International Review of Management and Marketing

ISSN: 2146-4405

available at http: www.econjournals.com

International Review of Management and Marketing, 2016, 6(S3) 82-88.

Special Issue for "Family, Education, Culture: Developmental and Management Characteristics of the Social Institutions and Processes Under Contemporary Conditions"

Pedagogical System Approach to Search, Development and Support of Gifted and Talented Students

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ABSTRACT

In the article the problems of system approach to search, development and supports of gifted and talented students in pedagogical higher education institutions are considered. The problems restraining effective work on search, development and support of gifted children and youth in Russia and the main solutions of these problems are defined on the example of work with children and youth in Armavir State Pedagogical Academy. It is shown that system approach to search, development and support of talented children and youth has to be based on such basic principles, as system, integrity, hierarchy, structure and plurality. As a result of the conducted research it is proved that pedagogical system approach allows to reveal, develop and provide most effectively a targeted support of search, development and support of gifted youth. One of the effective mechanisms of identification, development and support of gifted and talented students in pedagogical higher education institutions is involvement of students in student design, technological and technical scientific centers, bureaus, design scientific groups, etc. The main activities of students in scientific units in a higher educational institution can be mechatronics, robotics, multimedia modeling of technologies, mechanisms, as well as studying modern measuring technological sensors and devices. The organization and management of identification process, development and targeted support of student intellectual and creative activity are carried out by means of consolidation of scientific and pedagogical staff of a higher education institution for the solution of this problem.

Keywords: Pedagogical System Approach, Development, Support of Gifted, Talented Youth, Consolidation of Scientific and Pedagogical Staff
JEL Classifications: J24, I21, Z13

1. INTRODUCTION

Due to modernization of Russian educational system more special attention is paid to the increasing attention to problems of identification, development and support of talented youth in various educational institutions.

This problem is particularly acute in higher educational institutions as future teachers and bachelors of pedagogy are the key figures in the solution of this problem.

In modern Russia it is possible to allocate several problems restraining effective work on search, development and support of talented youth:

1. Social and psychological pedagogical problems constraining work with talented youth
2. Problems concerning consolidation of scientific and pedagogical staff efforts on complex search, development and support of talented children and students
3. Problems arising from the absence of effective mechanisms of identification, development and support of talented youth

4. Problems referring to the lack of pedagogical models of search, development and support of gifted youth
5. Problems connected with the creation of pedagogical system approach restraining development of organizational forms of identification and work with talented children and youth.

The problems concerning effective work with gifted children and youth are considered by the authors.

The Concept of Integration of Effective Search Engines and Support of Talented Children and Youth into National System marks the high level of methodological uncertainty of early recognition of giftedness and talents of children and youth. Teachers' subjectivity in estimating giftedness (talents) takes place.

Besides, effective mechanisms, forms and methods of search, development and support of talented children, students and young professionals are not developed. There is no balanced pedagogical system in educational institutions on identification, development and support of talented children, students at the regional and federal levels.

At the same time it is possible to designate the key problems of work with gifted students in pedagogical higher educational institutions. There is no system of consolidation of efforts of scientific pedagogical staff on search, development and support of intellectual and creative activity of talented students in the conditions of a multilevel high school complex. In many pedagogical higher educational institutions in Russia organizational and personnel opportunities for search, development and support of intellectually gifted junior students are hardly developed. The infrastructure of support of talented students at the initial stage of their professional career is not evolved. There is no capitalization of professional results significant for the job market. In Russia there is a systematic "leakage of talents" to other countries due to the lack of competitive conditions for students' professional and creative growth.

To develop the national effective system of measures for search, development and support of talented and gifted students in Russian higher pedagogical educational institutions it is necessary to:

- Introduce the discipline "Search, Development and Support of Gifted Children and Youth" aimed at increasing the teacher's and bachelor's competence in this part of his professional activity into the curriculum of future teachers and bachelors of pedagogy;
- Develop and publish sufficient textbooks and methodological manuals on the discipline "Search, Development and Support of Gifted Children and Youth" for higher educational institutions in Russia;
- Organize systematic work to study the international experience on identification and development of talented children and youth in higher educational institutions;
- Organize training and professional development of teachers for specialized schools and lyceums by means of master's and postgraduate courses in higher educational institutions as well;
- Organize implementation of teachers' professional development programs in the field of identification, development and support of talented children and youth at the faculties of further pedagogical education in higher educational institutions and at regional institutes of professional pedagogical staff development;
- Develop in higher educational institutions the system of encouragement and remuneration of the professorial staff achieving good results in work with talented children and youth.

All designated problems necessitate the development of system approach for work with talented children and youth.

The systematic approach to work with gifted and talented children assumes dealing with this problem as a system of well structured and closely connected elements. Such an approach, unlike traditional subject approach, is more qualitative and uptodate.

System approach to search, development and support of gifted and talented children and youth has to be based on the following principles: System, integrity, hierarchy, structure and plurality.

- The principle of systematic approach claims that each object can possess all signs of system. It unites all other principles
- The integrity principle means that all the elements of a system are represented as a whole. They are subordinated to the general principles, purposes and tasks
- The hierarchy principle is a set of the system elements, each of which has a certain value and subordination to other elements or subordinates other elements of the system
- The structure principle assumes uniting various elements of the system into separate subsystems on certain signs. Each of such subsystems in turn can have various links with other subsystems
- The plurality principle assumes the use of various models for the description of each separate element and all system as a whole.

Thus, pedagogical systemic approach to search and development of gifted and talented children and youth allows to distinguish and study each element of system thoroughly; to analyze, compare them with each other, uniting them into integral structure. All their similarities and distinctions, contradictions and binding characteristics, as well as the priority of the elements alongside with the each element dynamics come to light.

Now in Russia talents are recognized as a strategic state resource and one of educational priorities confirmed by a number of important documents.

"The Concept of the National System of Revealing, Developing of Young Talents" singles out that the special attitude has to be paid to the increase of professional development of teachers and teacher-trainers providing the high-quality maintenance of educational programs, introduction of modern educational techniques. To organize such work it is necessary to integrate the existing search engines and support of gifted children and youth into the national system.

According to the recent official documents the ranged system of search, support and formation period maintenance of talented children alongside with the implementation of new educational standards has to be formed.

The key issue of all documents is the necessity to create the effective system of search, support and maintenance of various categories of talented children and youth.

Problems of identification, development and support of talented children are studied by such Russian scientists: Rubenstein; Bogoyavlenskaya; Brushlinsky; Gurevich; Kovalyova; Krutetsky; Leytes; Myasishchev; Platonov; Shchadrikov; Galustov; Panfilov; Metson; Ushakov and Shepelev and others.

Nowadays there is a set of methods and models to search talented children.

Among the most well-known foreign scientific works are the following: Study of the problems of children's giftedness in Germany Graumann (2014), the three-ring model by Renzulli (1986); investment theory of creativity by Sternberg (1982); model of multiple intelligence by Gardner; Munich multiple-factor model by Heller; starfish model by Tannenbaum (1986); Australian differential model Gagne; Stanford–Binet Intelligence Scales; "reservoir model" by Gauen; the RAPYHT project at the University of Illinois; tests of the French scientist Alfred Binet and Teofil Simon; Stern's formula for intelligence quotient (Stern, 1994); theoretical models and tests of intelligence by Termen, Meyli, Raven and Penrose, Amtkhauer; Teplov - Rubenstein's concept; concept of creative giftedness by Matyushkin; dynamic theory by Babayev; E.I structural and dynamic model by Shcheblanov; model of intellectual giftedness by Kholodnaya; Siberian concept by Larionov, competence model Fok, Prekkelya, Holling, etc.

Gilford's structure of intellect became a considerable step to define the concept of giftedness. The significance of the model is allocation of convergent and divergent thinking. The former one is directed to search the right decision.

Leytes also introduces a broader concept – the general intellectual giftedness, "revealing everywhere where intellectual gifts are required."

The research team from Muenster to improve diagnosis and develop com-competencies of teaching staff offers competence model, which consists of three stages (Graumann, 2014):

- A basic step: The theory of giftedness, symptoms, and so facilitate the principles, etc.;
- Competence in the stage: The results of research talent and consultation of parents in aspects of psychological development, theories of socialization and cultural level of the comparison children;
- Competence level C: Based on the theory of knowledge of genetic tests, and neuropsychological aspects of giftedness and learning; in some cases, consultation; planning and carrying out preparatory and intermediary activities.

The analysis of domestic scientific works dealing with the creation of effective system of search, development and support of gifted and talented students in pedagogical higher education institutions shows its insufficiency.

Within the recent 5 years at Armavir State Pedagogical Academy the authors of this article have done effective scientific pedagogical work aimed at identification, development and support of talented children and students of Krasnodar region.

Effective mechanisms and models of consolidation of scientific pedagogical staff on search, developments and targeted support of intellectual and creative activity of talented children and youth of Krasnodar region have been created in the framework of the national directions of the Ministry of Education and Science of the Russian Federation. Social and psychological pedagogical working conditions with gifted and talented students in pedagogical higher education institutions have been investigated (Galustov, 2013; Galustov and Glukhov, 2013; Galustov and Glukhov, 2012; Galustov and Dikoy, 2012; Galustov, 2012; Galustov and Glukhov, 2014; Glukhov et al., 2013; Glukhov, 2014; Glukhov et al., 2014; Glukhov et al., 2013; Dikoya, 2014; Dikoya and Galustov, 2013; Dikoya and Galustov, 2013; Dikoya et al., 2013; Dikoy et al., 2013; Dikoy, 2014; Dikoy and Galustov, 2012).

Pedagogical system approach to search, development and supports of talented children and youth of Krasnodar region has been developed on the basis of the conducted research (Figure 1).

2. DISCUSSION OF METHODS AND RESEARCH RESULTS

The authors have studied the conditions and prospects of identification, development and support of talented youth in higher educational institutions of Krasnodar Region. It has allowed to develop and realize the system of identification, development and support of talented students in Armavir State Pedagogical Academy.

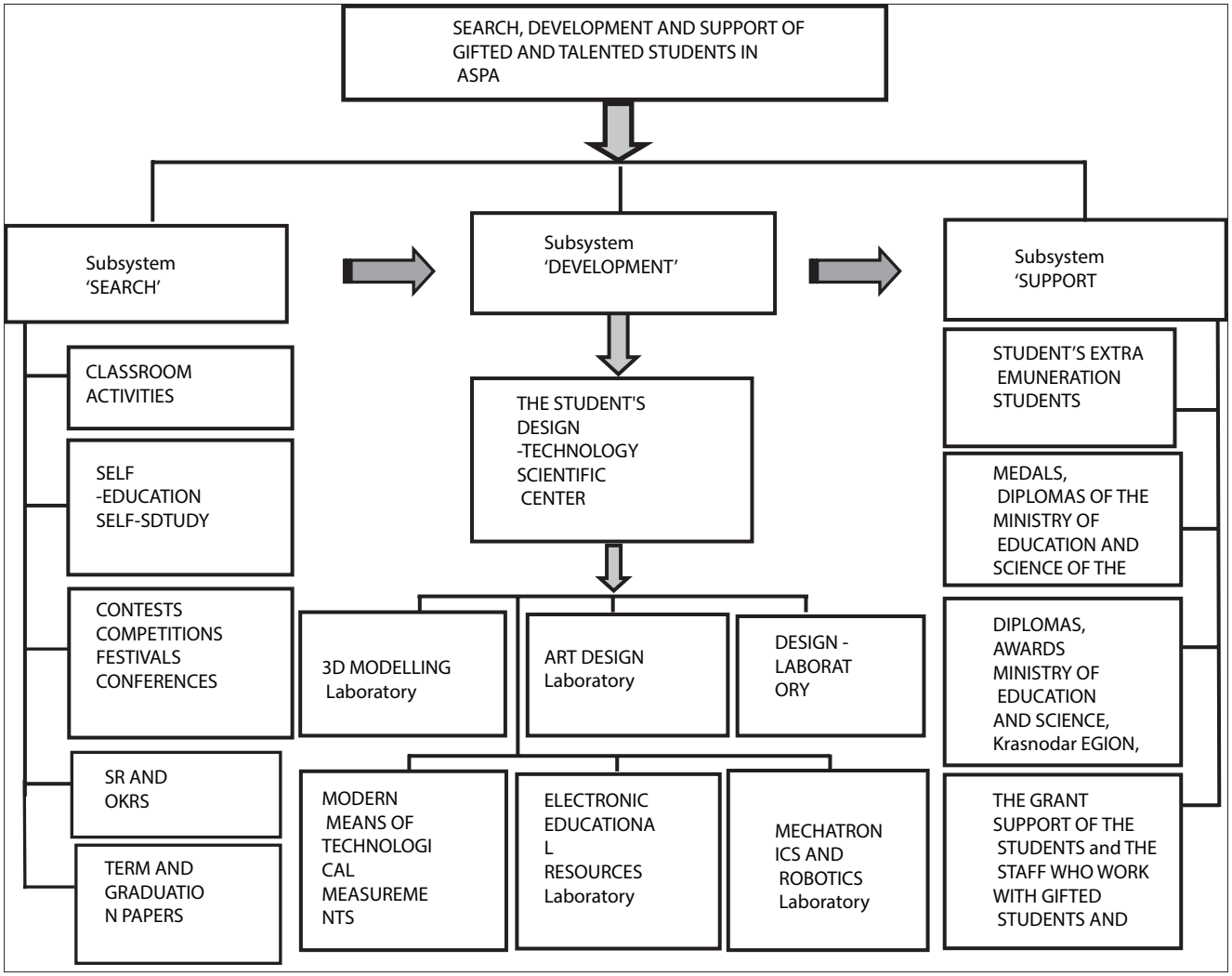
In the study, the authors used the following main pedagogical and methodological approaches: Systemic and personal competence approach.

From the point of view of theoretical methodology, the regularity of the system approach identification, development and support of gifted and talented students. It is possible to explain the semitea results and draw some conclusions of the study.

The standard of the methodology made it possible to study the general principles of a systematic approach to pedagogical research, development and support of gifted and talented student youth and formulate methods of scientific pedagogical research. As a result, the structure was designed and the logic of scientific and pedagogical research.

A precondition for the integrative promoting gifted students lendtion is sufficient leeway in order to manage their own

Figure 1: Pedagogical system of search, development and support of gifted and talented students in pedagogical higher educational institutions



learning process. Among them are open forms of learning, project oriented organization units, and topics that are not included in the curriculum, but representing the cognitive interest for highly gifted students.

However, this should not be in conflict with the traditional style of teaching in the traditional academic rhythm. The decisive factor is the willingness of teachers is to redefine the role of the teacher in dealing with highly gifted pupils: How to accompany the learning process and the consultant, respecting the identity of such children and to take into account their potential needs, but also often unfamiliar educational trajectories and thinking.

In our opinion, the involvement of students in student's design, technological and technical scientific centers, design scientific groups, scientific units is the most effective mechanism of identification, development and support of talented students in pedagogical higher educational institutions.

The main activities of students in scientific units in a higher educational institution can be mechatronics, robotics, multimedia modeling of technologies, mechanisms, as well as studying modern measuring technological sensors and devices.

The pedagogical system consists of three interrelated subsystems: "Search," "Development" and "Support" of gifted and talented students.

The subsystem "Search" includes such search engines of gifted and talented students as: Classroom activities (lectures, seminars and tutorials); extracurricular activities (student research, OKRS, student conferences, competitions, contests, role-playing games, round-table talks, etc.), presentation of term and graduation papers; self-education, self-development and students independent work.

The creation of conditions for manifestation of personal talents, giftedness and abilities of students and allocation of the most significant persons is the key orientation of all afore-mentioned mechanisms.

The student design-technology scientific center (SDTSC) can serve as the main mechanism of practical development of gifted and talented students of the considered system (a subsystem "Development").

The main objectives of the center are the scientific research in the field of mechanotronics and robotics; carrying out scientific

research in the study of physical, mechanical, technological and special characteristics of construction materials; development and research of modern methods and means for studying properties of materials, their structures; development of the elementary consumer goods, tools and devices; multimedia modeling of the phenomena, physical and technological processes, tools and devices; creation of modern laboratory works for students on the disciplines studied at the Faculty of Technology, Economics and Design; development of educational electronic educational resources on the disciplines studied at the Department of Technology and Design.

To solve the main objectives of SDTSC the following scientific commercial educational student's research is carried out by students, tutors and the staff of the Department of Technology and Design:

- Development, production of experimental installations for research of the properties of metals, alloys and non-metallic materials;
- Development and deployment in curriculum of multimedia models of the production technology and processing of materials, hardenings of the cutting tools, new methods of studying materials properties and means of their realization at the Department of Technology and Design;
- Development of interactive training sessions on all-technical disciplines with the use of modern information tutorials and their introduction into educational process;
- Preparation of term, graduation papers and degree projects on the basis of student's scientific research;
- Output of quality consumer goods according to the modern standards;
- Production of visual aids and exhibits for comprehensive schools teachers and teacher-trainers of the Department of Technology and Design;
- Making products necessary for the educational process and plans of industrial and social development of the faculty and remuneration of the staff;
- Organizing festive events, activities and interior decoration;
- Introducing state-of-the-art manufacturing techniques of products and substances of different types.

The Student's Scientific Center is made up of the following laboratories (Stern, 1994): Professional research and development (R and D); computer three-dimensional (3D) modeling; mechatronics and robotics; electronic educational resources; modern means of technological measurements; design and art design. They carry out scientific research for the realization of these objectives.

The students are trained to develop independent designs of simple technical devices and consumer goods in Professional R and D Laboratory. The students develop sketches, assembly drawings and detailed designs of devices according to the Unified System of Engineering.

Students developed more than 50 designs of devices, such as:

- Small-sized grain seeder;
- The security alarm system for VAZ cars;
- School laboratory installation for studying the principle of operation of spring manometers;
- The model of the steam turbine for the educational purposes;
- Installation for research of springs of compression;
- An electric air soldering iron for welding polymeric materials;
- A small-sized dynamic key for tightening of screw-nuts; devices for automation of management of MTZ-80 tractor operating modes;
- The device for measurement the temperature of a cutter in a cutting zone; universal motor-block;
- The small-sized activator of liquid consumption for spraying garden plants;
- The operating model of the engine of external combustion by Stirling.

In Computer 3D Modeling Laboratory all students develop practical skills on multimedia modeling of educational technological processes of production and processing of metal and other objects (Sternberg, 1982). During the 2003-2014 biennium about 35 students developed multimedia educational animated virtual models. Practical orientation received such developments as: "Technological process of production of cast iron in a blast furnace," "Technological process of jet refinement of steel," "Technological process of continuous pouring of steel," "Technological process of production became in the oxygen converter," "Process of crystallization of metals," "Process of cutting of gear teeth by means of a copying method," "Process of measurement of hardness of metals and alloys on Brinell's method on the TP-2K device."

Moreover, the students have developed the "Multimedia model of the cam mechanism of transformation of movements," "Multimedia model of the device for cleaning of the sewer pipes 'Mole', etc." (Dikoy, 2014).

The students have won national competition "Student's Best Scientific Work" of the Ministry of Education and Science of the Russian Federation and have been awarded with the medals for the development of "Multimedia model of technological process of production of cast iron in a blast furnace" and "Multimedia model of technological process of jet refinement." "Multimedia model of technological process of continuous pouring of steel" and "Multimedia model of technological process of production in the oxygen converter" have been awarded with diplomas (Dikoy, 2014).

The group of students who developed The Computer Modular Automated Training System became the winners of national competition organized by the Ministry of Education and Science of the Russian Federation "Student's Best Scientific Work" and was awarded with a medal.

The e-textbook "Multimedia Workshop on Production and Processing of Metals" based on virtual multimedia models has been published on CDs and introduced into educational process of ten higher educational institutions of the Russian Federation.

In 2008 this development was presented at the All-Russian competition of scientific and technical creativity of youth in Moscow and awarded with a medal.

Figure 2 presents fragments of designing the virtual training multimedia interactive training model of copy cutting.

In Mechanotronics and Robotics Laboratory all students are engaged in design, assembly and debugging of the software models of Lego Mindstroms NXT 2.0 (Galustov, 2012), Lego Mindstroms EV3. More than 200 students on the theoretical and practical classes are studying the device models of robots, their structural element base, principle and purpose robot sensors (sensor is pressed, the color sensor, ultrasonic sensor, interactive servo motors); master the operation of a NXT, which is the "brain" of robots Mindstroms, program NXT, technology NXT; get skills to use sub Bluetooth, connect NXT to the computer, connect to another NXT NXT, software installation. Design and debug software robot control; carry out regional competitions of scientific and technical creativity for gifted children and youth of Krasnodar Region on mechatronics and a robotics "Create your dream!" (Glukhov et al., 2013).

Figure 3 presents several intellectual models of robots assembled by the students from the designer of Lego Mindstroms NXT 2.0.

In Modern Measuring Technologies Laboratory students study systems of measurement of physical and physical and chemical properties of liquid environments (produce of USA), work of digital laboratory and an innovative school practical work.

Figure 2: Fragments of designing the virtual educational multimedia interactive training model of copy cutting

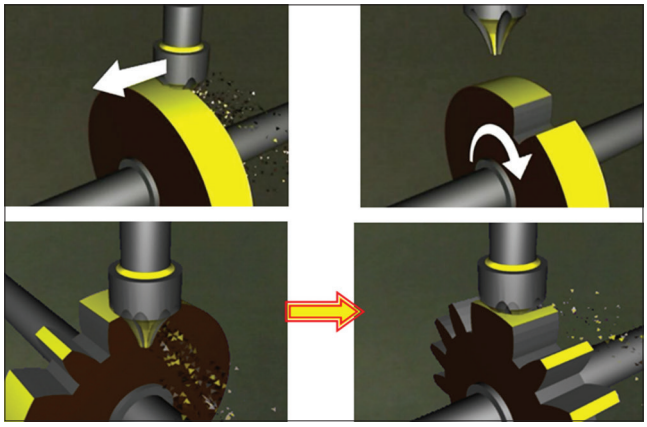


Figure 3: Intellectual models of robots assembled by the students from the designer of Lego Mindstroms NXT 2.0

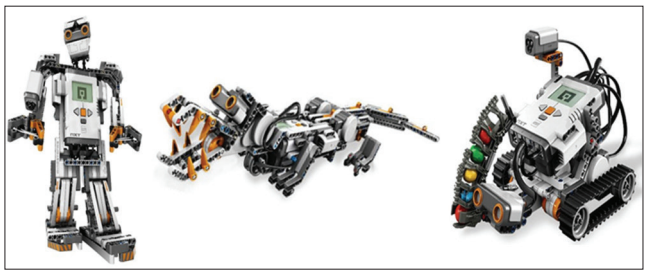


Figure 4 presents Digital Laboratory (produce of USA) which is used by the students at researches in Modern Measuring Technologies Laboratory (Galustov and Glukhov, 2013).

Students organize competitions and festivals on mechanotronics, robotics and environmental design; participate in local student's conferences; publish thesis and reports on pressing problems of pedagogy, science and engineering in ASPA editions.

Results achieved by Armavir State Pedagogical Academy in the field of search, development and support of gifted and talented students showed efficiency of this work. At present over 200 graduates of the academy showed giftedness and talent for the professional work being employed in Krasnodar Region institutions.

3. CONCLUSIONS

1. Pedagogical system approach allows to reveal and provide a targeted support of search, development of gifted and talented youth most effectively
2. One of the effective mechanisms of identification, development and support of gifted and talented students in pedagogical higher educational institutions is involvement of students into student's design, technological and technical scientific centers, bureaus, design scientific groups, etc.
3. Students' main activities in scientific units can be mechatronics, robotics, multimedia modeling of technologies studied in higher education institution, devices, mechanisms and studying the modern measuring technological sensors as well
4. The organization and management of the process of identification, development and targeted support of student's intellectual and creative activity are carried out by means of consolidation of scientific and pedagogical staff of a higher education institution.

Figure 4: Modern digital laboratory, (1) Sensor of optical density colorimeter/Col-Bta (colorimeter); (2) pH sensor/Ph-Bta sensor; (3) temperature sensor/stainless steel temperature probe/Tmp-Bt sensor; (4) sound sensor Microphone/Mca-Bt (microphone); (5) illumination sensor light sensor/Ls-Bta; (6) digital wireless microscope; (7) electric conductivity sensor conductivity probe/Con-Bta; (8) processor block

REFERENCES

Dikoy, A.A. (2014), Development of talent of students of pedagogical higher education institutions by means of multimedia technologies. The Magazine Tekhnologo – Economic Education. Armavir: RIO AGPA. p34-40.

Dikoy, A.A., Galustov, A.R. (2012), Multimedia Modeling – The Mechanism of Identification of Gifted Students: Monograph. Armavir: RIO AGPA.

Dikoy, A.A., Galustov, R.A., Dikoya, I.V., Glukhov, V.S. (2013), Scientific and Technical Approaches of Development of Talented Students in Pedagogical Higher Education Institutions. Problemi підготовки a suchasny vchitel: Збірник naukovikh праць Umanskogo majestic педагогічного університету Pavel Tichini's імені [Edition Stake: Pobrchenko N. S. (Goal. edition). Release 7. That інші.]. Uman: FOP Zhovty, O.O. p383.

Dikoya, I.V. (2014), Scientific and technical creativity - Innovative approach of identification of talented students in pedagogical higher education institutions. The Magazine Tekhnologo – Economic Education. Armavir: RIO AGPA. p41-48.

Dikoya, I.V., Galustov, R.A. (2013), Research and the analysis of the ecologist - Esthetic abilities of being trained youth of Kuban in the field of landscaping. News of Southern Federal University: Pedagogical Sciences. Vol. 10. Rostov-on-Don: Publishing House, Southern Federal University. p123-7.

Dikoya, I.V., Galustov, R.A. (2013), Vocational Training of Future Teachers in the Field of Landscaping: Development of Spatial Abilities: Monograph. Armavir: RIO AGPA.

Dikoya, I.V., Galustov, R.A., Dikoy, A.A., Glukhov, V.S. (2013), Bevelopment of spatial talent of future bachelors by means of multimedia when training in landscaping. News of Southern Federal University: Pedagogical Sciences. Vol. 10. Rostov-on-Don: Publishing House, Southern Federal University. p128-146.

Galustov, R.A. (2013), Ability, Giftedness and Talent: Search, Development and Support: Monograph. Armavir: RIO AGPA.

Galustov, R.A., Dikoy, A.A. (2012), Multimedia modeling in system of search and development of gifted and talented students in pedagogical higher education institutions. Moscow: Bryanskogo State University. p18-29.

Galustov, R.A., Glukhov, V. (2013), Model of identification, development and support of talented students in pedagogical higher educational institutions. Moscow: Messenger of Mazyrsky State Pedagogical University Named after I.P. Shemyakin. p59-66.

Galustov, R.A., Glukhov, V.S. (2012), Search, development, support of gifted and talented students in pedagogical higher education institutions: Course of lectures. Moscow, Armavir: Armavir State Pedagogical Academy.

Galustov, R.A. (2012), Mechatronics and robotics – The innovative mechanism of identification and development of technically exceptional children and youth. Vol. 8. New York: School and Production. p28-35.

Galustov, R.A., Glukhov, V.S. (2014), Mechanisms and model of search, development and support of talented students in pedagogical higher education institutions. The Higher Education in Russia. Vol. 4. Moscow: Akademkniga. p90-97.

Glukhov, B.C. (2014), Social and psychological and pedagogical determinants of identification, development and support of exceptional and talented children. Armavir: Technologic Economic Education. p13-16.

Glukhov, V.S., Galustov, R.A., Dikoy, A.A., Dikoya, I.V. (2013), Search, development and support of exceptional and talented children – A new paradigm of formation of the XXI century in Russia. Psychology and Pedagogical Problems of Rural School: The Collection of Scientific Works of the Umansky State Pedagogical University named after Pavel Tychini. Uman. p26-32.

Glukhov, V.S., Dikoy, A.A., Dikoya, I.V. (2013), Scientific and technical creativity – Innovative approach of identification of talented students in pedagogical higher education institutions. Vol. 8. Cheboksary: School and Production. p43-48.

Glukhov, V.S., Galustov, R.A., Dikoy, A.A., Dikoya, I.V. (2014), The most important aspect of activity of pedagogical higher education institutions – Identification and development of talented and capable students. Armavir: Tekhnologo – Economic Education. p17-22.

Graumann, O. (2014), Study of the problems of children's giftedness in Germany. Continuing education: XXI vek. Nauchny Electronic Magazine. Vol. 3. Petrozavodsk: VPO "Petrozavodsk State University," The Russian Federation. p1-14.

Panfilov, A.N., Merzon, E.E., Shterz, O.M. (2013), Comparative analysis of development of technical giftedness of a person depending on its engagement into specialized educational environment. Middle-East Journal of Scientific Research, 16(12), 1686-1689.

Renzulli, J.S. (1986), The three-ring conception of giftedness: A developmental model for creative productivity. In: Sternberg R, Davidson J, editors. Conceptions of Giftedness. Cambridge: Cambridge University Press.

Stern, W.D. (1994), Die differentielle Psychologie in Ihren metodischen Grundlagen. Verlag Hans Hubert, Bern Satz und Druck: AZ Druckhaus, Kempten Printed in Germany.

Sternberg, R.J. (1982), Nonentrechment in the assessment of intellectual giftedness. Gifted Child Quarterly, 26, 63-67.

Tannenbaum, A.J. (1986), Psychosocial conception of giftedness. In: Sternberg R, Davidson J, editors. Conceptions of Giftedness. Cambridge: Cambridge University Press. p21-55.

Ushakov, D.V., Shepelev, E.A. (2014), Systems working with gifted youth in Russia and Roubaix-pulp. Vol. 54. Siberian Journal Psychological Siberian Journal of Psychology - Tomsk Tomsk State University. p5-18.