

# Realization of the World Outlook Potential of the Interactive Educational Environment in the System of Preparation and Improvement of Qualification of Experts

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## Abstract

Forming of world outlook potential of the specialist now in the conditions of informatization, mass communication and globalization of society where one of the component is interactive educational environments, is the actual problem of system of continuous education. In the article experience of implementation of world outlook potential of the interactive educational environment in system of preparation is considered: the medical specialist, the teacher (the bachelor and the master), the specialist in system of secondary professional education, system of professional development of the mathematics teacher. In the article different estimates of interactivity in pedagogical researches are considered. Author's determinations of different types of the educational environment on the basis of which results of researches in the different educational organizations are provided. The author's conceptual model of development of professional outlook of future specialists and its practical implementation is provided. The reflexive and creative approach in training of the bachelor and master assuming interactive interaction of the teacher and student and its approbation is considered. The process of course training of mathematics teachers in implementation process of world outlook potential of the interactive educational environment is described - it is a model and program-and-methodical ensuring training of mathematics teachers. The analysis of creation of educational process according to the offered conceptual model of forming and development of the innovation educational environment in averages of special educational institutions in separate regional aspect

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is carried out. These researches showed efficiency of world outlook potential of the interactive educational environment in these educational organizations

Keywords: worldview capacity, interactive educational environment, preparation, medical specialist, specialist teacher, specialist of specialised secondary schools, teacher of Mathematics, advanced training system.

## 1 Introduction

Examining outlook of students as indicator of stability of their relations to the world, to the profession, to own status in the world, it is necessary to estimate the conditions of its forming, allowing to stimulate and support active dialogical relationship of teachers and trained in professional education. It is known that productivity of any pedagogical process depends on intensity of interaction of teachers and pupils through the content of education. Such process on the essence includes, on the one hand, the stimulating and support activity of teachers on familiarizing of children and youth to values of science and culture, on the other hand, initiative and active judgment, understanding and acceptance of this influence by pupils, students. Such understanding of interaction even if it is possible to reach it, is to insufficient and not relevant requirements of development of the personality in education.

So, for instance, R. M. Abdulgalimov and G. N. Abdulgalimova consider that rod indicator of skill level of the modern medical specialist is his professional outlook as which understand as the generalized system of subject and professional knowledge, views, beliefs, humanistic values, ideals of the doctor on the basis of which preventive, diagnostic, medical, rehabilitation, psychology and pedagogical, organizational and managerial, research actions in relation to the patient are made [Abd17].

All this does not correspond to current crisis trends of development of science and education. In modern representation as development tools of the personality and society connect objectively implementation of the purpose of education with creation conditions in educational process of the interactive educational environment. Without this situation the pedagogical interaction in modern conditions of development of society cannot be provided, out of such major attributes of openness of education as nonlinearity, probability, complexity, unpredictability of educational knowledge.

In modern representation as development tools of the personality and society, they objectively connect implementation of the purpose of education with creation conditions in educational process by the interactive educational environment. With respect thereto to the forefront there is forming, development and effective use of the interactive educational environment to which it is necessary to apply the scientific and methodical, information and technology, organizational and pedagogical potential which is saved up in the Russian system of preparation and advanced training of specialists.

It is connected with relevance of strengthening of the process of forming of professional outlook of specialists that "it is caused by need of its adaptation to world information space".

## 2 Problem Definition

For disclosure of the intrinsic characteristic of the interactive educational environment and its role in development of professional outlook of specialists, we will address different estimates of interactivity in pedagogical researches. Interactivity is very popular term in different description of services in the most different areas of life of people, science and in activity of the educational organizations today.

So, in reference books interactivity is considered as capability to interact or be in the mode of conversation, dialogue with something (for example, with the computer) or someone (person) as development of tactics and strategy of the organization of joint activity [Psy98]. In psychological researches interactivity is considered as the training constructed on the human relations and interactions [Bad99]. Many researchers (M. A. Berezhnaya, E.V.Korotayeva, D.A.Makhotina, A. A. Ostapenko, M. A. Petrenko, O. G. Filatova, etc.) as the specific characteristic of interactivity consider activity dialogical interaction of participants. From positions of spiritual development of the personality interactivity is defined as the quality of the personality which is expressed as

readiness for communication in cooperation, ability to find the place in joint activity and tendency to establishment of the favorable relations with members of group [Bez19] is more moral. All signs specified here really reveal in interactive activity, however we connect interactivity with vigorous cognitive activity of students in educational process.

It must be kept in mind that the interaction can be at the level of interaction of the teacher with one student, students with one problem, the student with information which are the local structural components of pedagogical process which are not covering complete process of training of the student in higher education institution. Complete process demands creation of the interactive educational environment.

In modern representation interactivity often connect with information technologies and communication of the person on social networks and others the Internet resources. According to the interactive pedagogical environment has to cover both interaction of subjects in real process, and the interaction of subjects with information means organized, commented, adjusted by teachers or the interactive tasks for work of students with different sources of information prepared by them.

The big contribution in development of the interactive and educational environment was made by domestic scientists R. M. Abdulgalimov, E.V. Bondarevskaya, N. M Borytko, T.G. Vezirov, V.A. Kozyrev, L.M. Luzina, Yu.S. Manuylov, L.I. Novikova, S. A. Pisareva, N. L. Selivanova, E.N. Stepanov, I.D. Frumin, A.N. Nyudyurmagomedov, S. L. Rubenstein, A.N. Leontyev, B. F. Lomov, N. N. Shevchenko, V. I. Shevchenko, N. E. Shchurkova and many others.

R. M. Abdulgalimov and G. N. Abdulgalimova understand the interactive pedagogical environment concerning medical education as the complete, complex and multidimensional social and psychology and pedagogical system based on information and communication, network and direct interaction of teachers, students, staff of clinics, patients, acting as factor of forming and development of professional outlook of the identity of the student [Abd17].

In article [Abd18] R. M. Abdulgalimov examines anthropocentric model of forming of professional view in the course of formation of the doctor in the educational environment of modern medical school.

According to T.G. Vezirov, the digital information and education environment of school as component of the interactive educational environment, is effective remedy of development of professional competence of the mathematics teacher where there is its work with digital resources and services [Vez18].

Causes need for updating of professional tools of educational institutions that will provide search and finding of new approaches and original concepts.

G.R. Kozayeva considers necessary formations of the innovation educational environment necessary, which major part for the developing state is secondary professional education (on the example of the Republic South Ossetia). Considering possibilities of pedagogical personnel and work experience in system of secondary professional education, she has developed conceptual model of forming and development of the innovation educational environment in system of secondary professional education of the Republic South Ossetia [Koz14].

### 3 Development Of Technique

Modern FSES 3+ dictate requirements to implementation of educational programs in aspect of the electronic information and education environment. The created electronic information educational environment in the educational organizations of the Republic of Dagestan and Republic South Ossetia forms on the basis of the social order, educational standards and the purposes of the educational organization, is implemented and is implemented into all types of educational process and form of education. For the purpose of successful forming of the environment the clear understanding of its purpose implemented in model of Wednesday is necessary. Every day there is more and more deep integration of traditional methods and forms of education and elements of electronic training. To occur permanent updating of such environment different software. Actively technical means of training based on computer microprocessor facilities interfere in educational process.

In educational space of the Dagestan State Medical University (DSMU) in the process of forming of professional outlook of future doctor where intertwine education, art and craft, acts as core of interactive approach integration. At the same time, the integrative approach based on intersubject communications acts as one of methodical innovations. In relation to medical education integration is studying of medical disciplines in uniform sheaf where in whole are provided seeming, at first sight, not interconnected the phenomena. For example, today the doctor with the advent of "smart" robotic equipment faces difficult technique, different technical processing devices and transfers of large number of information which cannot be bypassed without knowledge of information science and medical equipment. Recently, communications with the arisen need of knowledge of the doctor for information science, in DGMU turn into great attention on studying of this discipline. Since 2018, teaching

information science it is performed in three courses (1,3,5 courses). The discipline "Medical information science" became obligatory element of education and follow-up activity of the doctor that has led to creation of profile departments and courses in the highest medical educational institutions".

The last years in all faculties the discipline "The medical equipment" though, in fact, to scales of development of modern equipment and requirements shown to the modern doctor by labor market, the volume of hours provided by the curriculum, in our opinion it is necessary to increase is entered.

With development of interactive forms of education and prompt implementation of "smart" equipment in applied medicine, new technologies and disciplines are born. From 2018-2019 academic years "Instrument and computer systems and electronic health care" which promote development of information and technology outlook are implemented in educational process of DGMU, at the expense of hours of FSES 3+, discipline in the 5th semester of "Fundamentals of biomedical statistics and evidential medicine" and in the 10th semester. We consider that in addition to basic courses, compulsory and necessary provision for continuous information training of future doctor, are also inclusion in curricula of all faculties such disciplines as "Bioinformatika" and "Neyroinformatika" and elective courses.

The identity of future medical specialist, its valuable orientations, meanings, knowledge, skills, the experience of life activity capable to search and development of new information, adoption of non-standard creative decisions, to mastering necessary worldview knowledge and culture, emphasizes about strengthening of social role of professional education that it is connected with understanding of the main value of modern society.

Interactive training with use of interactive mechanisms forming of professional outlook of the specialist in system of preparation and advanced training means the organization of teaching and educational process by the following means:

- interactive forms (interactive lecture, seminar, master class, training, etc.);
- interactive methods (dialogue, "brainstorming", "round table", case method, business, role, organizationally - activity games, exercises, tests, methods of psychometrics, ICT, method of projects, cooperation method, etc.);
- electronic means of educational appointment (electronic textbooks, computer testing, multimedia, video conferences);
- methodical providing (video records, audio materials, exercise machines for the organization of practice);
- resources Internet;
- technologies for G. K. Selevko [9]: micro technologies (student teacher); module-local (joint creative affairs); macro technologies (distance training); meta technologies (technologies of social education; network; telecommunication).

All transferred funds in complex are allocated for implementation of the modeled interactive educational environment including educational and Students' Individual Work.

The interactive educational environment in system of preparation and advanced training of specialists as one of the creating environments of professional outlook, allows to develop ability them to be guided in information flows of world around, to seize practical modes of work with different types of information, to develop the abilities allowing to understand information, to communicate with the help of networks and modern information and communication technologies.

The interactive educational environment allows to provide the effective professional oriented communicative training of specialists, both in higher education institution, and in system of advanced training, prepared to the permanent professional growth, implementation of cooperation with colleagues, actively applying ICT in the professional activity.

In our research we consider experience of such work, carried out:

- in training of specialists doctors at the Dagestan state medical university;
- in training of specialists - teachers (bachelors and masters) at the Dagestan state pedagogical university;
- in course training of subject teachers in system of advanced training at the Dagestan institute of development of education;
- in training of specialists of secondary professional education in the Republic South Ossetia (on the example of Public Educational Institution of Secondary Vocational Education Tskhinvali Multi-profile College, the Tskhinvali medical technical school, the Tskhinvali art school).

At the Dagestan state medical university the conceptual model of development of professional outlook of the student of medical school including is developed: target block (social order, purpose and tasks); informative block (praxeological and mental components, information and technology, humanitarian disciplines, educational and production practice, author's course "Bases of Development of Outlook of Students of Medical Schools"); proce-

dural and activity block (stages: adaptive, professional creating, reflexive, acmeological; pedagogical conditions, methodical means); estimated and productive block (criteria, indicators, levels and result).

The practical realization of this model is enabled in the interactive educational environment at department of biophysics, information science and medical equipment of the Dagestan state medical university.

At the Dagestan state pedagogical university at faculty of mathematics, physics and information science training of bachelors on the Mathematics and Information Science profile and masters according to the master programs "Information Technologies in Physical and Mathematical Education" and "Information and Communication Technologies in Education" (under the leadership of professor T.G. Vezirov) is performed where the high-saturated interactive educational environment providing the worldview potential including the pedagogical potential of such environment is created.

Pedagogical potential of the interactive educational environment includes:

- the organization of collective activity of work in groups of cooperation;
- orientation to self-education;
- socialization of future bachelors and masters;
- ensuring psychology and pedagogical maintenance of educational process;
- split-level of content of educational process;
- possibility of intensification of training process;
- flexibility of organizational structure of training with use of remote educational technologies;
- possibility of ensuring activity approach;
- creation of situation of success for future bachelors and masters;
- individualization of educational process.

In educational process of bachelor degree and magistracy we apply reflexive and creative approach which expands possibilities of future bachelors and masters in understanding of social aspects of future professional activity, and also creation of research space, based on creative independent work and developments in them of reflexive culture assumes. Implementation of this approach assumes interactive interaction of the teacher and student, creation of methodical conditions for their joint activity that assumes the high level of development of creativity in the teacher.

This approach we apply "Pedagogical education" when training disciplines of variable part of the curriculum of magistracy in the direction of preparation (the master programs "Information Technologies in Physical and Mathematical Education" and "Information and Communication Technologies in Education". On the basis of this approach by undergraduates under the leadership of professor T.G. Vezirov electronic editions of educational appointment on the following disciplines of variable part of educational program are developed:

1. ICT competence of the teacher.
2. Methodological bases of informatization of the general and higher education.
3. Social information science.
4. Professional training of masters of pedagogical education means of electronic training.
5. Portal technology in pedagogical education.
6. Means of information and telecommunication technologies in pedagogical education.

At the Dagestan institute of development of education certain work on course training of subject teachers is carried out to implementations of worldview potential of the interactive educational environment:

- the model of training of mathematics teachers in system of advanced training with use of interactive tutorials including is developed: methodological target block (social order, purpose, tasks, principles, approaches, organizational and pedagogical conditions); organizationally - the informative block (means of training of mathematics teachers; advanced training stages, including: invariative module; Forming of ICT Competence of Mathematics Teachers module; master-classes methodical practice; interstage period; forms, methods and tutorials); the estimated and productive block (the readiness of the mathematics teacher for use of interactive tutorials consisting: criteria; levels; diagnostics methods);

- the program and methodical ensuring process of training of mathematics teachers in system of advanced training with use of interactive tutorials consisting is created: educational programs "Actual pedagogical technologies of training in mathematics in FSES sales terms", "Designing of the interactive educational environment on platforms of electronic training (Yaklass)" and "Forming of ICT - competence of pedagogical workers of sales terms of FSES of the second generation"; website of Association of mathematics teachers of the Republic of Dagestan (<http://dagmatematik.ru/>); multimedia of the presentation on subjects: "Probability theory", "The exponential and logarithmic equations and inequalities", "The trigonometrical equations", "Transformation of function graphs"; tender of teachers "Use of interactive tutorials in educational process"; academic and research

conference "Modern information and communication technologies in modernization of physical and mathematical education"; webinars on subjects: "Economic tasks. Tasks at optimum choice", "The solution of stereometric tasks", "Basic elements of system of work with exceptional children", "Rational use of time of lesson as important condition of receiving qualitative knowledge of subject", "The interactive environment of computer appendices on mathematics"; methodologies: "Creation of the interactive presentations", "Didactic opportunities of the interactive environment "Mathematical Designer", "Tools for spatially graphic modeling in the application program on mathematics of "GeoGebra"; software products: "The mathematical designer", "GeoGebra", "SketchUp"; educational Internet resources.

In the Republic South Ossetia is developed the conceptual model of forming and development of the innovation educational environment in averages of special educational institutions including: methodical block (purpose, tasks, methodological approaches); conceptual and organizational block (development strategy, conceptual bases, monitoring); informative block (pedagogical conditions, forming of knowledge and training methods, development of normative legal documents, variable scientific and methodical base); tool block (diagnostics and self-diagnostics, theoretical and skills training, research activity, social and psychological maintenance); the analitiko-estimated block (motivation level, level of knowledge, activity level, cooperation level, application of the innovation methods, the predicted result).

Generalizing above and above told it is possible to allocate the following aspects of worldview potential of the interactive educational environment in system of preparation and advanced training of specialists:

1. Explanation to teachers of essence and specifics of the organization of the interactive educational environment in the educational organizations.
2. Explanation to specialists of role of outlook as efficient development tool of their thinking, forming of their optimistic and humane relation to society and health of the person.
3. Disclosure of maintenance of subject matters on the basis of historical artifacts in the course of opening, commenting, the proof and verification of new knowledge and methods of activity.
4. Use of methods of research, search of new knowledge in the field of different sciences in educational knowledge and experimental works with specialists.
5. Use of modern information and communicative technologies in the presentations allowing to consider knowledge from different positions and the attitudes of specialists towards them.
6. Use in educational process of the interactive technologies allowing to stimulate specialists to creation of own thoughts, ideas and projects.

## 4 Results

The analysis of creative and reflexive activity of future bachelors and masters in implementation of worldview potential of the interactive educational environment has shown that at them in the course of accomplishment of independent creative tasks developed: reflexive skills; abilities to allocate and estimate personal and professional significant qualities; skills of self-organization and self-education; creative capabilities. Students of bachelor degree and magistracy have got experience in project, competitive and scientific cognitive activity, have seized acceptances of the group project work, have planned ways in determination of the direction of the development.

The carried-out experienced and experimental work on detection of readiness of mathematics teachers in system of advanced training to use of interactive tutorials has shown dynamics of such readiness.

So, for example, the high level of readiness by all criteria is higher after experiment: motivational from 18

South Ossetia during pedagogical experiment has shown creation of educational process according to the offered conceptual model of forming and development of the innovation educational environment in averages of special educational institutions in the Republic about the level of readiness of teachers for the innovation activity: at the end of experiment has risen from level low (51 points), to level high (74 points).

## 5 Discussion

Results of researches were discussed at departments in each of the specified educational organizations, at scientific and methodical seminar of undergraduates and graduate students of department of technique of teaching mathematics and FSBEI "Dagestan State Pedagogical University", and also at the International, All-Russian and Regional academic and research conferences. The electronic editions of educational appointment developed by us are placed on portal of distance training of the Don state technical university (<http://spec.skif.donstu.ru/>), on the website of undergraduates of the Dagestan state pedagogical university

(<http://www.magistr-fmf.edu.ru>) and electronic resource "Portal technology in pedagogical education" on the website [<https://kulibekovan.wixsite.com/1234j>].

## 6 Conclusion

The carried-out theoretical analysis of scientific and methodical literature and resources of the Internet, has shown about relevance of worldview potential of the interactive educational environment in preparation and in system of qualification of specialists. In our research we solve this problem on examples:

- training of the medical specialist at the Dagestan state medical university;
- training of the bachelor and the master at the Dagestan state pedagogical university (faculty of mathematics, physics and information science);
- course training of mathematics teachers in system of advanced training at the Dagestan institute of development of education;
- training of specialists in vocational secondary education institutions in the Republic South Ossetia (Public Educational Institution of Secondary Vocational Education Tskhinvali Multi-profile College, the Tskhinvali medical technical school, Tskhinvali art school).

These researches have shown about efficiency of worldview potential of the interactive educational environment in these educational organizations.

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