Developing potential of the interactive project game in the process of improving the quality of basic and additional education

Desarrollar potencial lúdico de proyecto interactivo como proceso de mejorar la calidad de la educación básica y adicional

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Contents

ABSTRACT:

The relevance of this article is determined by the problems of improving the quality of education, including the development of the ability of students of different ages to effective communication, self-realization in modern society, and the development of their information competencies. The article describes the algorithm of an interactive project game based on the personality-oriented approach and the principles of independent creative and project activity. The methods and experimental base of the training are described; the results of applying the algorithm are presented, in particular, in comparison with the control group of students. The importance of applying the proposed algorithm of interactive project game for significant improving the quality of consolidation of the educational material, increasing the interest in education and setting the vector toward self-education and self-development of students in the basic and additional education is substantiated. The article describes the implementation of the algorithm at basic schools of Moscow, Smolensk and Ivanovo

RESUMEN:

La relevancia de este artículo está determinada por los problemas de mejorar la calidad de la educación, incluido el desarrollo de la capacidad de los estudiantes de diferentes edades para la comunicación efectiva, la autorrealización en la sociedad moderna y el desarrollo de sus competencias de información. El artículo describe el algoritmo de un juego de proyecto interactivo basado en el enfoque orientado a la personalidad y los principios de actividad creativa y de proyecto independiente. Los métodos y la base experimental de la capacitación se describen; los resultados de la aplicación del algoritmo se presentan, en particular, en comparación con el grupo de control de estudiantes. La importancia de aplicar el algoritmo propuesto de juego de proyecto interactivo para mejorar significativamente la calidad de consolidación del material educativo, aumentar el interés en la educación y establecer el vector hacia la autoeducación y el autodesarrollo de los estudiantes en la educación básica y adicional se corrobora . El artículo describe la implementación del

region, as well as the development and training of adolescents in the traveling integrated educational programs. The criteria for evaluating the results of application of the algorithm and the results of this process are presented. It has been proved that the effectiveness of using the interactive project game for improving the quality of education is confirmed by the focus of this form of training on increasing the motivation of students for self-development, self-education and supporting independence in the implementation of an individual or group project.
Keywords: Basic education, additional education, quality of education, interactive lessons, project activity, pedagogical technologies, information competence

algoritmo en las escuelas básicas de Moscú, Smolensk y la región de Ivanovo, así como el desarrollo y la capacitación de adolescentes en los programas educativos integrados itinerantes. Se presentan los criterios para evaluar los resultados de la aplicación del algoritmo y los resultados de este proceso. Se ha demostrado que la eficacia del uso del juego de proyectos interactivos para mejorar la calidad de la educación se ve confirmada por el enfoque de esta forma de capacitación sobre el aumento de la motivación de los estudiantes para el autodesarrollo, la autoeducación y el apoyo a la independencia en la implementación de un proyecto individual o grupal.
Palabras clave: educación básica, educación adicional, calidad de la educación, lecciones interactivas, actividad de proyectos, tecnologías pedagógicas, competencia de la información

1. Introduction

The most important characteristic of the present period of social formation is that its strategic factor is the reliance on revealing the potential contained in the so-called "human capital". Modern specialists need not only professional knowledge, but also creative abilities, mobility, initiative, independence, etc. (Zaborovskaya 2005; Zaitseva 2010; Kapelyushnikov 2007; Kapelyushnikov 2007). Accordingly, in the process of education, it is more and more obvious that we cannot consider the quality of mastering certain skills and knowledge by students as the key goal of education.

If this knowledge and skills in the era of rapid development of innovation processes are not accompanied by steady motivation for "education through life", the readiness to learn constantly, improve, change and be open to a fairly rapid mastering new phenomena, they are formalized and transformed into "unnecessary baggage", which the bearers of knowledge and skills are unable to apply in real life. That is exactly why the modern educational process is oriented towards learning not only with the help of traditional didactic methods and techniques, but also towards using the principles of modern pedagogical approaches, innovative technologies and techniques, including interactive project-making. Thus, the researchers believe, the basic school should make the transition from the regime of a "functioning" educational organization to the regime of a "developing" educational organization (Tretyakov 1997).

In the works of recent years, the importance of transforming the educational process from the didactic (knowledge age) to the creative one (creative age) is also emphasized: in this context, even the traditional classroom arrangement and the furniture placement are related to an outdated training model. So, in practice, there are already successful examples of improving the quality of education by changing the seating arrangement of students, which affects, as it has been revealed, the information perception in general (Fisher 2010).

Among the basic requirements for changes in education is a wider introduction of the principles of integration and innovative technologies into the process of education at basic school; whereas the innovative educational technology is understood as both the presentation of the content in the form of multimedia teaching materials and the formation of competencies of students on the basis of active participation of students in the educational process, as well as the modern training infrastructure (Bondarenko 2012)

Modern students should not feel isolation of the school community from their extracurricular and out-of-school environment, in which the use of mobile communication, Internet resources, social networks, etc. is an integral part of their daily environment. As an example, we can cite the successfully developing "Middle School iPad Program", implemented at the Australian "Unley High School". The implementation of this program confirms that, if students are able to access personal computer or mobile device at school and at home on a permanent basis, conditions are created not only to ensure more effective interaction between students and teachers, but also to improve learning outcomes significantly (UNLEY High School, 2016). At the same time, a specially developed strict

policy of the Internet etiquette rules ("Netiquette") is enacted at the school, which includes the following rules: in the process of network communication it is forbidden to communicate anonymously, to use obscene language or images and to enter the Internet using somebody else's login. The problem of plagiarism is also specially highlighted in the rules. In addition, the trainees get expanded access to information sources and means of performing tasks, while developing skills of competent, discriminating, creative and safe using the media technologies in learning.

Besides, informatization of training is attractive in that the psychological stress of school communication is removed by the transition from the subjective teacher-student relationships to the most objective student-computer-teacher relationships; the efficiency of student work is improved; the share of creative activities is increased; the possibilities of getting additional education on the subject in the school are widened; and in the future there is a conscious choice of a higher education institution and a prestigious work (Bondarenko 2012).

The significance of the activation of innovative technologies in the training process is confirmed by their focus on increasing the motivation of students for self-development, self-education and supporting independence in the implementation of the project or research, which confirms K. Rogers' theory concerning the structure and functioning of the personality as forward-oriented, constructive, trustworthy and having a great potential for self-improvement: the more manifestations of the individual's experience are available to his/her consciousness, the larger possibilities he/she has to reflect the general picture of his/her phenomenal field (Rogers 2016).

 One of the most significant approaches in the restructuring of education, the transition to subject-subject relations in the educational process and improving the quality of education is a person-oriented approach (Davydova 2005). This is confirmed by representative surveys of students. For example, Hungarian scientists have conducted a survey of university students concerning their assessment of the teaching quality at school (Jasz, Chrappan, & Malmos 2016). More than two-thirds of respondents noted the need to increase the emphasis on the practical application of educational material, which would help not only to memorize, but also to understand the studied material more deeply. Recent schoolchildren have considered the way the teacher builds relationships with the class to be even more important than the abstract nature of the topics for future practical application: the style of a strict vertical hierarchy, from their point of view, is less effective than collegial cooperation and empathy.

Certainly, the very concept of the "education quality" can be interpreted in different ways: as a *process* including the content of educational programs, the qualifications of teachers, the applied didactic methods, the material-technical base and the organization of educational activities, which is sometimes identified separately as a *structure*; as a *result*: the volume and depth of the knowledge mastering by students according to the curriculum (Zapesotsky 2003).

The indicators of the quality of the education results are not only the level of educational achievements and the level of thinking development of students, but also the level of personal development: motivation for learning and psychological comfort of the educational process, including the negative consequences of education (Potashnik 2010).

 Along with the indicators of the level and depth of competencies of students in the disciplines of curricula, the development of skills to learn independently, to apply the gained knowledge in practice, to find information sources for solving both cognitive and practical problems, to determine the forms and means of implementing tasks, to be able to work in a team one considers as the criteria for the education quality. The "quality of students" term is introduced with such criteria as achievement of educational result, value orientations and educatedness (Kaldybaev & Beyshenaliev 2015).

In the context of this work, the education quality is assessed from the viewpoint of *increasing the level and depth of competencies* of students.

In connection with this, in order to improve the quality of education it is necessary:

- to construct a matrix of competencies at various levels using the existing methods, material-technical base and introducing new approaches into presenting the material, encouraging the processual activity of students and their independent search for ways to solve problems;
- to increase the adaptability of the educational process both in the strategic choice of methodological solutions and methodological adjustments during the process (Varchenko 2013);
- to strengthen interdisciplinary interaction using the topics, tasks and technical means of other subject areas in the work, while synchronizing their actions according to the curriculum;
- to enable the participants of the educational process to look at innovations not from an evaluative point of view, but from a position of constructive prudent consideration and verification of the effectiveness of various approaches.

In connection with the foregoing, a hypothesis for the possible improvement of the education quality by means of activation in the educational process of the directions and principles of interactive creative activity of students when performing independent and group projects was set forth.

2. Materials and Methods

In order to improve the quality of education, in 2014-2017 an algorithm of interactive project game in the process of basic and additional education was developed and applied in practice.

When developing the algorithm, it has been taken into account that it should be aimed at:

- increasing the level and depth of mastering the educational material (as the main goal);
- introducing the interactive game elements, students' independent creativity and their conscious project activities into the standard program; enabling students to search for sources of required information individually and use them to answer, which contributes to the improvement of students' information competencies and their motivation for self-education, skills to work with various information sources, to take them critically and to navigate in non-standard conditions;
- universalizing the implementation, i.e. to be able to apply in various educational disciplines, for students of different ages, for groups mixed in age, level of knowledge and skills (Geydarova 2017);
- relying on minimum requirements for the material-technical base due to the heterogeneity of the economic and social conditions in different regions of Russia;
- involving the greatest possible number of students in team work, creating conditions to improve communicative competencies and to strengthen students' interpersonal relationships.

Description of the algorithm.

The consolidation of new material is carried out in the form of an interactive project game. A group of students is divided into teams, each of which receives a topic related to the studied material. After preparation, each team presents its topic in an arbitrary form (story, dramatization, illustrations, video, etc.). In the format of the game, the team does not name the topic itself in the course of presentation; the other students should identify and name the topic of the presentation (personal answer or team decision). It is important to emphasize that, in the process of preparing the task, the team can use various sources of information, including network resources. For the presentation of the project, the active use of multimedia capabilities is welcomed.

Due to the fact that the students receive relatively simple tasks and prepare short answers quickly, they act actively, independently, coordinate their actions in the group (for example, distributing the fragments of the answer among the participants), show a keen interest in the topic (identifying the topic of the task of other groups); the material being mastered is perceived, reproduced and absorbed during the preparation, presentation and viewing of other presentations; the students do not feel psychological pressure of being called to speak "at the classroom blackboard" ("I know – I do not know", "my-answer-is-right-or-wrong?", "everyone-is-looking-at-me", etc.). A short-term change of position (group gathering) removes the tension of the classroom discipline, but does not bring any harm to the quality and tasks of the lesson.

The algorithm for conducting the lesson is presented in Table 1.

Table 1
Revision of educational material in the format of an interactive project game

Stage	Description and recommendations*
Development of tasks	The topics of the tasks are the key concepts of the studied material. Simple and general formulations using 1-2 words are more effective. The topics of the same type are desirable. Concerning the example of Literature, it can be literary heroes, plot episodes of one literary work, different works of one author, etc.
Division into teams	The composition of the teams is determined by the teacher in the most arbitrary form so that, firstly, the students could be concentrated on the communication concerning the task, and secondly, the teams could be distributed more uniformly in terms of the psychological characteristics of the students.. The optimal number of participants in one team is no more than 5 people. It is possible, but not desirable to recruit the teams not from the whole class.
Receiving the tasks	In junior and middle school, it is the "theatricalization" of the task assignment (mini-competition, draw, etc.) that actively attracts attention and creates a spirit for the team work. In the senior classes (9-11-th grades) and colleges, a separate procedure for determining the order of getting the tasks is possible, but not necessary.
Preparation	Teams must identify and distribute topics for each participant. It is allowed to use various sources of information (books, notes in a workbook, ICT). It is not desirable to communicate outside one's "own" team. It is highly desirable to coordinate the future presentation with all team members. Uniformity in the presentation of information is not significant. Preparation should take 5-10 minutes, the time limits are announced when receiving the tasks.
Presentation	Presentation of information on the topic can be in any format. The answer can be in the form of 1-3 full-fledged sentences, a poem, pantomime, sketch, illustration, etc. Participation of each member of the team is mandatory. Each participant's performance should last approximately 1 minute.
Identification of the topics by the teams	Individually or by entire team, orally or in writing, after the performance of each team or at the end of the session. If the result of the session involves an assessment, a written response is recommended.
Assessment	In the first conducting the game, a general assessment of the team is recommended to foster the game mood and to reinforce the strategy of success. At later stages, the teacher makes a decision for each lesson according to this technique.
Frequency of conducting	Depending on the characteristics of the conditions for conducting classes in one subject: at least once a quarter (trimester, semester) and no more than once a month.

Note: * Experimentally found the most effective up to date conditions for conducting the lesson.

Below there are examples of tasks for different disciplines and options for presentations of students in the 7th grade of basic school (Table 2).

Table 2
Sample topics of the lesson for an interactive project game at basic school

Subject	Topic	Examples of tasks for the teams
Geography 7-th grade	Great geographical discoveries	1) concerning the names of sailors-explorers: • Marco Polo

		• Vasco de Gama • Christopher Columbus • Fernand Magellan • James Cook 2) concerning the inventions and improvements for long-distance sea voyages: • astrolabe • caravel, galion • compass, • stern rudder • navigational maps 3) concerning the directions • The Atlantic Ocean (Portuguese travels) • New World: America, (Christopher Columbus) • The Indian Ocean (Vasco de Gama) • The Pacific Ocean. The first round-the-world trip (Fernand Magellan)

History
7-th grade
	Time of Troubles in the Russian State	1) concerning the personalities
		
		• Fedor Ioannovich
		• Boris Godunov
		• False Dmitry I
		• False Dmitry II
		• Vasily Shuisky
		• Ivan Bolotnikov
		• Kuzma Minin, Dmitry Pozharsky
		
		2) concerning the events
		
		• great famine, 1601-1603
		• the rebellion of I. Bolotnikov, 1606-1607
		• Polish intervention and Semiboyarschina, 1610-1612
		• impostors
		   ○ False Dmitry I 1605-1606 "Putivlian thief"
		   ○ False Dmitry II 1607-1610 "Tushinsky thief"
		   ○ False Dmitry III 1611 "Pskov thief"
		• people's volunteer army
		   ○ 1611 (Lyapunov),
		   ○ 1611-1612 (Minin, Pozharsky)

It is important to emphasize that the application of this algorithm is possible not only in the classes on various academic disciplines of secondary and senior basic schools, but also in the classes in supplementary education, as part of the traveling educational programs, excursions and thematic trips.

Experimental base and the stages of algorithm implementation

In the years 2014-2015, the algorithm was first applied in the integrative traveling programs "Putesharium", carried out for different age groups of adolescents living in the institutions for orphans and children left without the parental care of the Ivanovo, Smolensk, Vladimir and Moscow regions, as well as adolescents from large and incomplete families from Moscow, Smolensk and Moscow region. The groups included adolescents aged 9-15 years old. The organizers of the programs were the Charitable Foundation for the Promotion of Socio-Cultural Initiatives and Trusteeship "Lifestyle" (www.obrazfund.ru) and the Autonomous Non-Profit Organization "ROST" (http://rost-iq.ru/). Three programs were attended by 240 teenagers and 36 teachers.

The lessons were aimed at mastering information about the history, traditions and culture of the host country – in Germany, 2014, and at mastering information on interpersonal communication – in Turkey, 2015. Despite a rather short period of approbation (18 days for each program), the techniques have shown their effectiveness, especially since recipients

have represented a very heterogeneous community in terms of age, social status, level and quality of education in both cases. In the years 2015-2016, approbation was carried out in five educational organizations of Moscow (320 students aged 13-14). At this stage, the effectiveness of the algorithm was measured not only with the help of testing the quality of mastering the educational program by trainees, but also by comparing these indicators with the quality of mastering the program by a control group of students in parallel classes, where this algorithm was not applied. Besides, the technology for implementing the algorithm (the time for preparing for answers, the ability to use books and other available sources of information, the number of participants in each group, etc.) each time differed for each of the educational organizations, which allowed determining the optimal parameters for conducting classes.

In the academic year 2016-2017, the algorithm was applied on a permanent basis (at least once a quarter/trimester) in the educational organizations of Smolensk, Moscow and in the Petrovsky village of the Ivanovo region for different subjects and students of different ages (6, 7 and 8-th grades), as well as in the traveling program "Putesharium" in the year 2017 (Finland), in which teenagers from Moscow, Smolensk and the Ivanovo region took part.

In the general form, the stages of development, testing and implementation of the interactive project game algorithm are summarized in Table 3.

Table 3
Stages of development, testing , implementation and measurement of the algorithm results

Stage	Time period	Base for conducting	Presence of a control group
Development	Summer 2014	Institute of Art Education and Cultural Studies of the Russian Academy of Education	-
Testing	Summer 2014, Summer 2015	Putesharium Putesharium	no no
Implementation, adjustments	Academic year 2015-2016 Summer 2016	Schools of Moscow Putesharium	yes no
Expanding the implementation base and disciplines of application	Academic year 2016-2017 Summer 2017	Schools of Smolensk, Moscow, Petrovsky village, Ivanovo region Putesharium	yes no

3. Results

To evaluate the results of implementation of the interactive project game algorithm, the criteria for evaluating the effectiveness of the method outlined in Table 4 were developed. The effectiveness of the algorithm application was evaluated by comparing the parameters of the group participating in the experiment with the parameters of the control group. In addition, the questionnaires of teachers and students, filled out after the lessons according to this method, were studied. Based on objective indicators, the data were initially calculated within the framework of one school, and then the average value of the results obtained at different schools in different years was derived, as well as in traveling educational programs of additional education. The results of measuring the algorithm effectiveness to improve the quality of education are given in Table 4.

Table 4
Criteria for evaluating the results of the algorithm application at basic
school and in the traveling integration programs (additional education)

Criteria, objectivity of data	Format of measurement	Indicator of measurement, %
Educational results. Objective data	Final review works, marks for the half year and year in the experimental and control groups	Comparison of the progress in the experimental and control groups; Comparison of the progress in the subject before and after application of the methodology in the experimental group.
Depth of mastering the material. Objective data	The results of an unscheduled test work on the topic of the lesson in the experiment (2-3 months after the session)	Comparison of the number of correct answers in the experimental and control groups
Opinion (active participation) of students. Subjective data	Questioning (written questioning; according to the following scale: "-2": it became worse, I would not like to participate in this form of training. "-1": slightly worse. "0": nothing has changed. "+1": slightly better. "+2": it became better, I would like to participate in this form of training). and interviewing (oral)	The number of positive and negative comments
Opinion (involved observation) of teachers. Subjective data	Questioning (written, according to the following scale: "- 2": it became worse, "-1": slightly worse "0": nothing has changed "+1": slightly better "+2": it is getting better) and the possibility to add one's own comment in the questionnaire	The number of positive and negative comments; evaluation of the dynamics of the teacher-student relationships; assessment of the dynamics of students' involvement in the learning process.

Table 5
Results of measurements of the effect of applying the algorithm
on improving the quality of basic and additional education

Criterion	Result	Commentary
Comparison of the progress in the experimental and control group	It is by 14% higher in the experimental group	Better results were shown in the groups, where the technique had been used for two years.

Comparison of the progress in the subject before and after application of the technique in the experimental group	It is by 17% higher after the start of technique application	The starting characteristics of the level of training were not identical in the experimental and control groups in each case, so the absolute (personal growth) achievements of the experimental group were different from the relative ones (in comparison with the control group).
Comparison of the number of correct answers in the test work in the experimental and control groups	It is by 28% higher in the experimental group	The key indicator of the change in the depth and the quality of consolidation of the acquired knowledge
Number of positive and negative students' comments	"-2" – 0% "-1" – 1% "0" – 4% "+1" – 22% "+2" – 73%	Basically, negative assessments were associated with insufficient organization during the preparation of the tasks. One comment on the negative assessment was related to the overall mark given to the team ("I did everything, but everyone got the excellent mark"). Positive assessments were accompanied by the comments that the material became clearer, "after the presentation all the dates became easy to remember", there was no psychological discomfort in answering, there was an opportunity to get up from the desk and move around the class, "I even thought differently", it was possible to use textbooks and the Internet in preparation, which was informative and fun. "We laughed a lot, but I repeated, and remembered all the dates, I usually confuse all dates."
Assessment of teacher-student relationships	"-2" – 0% "-1" – 5% "0" – 38% "+1" – 41% "+2" – 16%	The main negative points were worse discipline in the classroom and noise; in the first conducting the game it was necessary to check that all the teams understood the rules correctly, there was a greater discomfort for the teacher during the session once noted. Positive comments noted the involvement of usually passive learners, the manifestation of the qualities of the learner that were new for the teacher, the improvement of communication inside the class, the fact that there was almost no need to repeat the topics consolidated by the game, the delicacy of the introduction of the methodology ("did not reshape the whole course, but added a tool for working with students "), increasing the students' interest in the subject as a whole.
Assessment of students' involvement in the learning process.	"-2" – 0% "-1" – 2% "0" – 34% "+1" – 41% "+2" – 23%	

4. Discussion

The obtained measurements of the results of implementation of the interactive project game algorithm allow us to talk about the implementation of the following tasks of improving the quality of basic and additional education:

- the consolidation of the studied educational material is more effective, the depth of memorization is increased due to multiple and diverse repetition;
- the orientation of students in connection with various types of activities is expanded (game, making projects, research, reflection, etc.);
- their independence is increased, including in working with various sources of information and in choosing the format of the response and presentation of the project;

- the level of interpersonal communication is greatly improved (working in a group/team, personal responsibility for the team result).

Changing the standard and habitual arrangement in the classroom increases the adaptability to new information; in general, the lesson is more interesting for each student without losing the quality of the lesson's tasks.

As a result of the research, *recommendations* are formulated *for teachers of basic and additional education* aimed at improving the mastery of educational material as one of the most important criteria for the quality of education:

1. Improving the quality of education of students is a part of the state strategy; in this regard, continuous checking and optimizing the educational process is necessary to improve the quality indicators (in our case, the results) of education.

2. The search for modern effective approaches in the educational process is vitally important; the low interest in mastering innovations by the pedagogical staff raises the risk of reducing the motivation of students. Undoubtedly, the introduction of new techniques should be done carefully, after point experiments and careful study of the testing results. It is necessary to look at innovations not from the position of "right" or "wrong", "old" or "fashionable", "habitual or "unusual", but from the position of increasing motivation of all participants in the educational process, increasing the depth of knowledge and skills.

3. Orientation to the person-oriented approach allows not only achieving better educational results concerning the skills and abilities, but also preparing students for a future independent life more effectively, opening and strengthening the best of their abilities and capabilities and motivating for further self-development.

4. It is necessary to expand periodically and also change the space of the classroom flexibly, include modern media and communications in the permitted sources of information, introduce game elements into a lesson and encourage creative solutions of students, as this not only stimulates their interest in learning, but also contributes to a greater depth of mastering the acquired knowledge.

5. Teachers should be prepared not only for constant professional growth, mastery of new didactic methods, building subject-subject relations in the educational process, but also for new knowledge, technologies and cultural phenomena.

The implementation of these recommendations would improve the quality of the modern educational process in terms of such factors as the depth of mastering the educational material, the ability to learn independently, and would improve the dialogue between the teacher and the student, increase the communicative competencies of the students and their motivation for learning, which is important for their further life.

5. Conclusion

The results of implementation of the experimental interactive project game algorithm showed that in order to improve the quality of the modern educational process it was necessary to develop and apply new didactic methods and technologies based on the personality-oriented approach, principles and forms of the project educational activity that encouraged the expansion of students' independence in the search for information sources, creative diversity of mastering the material and manifestation of creative activity.

Today, a great potential is seen in the development of learning algorithms with the use of information and communication technologies. On the one hand, it is important to improve the communication of the teacher with the students continuously taking into account changes in both modern society and technologies. On the other hand, the use of new methods should be extremely sensitive, taking into account the specifics of each stage of training (mastering new material – its consolidation – revision of the material studied), without radical breaking and replacing the existing educational process, with selective approbation and gradual introduction into the curriculum. Readiness and loyalty, professional competence of the pedagogical staff, stability and flexibility in the changes in the structure and content of the educational process, the increase of adaptability of the educational process both in the strategic choice of methodological solutions and methodological

adjustments of its course are all important.

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References

Bondarenko, O.V. (2012). Sovremennye innovatsionnye tekhnologii v obrazovanii. Innovatsii: poiski i issledovaniya [Modern innovative technologies in education. Innovations: searches and research]. *Electronic journal "RONO", 16.* Retrieved September 21, 2017, from: https://sites.google.com/a/shko.la/ejrono_1/vypuski-zurnala/vypusk-16-sentabr-2012/innovacii-poiski-i-edledovania/sovremennye-innovacionnye-tehnologii-v-obrazovanii

Davydova, L.N. (2005). Kriterii kachestva obrazovaniya na lokalnom podurovne subekt-subektnykh otnoshenii [Criteria for the quality of education at the local sublevel of subject-subject relations]. *Integratsiya obrazovaniya, 1/2,* 17-20.

Fisher K. (2010). Technology-Enabled Active Learning Environments: an Appraisal. CELE Exchange 2010/7. Retrieved September 21, 2017, from: http://www.oecd.org/education/innovation-education/centreforeffectivelearningenvironmentscele/45565315.pdf

Forrester, S.V. (2014). Sfera obrazovaniya kak sreda formirovaniya chelovecheskogo kapitala [The sphere of education as an environment for the formation of human capital]. *VESTNIK Samarskogo gosudarstvennogo tekhnicheskogo universiteta. Seriya Ekonomicheskie nauki, 4*(14), 117-123.

Geydarova, F.F. (2017). Kriterii i otsenka kachestva obrazovaniya [Criteria and assessment of the quality of education]. *Pedagogika i psikhologiya: aktualnye voprosy teorii i praktiki, 1*(10), 93-98.

Jasz, M. Chrappan, E. & Malmos, E. (2016). How did the science go at school? – Introducing the Analysis of University Student Interviews on Science Subjects. In Barcelona, 8th International Conference on Education and New Learning Technologies, pp. 283-292.

Kaldybaev, S.K., & Beyshenaliev, A.B. (2015). Kachestvo obrazovatelnogo protsessa v strukture kachestva obrazovaniya [Quality of the educational process in the structure of the quality of education]. *Uspekhi sovremennogo estestvoznaniya, 7,* 90-97.

Kapelyushnikov, R. (2007). Evolyutsiya chelovecheskogo kapitala v Rossii [Evolution of human capital in Russia]. *Otechestvennye zapiski, 3*. Retrieved September 21, 2017, from: http://gtmarket.ru/laboratory/expertize/2007/807

Potashnik, M.M. (2010). Upravlenie kachestvom obrazovaniya: praktikoorientirovannaya monografiya i metodicheskoe posobie [Management of the quality of education: a practice-oriented monograph and a methodical guide]. Moscow: Pedagogicheskoe obshchestvo Rossii.

Rogers, K. (2016). Stanovlenie lichnosti. Vzglyad na psikhoterapiyu [Formation of personality. A look at psychotherapy]. Moscow: Institut obshchegumanitarnykh issledovanii.

Tretyakov, P.I. (1997). Upravlenie shkoloi po rezultatam: Praktika pedagogicheskogo menedzhmenta [Management of the school by results: Practice of pedagogical management]. Moscow: Novaya shkola.

UNLEY High School (2016). Middle School iPad Program. Retrieved September 21, 2017, from: http://uhs.sa.edu.au/about-unley/learning-technologies/middle-school-ipad-program

Varchenko, E.I. (2013). Upravlenie kachestvom obrazovaniya v obrazovatelnom uchrezhdenii [Management of the quality of education in an educational institution]. *Molodoi ucheny, 3,* 471-474.

Zaborovskaya, O.V. (2005). Chelovecheskii kapital i rol sistemy obrazovaniya v ego formirovanii [Human capital and the role of the education system in its formation]. *Innovatsii, 4*(81), 68-72.

Zaitseva, I.A. (2010). Sistema operezhayushchei i nepreryvnoi podgotovki spetsialistov vysokoi kvalifikatsii [System of advanced and continuous training of highly qualified specialists]. In Molodezh i nauka: realnost i budushchee: materialy III mezhdunarodnoi nauchno-prakticheskoi konferentsii [Young people and science: reality and future: materials of the III International Scientific and Practical Conference], Nevinnomyssk: NIEUP, pp. 181-183.

Zapesotsky, A.S. (2003). Obrazovanie: filosofiya, kulturologiya, politika [Education: philosophy, cultural studies, politics]. Moscow: Nauka.

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