology, networking tools, gaming educational technologies) is shown.

Analysis of the results of the final summative phase of the experiment shows that the tried pedagogical conditions have provided to the participants of the experimental group with higher rates on all criteria for the formation of the professional qualities of the educator on the basis of contextual and network technology.

Based on the results of the test, Pearson's correlation between the qualities and components of the health-saving educational environment was calculated. Evaluation of the professional qualities of educators is provided by indicators of the relevant criteria, which characterize certain professional qualities: the value of the profession of the educator of physical culture is significant for the individual educator (experimental group showed 30.0%), in determining the levels of professional formation took into account the correlation of professional qualities with the health-saving educational environment: in experimental group 32.1% (creative level), 43.7% (productive level), 24.2% (reproductive level).

In order to form the professional qualities of the educator, the formative phase of the experiment should be carried out according to the same parameters as the summative phase.

Acknowledgements

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

References

Aminov, N. A. (1997). *Diagnostika Pedagogicheskih Sposobnostej* [Diagnostics of Pedagogical Abilities]. Moscow: Institute of Practical Psychology.

Andreev, V. I. (2011). Resource-based approach to the activation of innovative and self-development activity in the context of teacher education. *Education and Self Development, 1*, 3-7.

Averyanov, A. N. (1985). *Sistemnoe Poznanie Mira: Metodologicheskie Problemy* [System Knowledge of the World: Methodological Problems]. Moscow: Polisdat.

Berdyaev, N. A. (2003). *Samopoznanie* [Selfknowledge]. Moscow: Eksmo.

Bogomolov, A. N. (2006). Setevoe Obuchenie I Formy Ego Realizacii V Uchebnom Processe [Network Training and Forms of its Implementation in the Educational Process]. *The Russian language abroad, 1*(195), 36-44.

Breakwell, G. M. (1993). *Integrating paradigms, methodological implications*.

Budanov, V. G. (2007). *Metodologiya Sinergetiki V Postneklassichekoj Nauke I V Obrazovanii* [Methodology of Synergetics in Post-Classical Science and Education]. Moscow: LKI.

Derkach, A. A., Zazykin, V. G., & Markova, A. K. (2000). *Psychology of the development of professional qualities.*

Fetiskin, N. P., Kozlov, V. V., & Manujlov, G. M. (2008). *Social'no-Psihologicheskaya Diagnostika Razvitiya Lichnosti V Malyh Gruppah* [Socio-Psychological Diagnostics of Personality Development In Small Groups]. Moscow: Institute of Mental Therapy.

Fetisov, A. S., Komarova, E. P., Larina, T. V., & Galustyan, O. V. (2017). The Development of Physical Training Culture of a Personality. *Revista Espacios, 38*(50).

Fetisov, A. S. (2019). *Sistemoobrazuyushchaya Dominanta Formirovaniya Professional'nyh Kachestv Pedagoga V Sisteme Povysheniya Kvalifikacii: Monografiya* [System-Forming Dominant of Formation of Professional Qualities of a Teacher in the System of Professional Development: Monograph]. Voronezh: Science Book.

Government of the Russian Federation. (December 16, 2017). *The Russian Education Development Program.* Retrieved from https://www.garant.ru/products/ipo/prime/doc/71748426/

Gromkova, M. T. (2003). *Psihologiya I Pedagogika Professional'noj Deyatel'nosti* [Psychology and Pedagogy of Professional Activity]. Moscow: Uniti-Dana.

Haken, H. (2013). *Synergetics: Introduction and advanced topics*. Springer Science & Business Media.

Kapterev, P. F. (1982). *Izbrannye Pedagogicheskie Sochineniya*, Moskow [Selected Pedagogical Essays]. Moscow: Pedagogy.

Karpov, A. V. (2003). Reflection as mental state and the method of diagnostics. *Psychological journal, 24*(5), 45-57.

Komarova, E. P., Galustyan, O. V., Vyunova, N. I., Shusharina, E. S., Gamisonija, S. S., & Sklyarova, O. N. (2019). Formation of Media Competence of Future Teachers by Means of ICT and Mobile Technologies. *International Journal of Interactive Mobile Technologies, 13*(11).

Komarova, E. P. (2012). *Psihologicheskiye I Obrazovatelniye Haracteristiki Razvitiya Intellekta Obuchayuschehosya V Contexte Competentnostnoy Paradigmi* [Psychological and Educational Features of the Development of the Student's Intellect in the Context of the Competent Paradigm].

Larichev, O. I. (2002). *Teoriya I Metody Prinyatiya Reshenij* [Theory and Methods of Decision Making]. Moscow: Logos.

March, T. (2001). *Working the Web for Education*. *Theory and Practice on Integration the Web for Learning.* Retrieved from http://www. ozline.com/learning/theory.html.

Markova, A. K. (1996). *Psihologiya Professionalizma* [Psychology of Professionalism]. Moscow: International Humanistic Fund "Knowledge".

Kelly, M. O. M. (2003). *An Examination of the Critical and Creative Thinking Dispositions of Teacher Education Students at the Practicum Point* (Doctoral dissertation, University of Massachusetts Boston).

Noulz, M. SH. (1998). *Sovremennaya Praktika Obrazovaniya Yzroslyh. Andragogika Protiv Pedagogiki* [Modern Practice of Adult Education. Andragogy Versus Pedagogy]. Moscow.

Orlov, Y. M. (1987). Assessment of the achievement motivation. In A.A. Bodaleva, V.V. Stolina (Eds.), *General psycho-diagnostics* (pp. 163-170). Moscow.

Prokhorov, A. O. (2012). *Self-regulation of mental states: phenomenology, mechanisms, patterns.* Per se.

Rokich, M. (2005). *Metodika «tsennostnye orientatsii». Bol'shaya entsiklopediya psikhologicheskikh testov [The method of "value orientations". Encyclopedia of psychological tests]*. Moscow.

Samfir, K., & Rean, A. (2008). *Diagnostics of learning motivation and motivation of professional activity.* Saint Petersburg.

Scardamalia, M., & Bereiter, C. (1994). Computer support for knowledge-building communities. *The journal of the learning sciences*, *3*(3), 265-283.

Sidorenko, E. V. (2002). *Metody Matematicheskoj Obrabotki V Psihologii* [Methods of Mathematical Processing in Psychology]. Saint Petersburg: Rech.

Siemens, G., & Weller, M. (2011). Monograph "The impact of social networks on teaching and learning". Introduction: Higher education and the promises and perils of social networks. *RUSC. Universities and Knowledge Society Journal*, *8*(1), 156-326.

Slastenin, E. I., Isaev, E. N., & Shiyanov, E. N. (2012). *Pedagogika:* [Pedagogy]. Moscow: Academy.

Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of personality and social psychology, 30*(4), 526.

Verbitsky, A. A. (2017). *Teoriya I Tekhnologii Kontekstnogo Obrazovaniya: Uchebnoe Posobie* [Theory and Technologies of Contextual Education: Textbook]. Moscow: Moscow State Pedagogical University.

Vygotsky, L. S. (1984). *Sobranie sochinenii: Problema vozrasta* [The collection of essays: the problem of age]. Moscow: Pedagogy.