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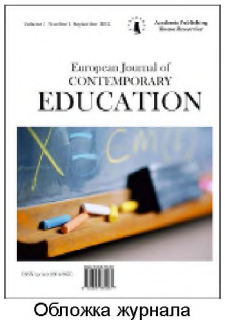

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Рейтинг статей

European Journal of Contemporary Education

MIAR ICDS 2017 - 9.200

Миссия журнала:
Миссия журнала заключается в пропаганде инновационных, креативных и нестандартных подходов к исследованию и решению проблем современного образования, а также в представлении результатов исследований проблем образования, тенденций и закономерностей его развития с позиций педагогики, психологии, философии, а также междисциплинарных наук.

Цели журнала:

1. Формирование нового, более широкого взгляда на проблемы современного образования, повышение уровня гуманитарных исследований посредством активного использования передового отечественного и зарубежного опыта, интеграции достижений разных наук и областей знаний, нетрадиционных подходов;
2. Ознакомление специалистов и всех заинтересованных читателей с современными достижениями ученых разных областей знаний в решении проблем современного образования, развитие межинституционального и международного научного сотрудничества в рамках рассматриваемых научных проблем, повышение научной этики и публикационной активности молодых исследователей.
3. Журнал публикует научные статьи, раскрывающие инновационные подходы к решению проблем современного образования с позиций разпичных наук, научных парадигм и методологических подходов, а также рецензии о научных и научно-методических публикациях и обзоры научных мероприятий по данным вопросам на английском языке.
4. Необычное сочетание теоретических и эмпирических данных, различных методологических подходов к решению актуальных проблем образования, диалектизм мнений, исследовательских позиций, мировоззренческих концепций, междисциплинарных подходов к решению проблем образования в значительной части публикаций являются отличительными чертами нашего журнала.

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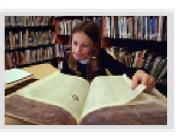
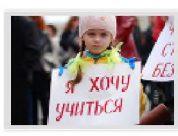

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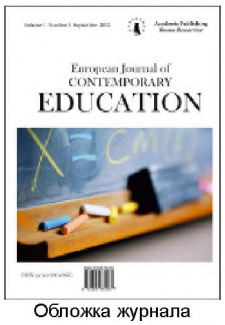

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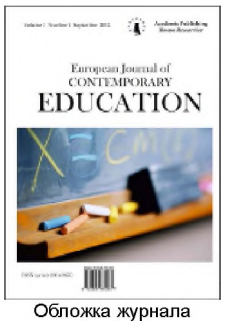

Обложка журнала

3 September 12, 2017

New Approaches and Emerging Trends in Educational Technology for Learning and Teaching in Academia and Industry – Ismail Ipek and Rushan Ziatdinov (Eds.)

1. **Ismail Ipek, Rushan Ziatdinov**
New Approaches and Trends in the Philosophy of Educational Technology for Learning and Teaching Environments

European Journal of Contemporary Education, 2017, 6(3): 381-389.

Abstract:
The purpose of this study is to discuss instructional design and technology (IDT) model strategies for developing learning and teaching environments, based on philosophical approaches to educational technology theory. The study begins with a discussion of IDT models to define the history of educational technology or instructional technology theories, based on instructional strategies and improvements. In the study, authors discuss the strategies and steps that a design team should follow when designing learning environments in industry, business and military scenarios, based on the philosophy of educational technology and latest technologies, which should give way to effective learning environments. The steps include recognizing terminology in educational technology concepts, psychological and instructional foundations in instructional design (ID), as well as approaches to educational technology. To recap, our purpose is to combine necessary IDT model strategies for the pedagogical design of learning environments, with new technologies. We will also discuss powerful IDT models that aim to meet the very high expectations of digital and humanist education. To develop a high-quality learning environment, we will explain technology design steps and practice in order to improve the learning of tasks, complex cognitive skills, attitudes, motivations and competencies in the future trends of educational technology. At the end of the study, integrated technologies in e-learning were discussed and presented, based on foundations of IDT and the philosophy of educational technology. These included pedagogical, technological and organisational technologies, as well as the main barriers of implementation, which, in turn, include the perspectives of students, teachers and designers, learning materials, digital education, epistemology in educational technology, courseware design, new technologies and contextual settings.

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2. **Janka Majherová, Václav Králík**
Innovative Methods in Teaching Programming for Future Informatics Teachers

European Journal of Contemporary Education, 2017, 6(3): 390-400.

Abstract:
In the training of future informatics teachers the students obtain experience with different methods of programming. As well, the students become familiar with programming by using the robotic system Lego Mindstorms. However, the small number of Lego systems available is a limiting factor for the teaching process. Use of virtual robotic environments seems to be a suitable alternative for dealing with an insufficient quantity of hardware tools. The resulting programs are created and tested in the virtual laboratory and can be subsequently implemented into a real robot model. In such cases, teaching no longer depends on the available number of hardware kits and the form of teaching can be changed from group to individual. This paper describes our experiences with students' learning with the robotic system Lego Mindstorms, programming environments Bricx and virtual educational environment ROBOTC. One approach to making teaching programming language attractive is the use of robotic kits and virtual environments in the classroom.

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3. **Jorge Mota, Carla Morais, Luciano Moreira, João C. Paiva**

mSciences: an Affinity Space for Science Teachers

European Journal of Contemporary Education, 2017, 6(3): 401-413.

Abstract:
The project 'Multimedia in science teaching: five years of research and teaching in Portugal' was successful in featuring the national research on multimedia in science education and in providing the community with a simple reference tool – a repository of open access scientific texts. The current work aims to describe the theoretical background that may allow creating and sustainably developing an online community on science teaching. The community should be capable of appropriating and generating scientific peer review and validation processes, which would allow reflections on teaching practices in science areas using information and communication technologies (ICT) and improvements from a participatory science perspective. Through an action-research process, the current platform is being adjusted in the sense of implementing strategies able to attract and engage an interested public and progressively to create a community of peers. The project is particularly relevant with respect to the gap between academic production and pedagogical practice and the avenues that it opens for comparing affinity spaces across different locations and domains of interest.

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4. **Seyedeh Zahra Aboalhasani Kumleh, Fereydon Rahnamay Roodposhti, Ahmad Shahvarani, Farhad Hosseinzadeh Lotfi**
Lower-Order Mathematical Thinking Skills in Finance, from the Viewpoint of Financial Employees in the Iranian Bank of Industry and Mine

European Journal of Contemporary Education, 2017, 6(3): 414-431.

Abstract:
In this paper, lower-order mathematical thinking skills within finance were studied from the viewpoint of financial employees in the Iranian Bank of Industry and Mine. To conduct this research, a questionnaire was developed after reviewing lower-order mathematical thinking skills in finance. In accordance with the revised Bloom's taxonomy, the skills considered in the questionnaire were "remembering mathematics in finance", "understanding mathematics in finance", and "applying mathematics in finance". In order to develop the questionnaire, we conducted interviews with employees and scholars, then a suitable sample familiar with mathematics and finance, consisting of 141 bank employees, was studied. Descriptive and inferential statistics were used for data analysis. Our findings show a hierarchical relationship between the first three mathematical thinking skills in finance, which confirms the revised Bloom's taxonomy. In addition, the attitudes of participants were positive concerning the importance of these skills. Participants believed that, in order to achieve proper functioning, it is essential to improve the skills of financial employees. The results were analysed with a T-test and ANOVA. This showed that the gender, position, experience, department, degree, and field of study of participants did not affect their attitudes. This research indicates that, for the successful utilisation of skills, it is essential to form an effective relationship between mathematical science and its practical application in the banking world. It is recommended to hold on-the-job training courses for financial employees in banks to empower them to use their computational skills.

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5. **Fatemeh Moradi, Parvaneh Amiripour**
The Prediction of the Students' Academic Underachievement in Mathematics Using the DEA model: A Developing Country Case Study

European Journal of Contemporary Education, 2017, 6(3): 432-447.

Abstract:
In this study, an attempt was made to predict the students' mathematical academic underachievement at the Islamic Azad University-Yadegare-Imam branch and the appropriate strategies in mathematical academic achievement to be applied using the Data Envelopment Analysis (DEA) model. Survey research methods were used to select 91 students from the Faculties of Engineering, Science, and Humanities for the analysis using the DEA model, along with the SBM method. This study had shown that the mean and the sum of the pre-university math score rankings were higher than the university's math scores. Therefore, it was concluded that the Islamic Azad University (Rey branch, Tehran province) students had displayed academic underachievement in the math exam. Moreover, "the economic, social, and educational factor" did not have any significant relationship with the students' "math scores." Also, forming the regression equation proved meaningless indicating economic, social, and educational factors did not impact on their mathematical academic underachievement. It was shown that the low level of performance was indicative of the students' negligence and reluctance concerning the math lessons, and it revealed that the economic, social and educational factors had no involvement or impact on their math scores . The results of this research will be for the benefit of the professors, administrators, and presiding officers of colleges in the field of mathematics.

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6. **Robabeh Puran, Mohamad Hasan Behzadi, Ahmad Shahvarani**
The Effects of Training and Other Factors on Problem Solving in Students

European Journal of Contemporary Education, 2017, 6(3): 448-460.

Abstract:
The purpose of this article is to identify the factors which affect students' creative thinking in problem solving. The research which was performed was quasi-experimental. It used one experimental group and two control groups from three second-grade high school classes. They received either traditional, active or heuristic problem-solving training. In the traditional method, no teaching aids were used, and the material was taught traditionally. In the active method, 34 students were trained using teaching aids, such as coloured balls, and handicrafts, such as shirts and pants. They were trained to use the teaching aids in order to solve problems. In the heuristic method, the researcher introduced problems which the students thought about. After a few sessions, I commenced teaching the procedures — in each session, two heuristics were introduced. They learned to use these strategies to solve problems. Creativity and mathematics tests were given to the students, both before and after they received training in problem-solving. The findings show that parents' education (but not gender) and parents' job type affected students' ability to think creatively. Students' creative thinking was improved by active training, but not by the heuristic or traditional methods.

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7. **Parvaneh Amiripour, John A. Dossey, Ahmad Shahvarani**
Factor Analysis of Inertia, Capacities, and Educational Performance of At-Risk Students' Training Centres According to Their Academic Failure in Mathematics

European Journal of Contemporary Education, 2017, 6(3): 461-478.

Abstract:
Immigrants face many barriers in moving from one country to another. Today's massive migrations are dislocating students from their cultures, families, and their schooling. In Iran, such students were not able to enter Iranian schools prior to 2017. Even now, many such immigrant students are being educated in centres administered by non-governmental organisations (NGO) where the schooling is focused on providing youth with knowledge on nutrition, health care, language and mathematics, and maintaining family links where possible. Still, external and internal factors lead to many at-risk students dropping out of the programs. The researchers have focused on the failure of at-risk students in mathematics in four of these schools supported by two NGO agencies. It was clear that the inertia of both teachers and students in mathematics was influencing both teacher choices and planning and student choices in providing conceptual understanding and algorithmic performance. Given the lack of instrumentation to gauge and describe organisational and managerial aspects of the schools and meaningful assessments of students' progress, the researchers modified a questionnaire from organisational inertia for examining the administrative factors in business and created a series of mathematics tests to quantify and describe at-risk students' movement through either second or third grade mathematics classes. The data provided by an Exploratory Factor Analysis of the assessment outcomes provide a predictive picture of student persistence versus administrative changes and, more generally, on ways that teacher/educators and educational staff members can implement strategies to help immigrant at-risk students transition from mindless repetition to understanding in their mathematics school work.

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8. **Yesen Bidaybekov, Guldina Kamalova, Bektas Bostanov, Indira Salgozha**
Development of Information Competency in Students during Training in Al-Farabi's Geometric Heritage within the Framework of Supplementary School Education

European Journal of Contemporary Education, 2017, 6(3): 479-496.

Abstract:
Information competency is one of the essential qualities of a person living in the information age. It includes skills in information handling in both educational domains and the outside world, as well as readiness and capability to use modern information and communication technologies when involved in various types of information activities. Building and developing information competency in students during teaching and upbringing is one of the primary goals of education. This article describes possible ways of developing it in students within the framework of supplementary education when studying the mathematical heritage of Al-Farabi, one of the greatest scientists of the early Middle Ages, whose fundamental studies made a significant contribution to development of world science. It has been proven that integrated extracurricular classes in geometry and information science are one of the most useful patterns of teaching the scientist's heritage within the framework of supplementary school education. The article highlights the main components of information competency for the most effective organisation of its development process, provides geometric construction problems from the scientist's mathematical heritage, tasks related to his biography and scientific activities, as well as up-to-date educational and information and communication technologies to facilitate the most effective development of information competency in students.

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9. **Ján Gunčaga, Štefan Tkačik, Katarína Žilková**
Understanding of Selected Geometric Concepts by Pupils of Pre-Primary and Primary Level Education

European Journal of Contemporary Education, 2017, 6(3): 497-515.

Abstract:
Misconceptions in geometry are an essential problem in the understanding of geometric

terms by primary and pre-primary aged children. Present research shows some misconceptions in geometry demonstrated in the understanding of circles, squares, triangles and oblongs for children in the last year of kindergarten and pupils in the last year of primary school. The research methodology is based on the Van Hiele's theory of understanding geometric thinking. Qualitative analysis of videotapes with recorded children's activities was the method used for pre-primary children. Whereas for the examination of 4th graders, a quantitative analysis was conducted via student-completed tests. Pupils' common misconceptions are shown and identified in our research. Based on these findings, recommendations for best pedagogical practice are suggested for teachers in primary and pre-primary levels and also for the teacher training of pre-service teachers.

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The Problems of Contemporary Education

10. **Alexander Fedorov, Anastasia Levitskaya, Olga Gorbatkova, Anvar M. Mamadaliev**
Directions, Objectives, and Author's Concepts of Audiovisual Media Interpretations of School and University Theme in the Soviet Cinema of the "Thaw" Period (1956–1968)

European Journal of Contemporary Education, 2017, 6(3): 516-529.

Abstract:
The "thaw period" films (1956–1968) on the school/university topic can be conditionally divided into two stages: early (1956–1963) and late "thaw" (1964–1968), although, naturally, there was a somewhat diffusion between these periods. The "thaw" audiovisual texts about school and university life, according to the authorities, were to support the main course of the state policy in the educational and socio-cultural spheres of the time, that is, to show that the Soviet education and culture system is being reformed: 1) the educational process is out of the strict Stalin's framework (while retaining general communist landmarks and a rigid anti-religious orientation); 2) the relationship between teachers and students is becoming more democratic, to some extent, creative, based on the experience of Soviet educators / innovators of the 1920s; 3) there are problem zones at school and university (for example, the taboo was removed from the previous interpretation of a Soviet teacher's image as almost an ideal representative of the most educated part of the people). The first "thaw" stage was more or less characterized by a romantic reliance on the pedagogical experience of revolutionary Soviet pedagogy of the 1920s and the creation of touching lyrical stories, where, despite minor difficulties, the harmony of good teachers and, sometimes, flawed and misled at the beginning, but later good students, won. In the course of the second stage of the "thaw", new tendencies began to manifest themselves more often: on the one hand, the crisis, the disappointment and fatigue on the part of teachers, and on the other, the pragmatic cynicism of students.

Number of views: **3** Download in PDF

11. **Arturo García-Santillán, Elena Moreno-García, Violetta S. Molchanova**
Education and Knowledge in the Use of Financial Products and Services in Bachelor's Degree Students

European Journal of Contemporary Education, 2017, 6(3): 530-541.

Abstract:
This study seeks to determine a university student's knowledge and culture in relation to money; the way they plan their budget, their economic independence and consumer habits, the level of debt, and the use of financial services and products. The instrument designed by Aravena-Collao and Mendoza-Letelier (2010) was used for the query among the students of different universities in the conurbation of Veracruz-Boca del Río, México. Findings show that young students maintain an acceptable level of knowledge in basic concepts like credit, savings, investment, and budgets. However, knowledge and use of financial products like savings accounts, credit, and debit cards are almost non-existent.

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12. **Cigdem Hursen, Funda Gezer Fasli**
Investigating the Efficiency of Scenario Based Learning and Reflective Learning Approaches in Teacher Education

European Journal of Contemporary Education, 2017, 6(3): 542-556.

Abstract:
The main purpose of this research is to investigate the efficiency of scenario based learning and reflective learning approaches in teacher education. The impact of applications of scenario based learning and reflective learning on prospective teachers' academic achievement and views regarding application and professional self-competence perceptions are also searched. This research is both qualitative and quantitative oriented and is conducted with two different groups: one is scenario based learning group and the other one is reflective learning group. Besides, the research is carried out with 62 prospective teachers who take "Teaching Practice" course. The group of reflective learning is composed of 30 prospective teachers whereas the scenario based learning group is composed of 32 prospective teachers. The applications which are lasted 12 weeks are supported with one of the educational social networks called edmodo. The findings of the research revealed that the scenario based learning is more effective than reflective learning in terms of prospective teachers' academic achievement. However, there is no significant difference found in the professional self-competence perceptions of both scenario based learning group and reflective learning group.

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13. **Tatyana I. Kulikova, Kseniya S. Shalaginova, Svetlana A. Cherkasova**
The Polyethnic Competence of Class Teacher as a Resource for Ensuring the Psychological Security of Pupils in a Polycultural Educational Environment

European Journal of Contemporary Education, 2017, 6(3): 557-564.

Abstract:
In modern world the environment of any educational institution represents a spectrum of ethnoses, subcultures; and, thereafter, in a certain way, we can talk about it as the multicultural educational environment. Pupils who realize their national identity often demonstrate intolerance towards representatives of other nationalities which creates a threat for pupils' psychological safety. This paper addresses the topical issue of the role played by class teachers in ensuring the psychological security of pupils within a polycultural educational environment. The authors present the findings of a study assessing the level of development of polyethnic competence in the average class teacher and establishing the interrelationship between this level and how secure psychologically a high-school student may feel within a polycultural educational environment. The study engaged 58 class teachers and 127 pupils in grades 7 and 8, ages 13 and 14. It has been suggested that fostering polyethnic competence in class teachers is taking on special significance at this time.

14. **Tatyana A. Naumova, Nadezhda I. Vytovtova, Nicholas W. Mitiukov, Teymur E. Zulfugarzade**
Model of Distant Learning Educational Methods for the Students with Disabilities

European Journal of Contemporary Education, 2017, 6(3): 565-573.

Abstract:
The present paper represents the results of the studies done at the Udmurt State University with assistance of the Russian Humanitarian Scientific Fund (project 14-16-18004). In the course of studies e-learning educational methods for the students with special educational needs were developed, approved and implemented in educational process. Features of training and educational activity motivation, as well as attention span, time history of working efficiency and interpersonal relations, peculiar properties of logical thinking and coping behavior of the group of the students of "Law" department were revealed in the process of stating experiment. On the basis of psychology and educational features of the group under study, we developed the integrated educational methods of training matching the features of disabled students. The technology includes both traditional and innovative methods of training. During the pedagogical experiment it was proved that application of active methods of training in educational process increases educational motivation makes active informative activity and improves the interpersonal relations that positively influences the process of professional adaptation in modern society. The results received during the experiment can be used by the teachers realizing e-learning of disabled students, managers of educational sphere organizing e-learning of students.

15. **Suswandari**
Incorporating Beliefs, Values and Local Wisdom of Betawi Culture in a Character-Based Education through a Design-Based Research

European Journal of Contemporary Education, 2017, 6(3): 574-585.

Abstract:
This design-based research is part of three-year national projects examining the incorporation of local wisdom in a character-based education in primary school contexts. Specifically, the present study addresses two research questions: 1) what are local wisdoms of Betawi ethnic feasible to be incorporated in character based curriculum in primary school contexts, 2) what are potential classroom instruction methods for such a local wisdom integrated curriculum. To this end, I worked with historian, educational experts and practitioners. Multiple data collection methods were employed, including documents study, interview, survey, focus group discussion and observation. The collected data were analysed both qualitatively and quantitatively. This study has highlighted several beliefs, values and local wisdom from Betawi culture feasible for integration within classroom instruction. More importantly, the study has discussed an alternative instructional method that facilitated the incorporation of the beliefs, values and local wisdom from Betawi culture in classroom context.

16. **Pavol Tišliar**
The Development of Informal Learning and Museum Pedagogy in Museums

European Journal of Contemporary Education, 2017, 6(3): 586-592.

Abstract:
This paper presents an outline of the history and the current orientation of informal learning in museums, museum pedagogy. This is the result of a lengthy process over the last two centuries, which became particularly intensive from the 1960s, in which museums looked for deeper ways to communicate with visitors, starting from basic presentation activity with occasional spoken commentaries. From this, modern museums have developed specialised ways of working with different age groups of visitors, which can be referred to collectively as museum pedagogy and museum education. These activities not only strengthen the experience of museum exhibits and exhibitions but also allow information to be communicated using collection items in a playful way, through informal learning. Museums' current focus on communication and working with visitors owes much

to the long development of heritage institutions, the stabilisation of their position in cultural and social systems, in cultural policy and strategy and the overall significance of the collections of museums and galleries for our modern knowledge societies. The aim of this paper is to outline the historical development and direction of museums' educational activities to the present.

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17. **Milena I. Tsvetkova**
The Speed Reading is in Disrepute: Advantages of Slow Reading for the Information Equilibrium

European Journal of Contemporary Education, 2017, 6(3): 593-603.

Abstract:
The study is dedicated to the impact of the speed and the acceleration on the preservation of the information equilibrium and the ability for critical thinking in the active person. The methods about the fast reading training are subjected to a critical analysis. On the grounds of the theory for the information equilibrium and the philosophy of the slow media, is derived the relation "slow reading – information equilibrium". "Information equilibrium" is defined as "imposed by the information environment for natural and sufficient satisfaction of the individual needs, in the conditions of relative freedom." It is supported the thesis about the rethinking of the positives of the fast reading and the rehabilitation and active promotion of the universal literacy in slow reading. The need of promoting the slow reading in the context of the requirements for urgent mass training on information literacy and for critical thinking at times of misinformation, fake news and post-truth has been empirically drawn and grounded. The author's suggestion is to move to a stratified and subordinate redefinition of the goals of the information and the media literacy. The idea is to develop a standard for "profiled" or "niche" information literacy – for each category of person (age, professional) to be written the relevant "maximum program" that does not exceed the rational and the advisable towards their potential.

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18. **Murat Yalman, Bulent Basaran, Selehattin Gonen**
Education Faculty Students' Levels of Satisfaction with E-Learning Process

European Journal of Contemporary Education, 2017, 6(3): 604-611.

Abstract:
Also, e-learning environments, which integrate technology into education, have now become widespread and popular. Examining how students use this education management system is fairly important for the success of this system, and any possible results to be obtained are significant. For this purpose, the present study was conducted with 348 students attending an education faculty. In the study, the courses of 'Introduction to Computer' found in their curriculum were taught to the students for two academic terms with the e-learning management system. At the end of the academic year, a questionnaire was applied to the future pre-service teachers to determine their levels of satisfaction with e-learning. The results revealed no significant difference in the preservice teachers' levels of satisfaction with e-learning in terms of their gender, their education program and their department. In addition, it was revealed out that there was a significant difference at the significance level of $p<.05$ between their levels of satisfaction with e-learning and their levels of knowledge of Internet technologies.

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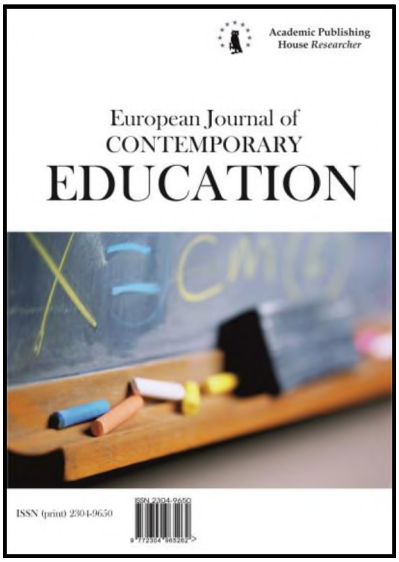

Model of Distant Learning Educational Methods for the Students with Disabilities

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Abstract

The present paper represents the results of the studies done at the Udmurt State University with assistance of the Russian Humanitarian Scientific Fund (project 14-16-18004). In the course of studies e-learning educational methods for the students with special educational needs were developed, approved and implemented in educational process. Features of training and educational activity motivation, as well as attention span, time history of working efficiency and interpersonal relations, peculiar properties of logical thinking and coping behavior of the group of the students of "Law" department were revealed in the process of stating experiment. On the basis of psychology and educational features of the group under study, we developed the integrated educational methods of training matching the features of disabled students. The technology includes both traditional and innovative methods of training. During the pedagogical experiment it was proved that application of active methods of training in educational process increases educational motivation makes active informative activity and improves the interpersonal relations that positively influences the process of professional adaptation in modern society. The results received during the experiment can be used by the teachers realizing e-learning of disabled students, managers of educational sphere organizing e-learning of students.

Keywords: e-learning, special educational needs, disabled student, educational methods, active methods of training, mode of study, teaching method.

1. Introduction

In our modern age knowledge is the necessary tool of tasks solution both in professional and personal spheres.

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At the same time it is necessary to consider that demand for education arise for representatives of various sections of society. It inevitably results in stiffening of requirements to training organizations and enabling of self-education.

The satisfaction of educational requirements demands consideration not only specifics of the studied discipline, but also specific features of students. Students show interest in different spheres of professional activity, have various level of basic preparation, feature of the organization of the informative sphere of the personality. Each of them has specific picture of the future profession and possibilities to use the gained knowledge. One educational group can unite persons with the high level of educational background, and those who meet the minimum volume of qualifying standards. This is especially the case of disabled people having difficulties in getting the high-level education.

One of the ways to solve this problem is development of training courses, creation of textbooks and study guides in the form of the electronic educational resources (EER) taking into account the principle of training individualization.

Free access to information educational resources of all population of Russia including persons with special pedagogical needs led to change of educational paradigm of the information society. Development of information and communication technologies created essentially new conditions of educational evolution.

However there is a set of problems connected with the organization of educational process of disabled students. These are psychological, physical and system-base barriers. Because of the existing physical violations students cannot regularly attend classes in higher education institutions. The traditional forms and methods of training in higher education institutions are often unacceptable for the students claiming ad hoc approach. Features of a disease also hinder full integration into educational process of ordinary student's group. Modern information technologies allow getting online education in institutions of different levels. Such educational form allows creating significant opportunity for disabled students to acquire knowledge taking into account their personal features.

Need of e-learning implementation, or, at least, online courses, is understood in all higher education institutions of Russia and other countries. Every institution develops technology of training and mentoring of students in its own way. Unfortunately, lack of a uniform paradigm of distance learning will not allow creation of uniform educational virtual space of e-learning with a possibility of remote courses exchange, creation of uniform global audience for collaboration over practical tasks, projects, joint speakers' branch, etc.

However, proceeding from the principles of training individualization, it is necessary to investigate psychology and educational features of the group of students with special pedagogical needs.

One of current problems of the present is improvement of quality of higher education. It is multipurpose problem directly connected with change of functioning of the higher education, transformation of all educational process in general and change of education purpose. At implementation of training the real purpose of education is not just obtaining of ready professional knowledge and skills, but acquisition in the course of training of core competency, such as readiness for decision-making, readiness for use of information and communication technologies, readiness for social interaction, communicative competence, etc., that is provided by educational standards of new generation. In Russia it is caused by transition to the European system of education providing competence-based approach to training (Khutorsky, 2005). Change of the purposes and problems of education demands change of technology of the organization of the whole educational process. It is necessary to realize transition from the centralized model of knowledge transfer in which a teacher telling knowledge to a student is a center to the model in which center is a student supported by a teacher in definition of the training purposes and reaching them (Yakimanskaya, 1996). Reconsideration by the teacher of own role in educational process and mastering the new pedagogical technologies based on learner-centered approach to training is urgent task in Russia today.

2. Purpose

Purpose of the present study is design of educational technology of distance learning of students with special educational needs. According to the document "Methodological

recommendations about Management of Educational Process for Training of Disabled People and Individuals with Disabilities in the Higher Educational Institutions including Equipment of Educational Process" of April 08, 2014 AK-44/05vn. The present document recommends adapting of educational programs and educational methodological support of educational process to the needs of disabled people and individuals with disabilities. Information technologies allow access to information in available forms depending on nosology. Web content has to be available for a wide range of users with health limitations (disorder of hearing, sight, musculoskeletal system, speech, mental sphere, and also combined disabilities). The teaching material has to be available to all the categories of students. The special efficiency is gained by a combination of individual and group methods of training with the use of modern distant technologies and innovative methods of training.

3. Materials and methods

The Purpose of the present study is examination of process of distance learning of the students having disability. An object of research is the model of teaching methods with the use of distant technologies and e-learning. The authors used the following methods: carrying out the theoretical analysis of the approaches to training of the students with disabilities as at inclusive, so at e-learning in references; modeling of the process of distance learning in the conditions of the university. The training process was simulated according to the approaches developed for teaching of students in stationary and virtual realities (D.B. Elkonin, V.P. Ovechkin, A.G. Rivin, T.V. Kudryavtsev); the system approach providing the analysis of an object of research; the competence-based approach allowing to correlate the virtual environment of education to the needs of students with disabilities and the social service procurement through the Available Environment program. The logic of the research was constructed in such a way that, proceeding from psychology, educational and physiological features of disabled students and the developed technology of training in the conditions of e-learning, there were created conditions making education to be accessible for the students with disabilities.

Tactics of the study was intra group experiment.

4. Discussion

We investigated such educational and psychological features of students as motivation of learning in higher education institution, motivation of educational activity, attention span and performance distribution, and also features of coping behavior of students. The group of six students studying at the educational department "Law" participated in the study in the distant form. The purpose of the “Stating Experiment” was identification of psychology and educational features of the students with disabilities of various etiologies and learning in one group. The research of motivation was conducted by the means of several techniques: motivation of training in higher education institution (technique of T.I. Ilyin) (Mironov, 2005), and technique of research of educational activity (variant II) modified by A.A. Rean (Rean, 1990) and V.A. Yakunin (Yakunin, 1994). The research of attention span and performance distribution was conducted by means of the Schulte tables. Test of Ravena was the tool for logical thinking research.

The study gave the following indices. At the high level of motivation to training knowledge acquisition is students’ number one concern, then obtaining the diploma follows and only on the third place there is learning of trade. Another, not unimportant factors of successful educational activity are attention, working capacity and operational efficiency. The intensity of these factors is considered at the choice of a technique and didactics of training. Performance distribution had linear character with slight increase of time. The overall performance, expectedly, is individual within average values with a decrease tendency to the end of a task, and depends on a student disease.

In order to improve effectiveness of performance of educational tasks at the beginning of the lessons it is expedient to offer the tasks demanding the maximum concentration of the student’s attention. The attention also tends to decrease in the course of tasks fulfillment. That is the number of the tasks of the middle difficulty level solved during one in-class lesson should not be very big. Or solutions of tasks have to alternate with other types of activity. Degree of getting into the swing of work demonstrates that examinees need more time for preparation for the main work. The indicator of mental stability (according to Ravenna) corresponds to good mental resistance to

those types of educational activity where students are to perform tasks attentively. The level of development of intelligence showed average value for this age group.

At the second investigation phase we conducted a group research on coping behavior which consists in the most effective adaptation of a person to requirements of a difficult or even extreme situation.

The results were yielded by mean values of reaction to a stressful situation. The concept of "coping behavior" is used for the characteristic of ways of behavior of a person in various difficult situations. For the students having problems with health and studying, actually individually with limited level of communication at tasks fulfillment, communication can be considered "a difficult life situation". The technique of research of resistance to stress and social adaptation (Holm, Rage) revealed the average level of resilience to a stress. Having analyzed an average picture of emergence of a stressful situation, it is possible to note the following stress-producing situations: all the situations concerning own health and health of relatives (that is, actually, natural for the people having disabilities), changes in the modes of training work, rest and social activity. However the integrated indicator of psychological tension gave mean indices. It indicates presence of deadaptation and psychological discomfort in the period of the experiment fulfillment. It is possible to explain such a discomfort with the beginning of a new semester, with the advent of new school subjects and new teachers. Requirements of the teachers who for the first time started training of students in the remote mode in general and disabled students in particular is the reason of the increased tension to a students, cautious attitude, fear to do something wrong or to lag. That is why it is necessary to develop standard requirements for provision and realization of teaching situation. Of course, it is very difficult to make everybody to work to pattern, but these efforts will return to a teacher in the form of effective work of the educational group (Baranov et al., 2014; Neskoromnykh et al., 2017; Naumova, Vytovtova, 2014). For estimation and analysis of amplitude attributes with the use of basic indices there were chosen the following indicators (see Fig. 2). That is why selection of definitive educational methods taking into account individual features of the students with special needs is our next task.

At the third stage of our research, after approbation of the training courses developed by us, we started design of educational technology taking into account the data obtained when carrying out the stating experiment. At the stage of selection we considered the following educational technologies:

- Traditional (reproductive) technology of training (the technology is focused on transfer of knowledge and skills);
- Technology of evaluative training (D.B. Elkonin, V.V. Davydov and their numerous pupils) which cornerstone is training on special level; the technology of stage-by-stage formation of intellectual actions (the theory of P.Y. Galperin, D.B. Elkonina, N.F. Talyzina, etc.) based on pragmatist approach to assimilation of knowledge and skills; technology of collective interaction (developed by A.G. Rivin with assistance of his pupils and followers V.V. Arkhipova, V.K. Dyachenko, A.S. Sokolov and and others);
- Technology of full assimilation (authors of the technology of full assimilation are the American scientists J. Carroll and B. Blum and M.V. Klarin). Basic aspects of this technology the planned results of training which have to be reached;
- Technology of split-level training which assumes creation of educational conditions for inclusion of each trainee in the activity corresponding to a zone of his next development;
- Technology of split-level training assuming flexible system of studies management taking into account specific features of students;
- Technology of the programmed training (N. Krauder, B. Skinner, S. Pressi, P.Ya. Galperin, L.N. Landa, A.M. Matyushkin, N.F. Talyzina and others). This is technology of independent individual training according to the training program developed in advance with the use of special means (the automated training environment, the special training machines, etc.);
- Technology of computer training, which represents is the technology of program training changed during scientific and technical progress including interrelation of computers and specialized tutorials;
- Technology of problem training (T.V. Kudryavtsev, A.M. Matyushkin, M.I. Makhmudov, V. Okon and others) – independent search activities of studentss for the solution of educational tasks

during which the students get new knowledge and skills, develop their abilities, informative activity, inquisitiveness, erudition, creative thinking, etc.;

- Technology of the concentrated training or otherwise the method of immersion in a subject (P. Blonsky, V.F. Shatalov, M.P. Shchetinin, A. Tubelsky, G. Ibragimov and others);
- Technology of design training (D. Dewey) which cornerstone is the solution of practical tasks of everyday life;
- Technology of the guaranteed training (V.M. Monakhov) is a model of interaction of the teacher and trainee in design and realization of educational process;
- Technology of distance learning is receiving of educational services without visit of educational institution, by means of the modern systems of telecommunication and Internet resources.

At such variety of educational technologies all of them come down to two ways of their origin, i.e. practical and theoretical: in some cases the technology arises from the theory (V.P. Bespalko, V.V. Davydov, V.K. Dyachenko, L.V. Zankov, P.Y. Galperin, N.V. Kuzmina and others), in other cases the technology results from practice (E.N. Ilyin, S.N. Lysenkova, V.F. Shatalov, V.V. Sheiman, etc.). The cornerstone of the educational technology offered by the authors is the technology of distance learning in combination with the technologies of stage-by-stage formation of intellectual actions, full assimilation, split-level training and problem training. The experiment was carried out in the conditions of the prevailing use of remote educational technologies, so students did not attend class in higher educational institution; the State Educational Standard allows it. The technology of training assumes design of content of each discipline, forms of the organization of educational process, choice of methods and tutorials. When developing our educational technology we took into account not only psychology and educational features of this student group, but also the requirements of modern educational standards, namely application of interactive and active methods of training (Mariko, 2004). Therefore forms and methods of training listed below contain references to the used by us the equipment and strategies. Some of them are applied at the organization of the distant learning for the first time.

Fig. 1 represents the model of educational technology of distant learning with health limitation.

Forms of organization or distant learning for students with health limitation:

- **Frontal.** This form is chosen as far as with its help the basic theoretical provisions of a subject before fulfillment of practical works will be stated. The form underwent approbation and implemented in the teaching situation "The active lecture" with the use of the strategies "Logbook" and "Interactive lecture".
- **Individual.** Students perform work independently – the Portfolio method.
- **Group.** This form and method of a discussion will supplement each other and at joint use the discussion method will be even more effective. We chose the following strategies "Training together", "Zigzag", "Mosaic of problems", and also the strategy of problems solution "IDEAL".

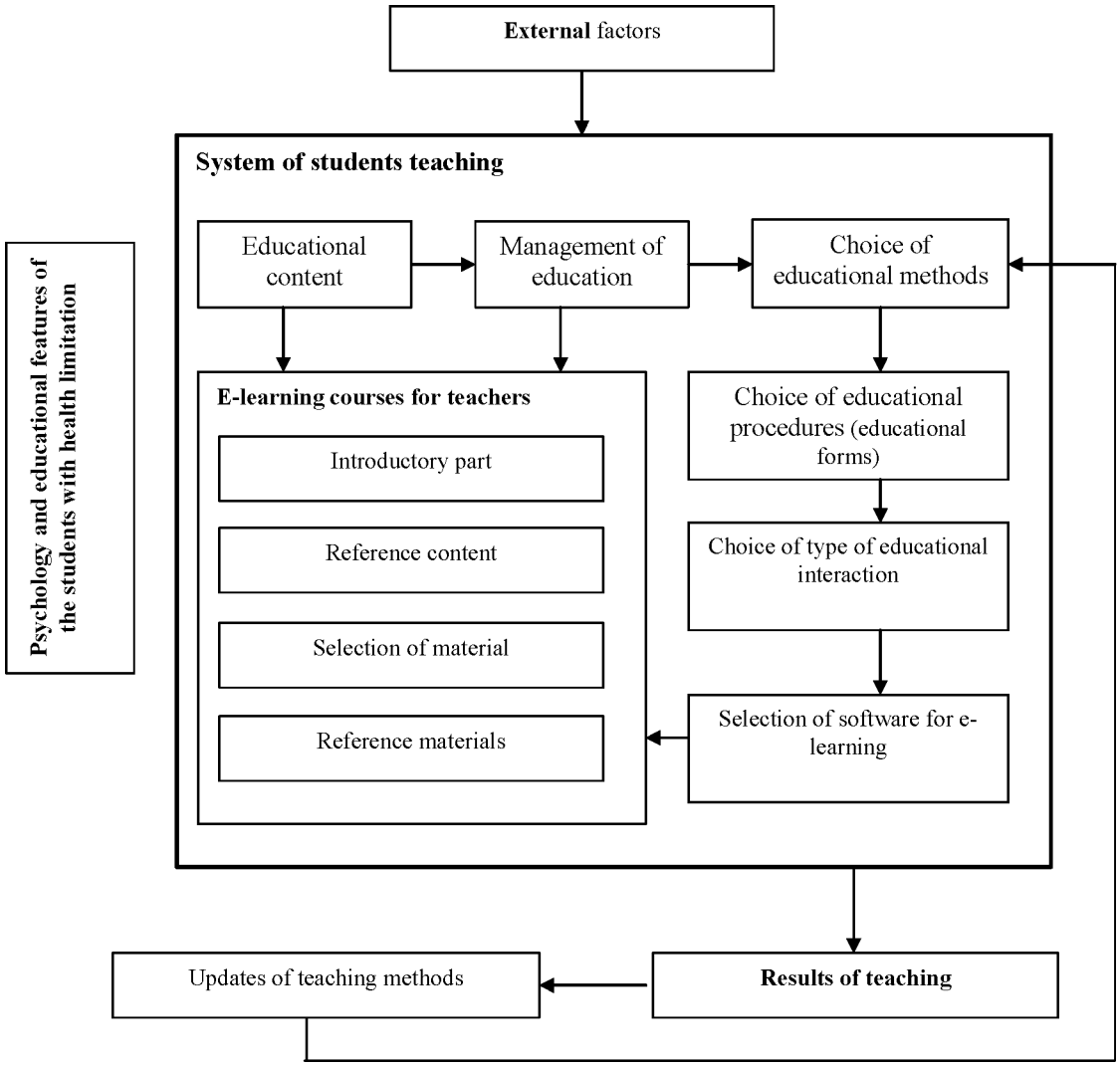

Fig. 1. Model of educational technology of distance learning

And – and now try one of the decisions; L – let's think together how to realize it), etc.

2. Descriptive method

* The illustrative and demonstrational method represent use of descriptive educational methods which in the present technique are directed to a lecture method reinforcement by means of use of an electronic board and other modern technical means. Well proved at distance learning are educational presentations and educational websites.

3. Practical method

* Making use of practical method the students will work with the modern programs and educational means for solution of educational tasks. The method is aimed at the development of liability for the work done**.**

4. Problem-oriented training

* The method of problem-oriented training will help the students to study consider and solve specific problems. Herewith using new ways and approaches, the students develop their personality and promote innovative activity namely development of initiative. Within the methods of problem-oriented training there are used such techniques as problem-oriented issue, problem-oriented situation, problem-oriented lesson and problem-oriented task.

5. The analysis of concrete situations (case study)

The analysis of concrete situations (case study) is one of the most effective and widespread methods of the organization of vigorous cognitive activity of students. Coming up against a

concrete situation, the trainee has to define: whether there is a problem in it, what is it consists in and define own position on the situation.

6. Active methods of training

Active methods of training as the methods directed to stimulation of cognitive activity of students is facilitated discussion (strategy "Reading with stops"), strategy of development of the reflexive attitude to information ("I know" - "I want to learn" - "I learned"), the strategy of RAFT (Role-Auditorium-Form-Topic**).**

7. The method of design training

The method of design training is focused on independent activity of students – Individual, pair or group, which students carry out during a certain interval of time at solution of any research task

For discussion of the results of the design group work Edward de Bono's method "Six Thinking Hats" is very effective for discussion of the results of design group work.

Tutorials:

• Electronic educational resources (the training courses developed by teachers for work on the Adobe Connect platform, the system of electronic training at the LMS Moodle platform, etc.)

• Audiovisual educational resources (educational videos, presentation)

5. Results

Upon termination of the study we repassed inquiry of students, having used the questionnaire on training results after the active methods of training (AMT). The questionnaire represents 22 polar statements, each of which was estimated on-scale from 0 to 6 points. The received results are interpreted by three categories: the educational motivation (EM), the informative activity (IA) and the interpersonal relations (IR). In the table the corresponding points of the scale are marked with the corresponding letters. Taking into account that according to each statement the maximum number of points is "6" and minimum is "0", there was calculated the total amount of points by each criterion. On the basis of the received values there were distinguished the levels stated in Table 1:

Table 1. Level of educational motivation, informative activity and interpersonal relations after the experiment

	Levels in points		
	High	Middle	Low
Educational motivation (EM)	25-36	13-24,9	0-12-9
Informative activity (IA)	35-57	19-36,9	0-18,9
Interpersonal relations(IR)	29-42	15-28,9	0-14,9
Total	89-132	45-88,9	0-44,9

Table 2 presents the comparative data obtained before and after the experiment.

Table 2. The summary table of the results on AMT technique before and after the experiment

	Before experiment	After the experiment
Educational motivation (EM)	26	29
Informative activity (IA)	23	37
Interpersonal relations (IR)	22	29

Prior to the experiment the educational motivation was estimated as high (that is confirmed by the results received by the Ilyina's technique.), informative activity was at average level, the interpersonal relations also were at the average level. After the experiment the results changed as

follows: the educational motivation was high, but changed towards increase in result, level of the informative activity became high, the interpersonal relations also moved to the high level.

Visually the results of the time history of indices obtained before and after the experiment are presented in the Fig. 2.

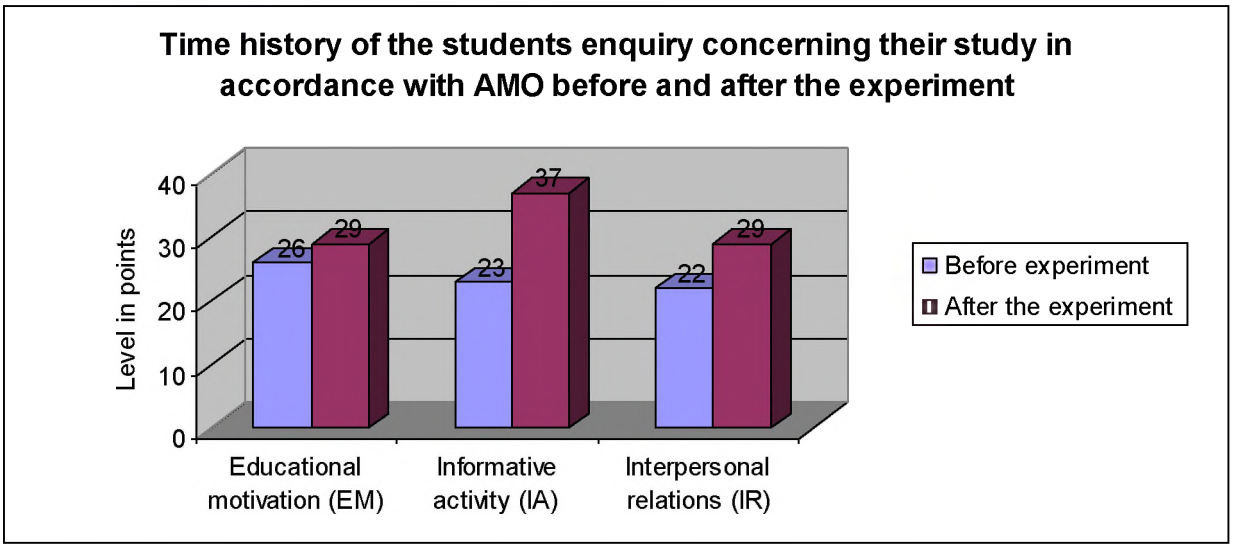

Fig. 2. Time history of indices before and after the experiment

At initially high level of motivation of the students to training there is observed weak tendency of the indicator to growth after carrying out the experiment (3 %). Growth of the informative activity (48 %) and the interpersonal relations (10 %) is considerable. If before use of the experimental technology of training only the motivation, as it was already noted, had a high rate, then after the experiment both the informative activity and the interpersonal relations received high indices, that is very important for training in the conditions of distance learning.

For confirmation of efficiency of the technology of training offered by the authors there were applied methods of mathematical statistics, i.e. T-criterion by Vilkokson, for identification of orientation and expressiveness of shifts in the same group of examinees in two different conditions - before and after use of our technology. For motivation Temp =9.5 at Tcrit =2 at 5 % level of the statistical importance that lies in a zone of unimportance of an indicator. Informative activity Temp =2.1 that is a significant indicator. Interpersonal relations constitutes Temp =1.95. The given indicator is in the area of uncertainty, but close to Tcrit =2 for 5% level of the statistical importance that grants to us the right to consider it to be a significant indicator. Thus, it is possible to claim that the intensity of shifts in the typical direction does not surpass intensity of shifts in the atypical direction.

6. Conclusion

Therefore the offered educational methods of distant learning for the students with special educational needs based on the advances in information technology in combination with active methods of training is optimum for this educational group. It can be successfully used by teachers in educational groups with such students. Besides in the course of studies there is proved improvement of such factors as informative activity and interpersonal relations. It is very important for the distant-learning students training without direct communication with teachers and other students. Rise of informative activity bears testament that students with special educational needs (who sometimes are isolated from the whole world) are able to produce socially important transformation of material and mental spheres.

7. Acknowledgement

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8. Recommendation

The educational technology developed by the authors is option of the distance learning management for the students with disabilities of various etiologies learning in one group.

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