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HOME Revista ESPACIOS ÍNDICES / Index A LOS AUTORES / To the AUTORS

EDUCACIÓN • EDUCAÇÃO • EDUCATION Vol. 39 (Number 38) Year 2018. Page 17

Some Innovative Forms of Professional Education Development

Algunas formas innovadoras de desarrollo de la educación profesional

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Contents

ABSTRACT:

The results of recent studies are presented in this paper; they are based on a thorough analysis of the methodological positions of Russian research works classically dealing with continuing education. The aim of the study was to confirm the effectiveness of the use of diversification and economic competence principles as a strategic beginning in training young people to self-employ in a market economy conditions. Special attention is paid to the innovative component of educational and professional activities. The authors used the following research methods: analysis of scientific literature, educational standards and educational programs. The activity of educational and production process subjects was also studied. The following results were obtained. The novelty of the approach is the consideration of the problems of startups' development as a leading entity in the innovation economy, ensuring the sustainable development of various industries branches. The efficiency of production activity largely depends on the results of mid-level specialists. A new variant of attracting young people to the system of secondary vocational education is proposed. This can be implemented by means of creating manageable organizational and pedagogical conditions in secondary schools, which motivate students to continue their education in colleges. In the context of new forms of improving the young people's educational level and while preparing young people to work under the conditions of modern manufacture

RESUMEN:

Los resultados de estudios recientes se presentan en este documento; se basan en un análisis exhaustivo de las posiciones metodológicas de los trabajos de investigación rusos que se ocupan tradicionalmente de la educación continua. El objetivo del estudio fue confirmar la efectividad del uso de los principios de diversificación y competencia económica como un comienzo estratégico en la capacitación de los jóvenes para el autoempleo en condiciones de economía de mercado. Se presta especial atención al componente innovador de las actividades educativas y profesionales. Los autores utilizaron los siguientes métodos de investigación: análisis de literatura científica, estándares educativos y programas educativos. La actividad de los sujetos del proceso educativo y de producción también fue estudiada. Los siguientes resultados fueron obtenidos. La novedad del enfoque es la consideración de los problemas del desarrollo de startups como una entidad líder en la economía de la innovación, asegurando el desarrollo sostenible de varias ramas de industrias. La eficiencia de la actividad de producción depende en gran medida de los resultados de los especialistas de nivel medio. Se propone una nueva variante para atraer a los jóvenes al sistema de educación profesional secundaria. Esto puede implementarse mediante la creación de condiciones organizativas y pedagógicas manejables en las escuelas secundarias, que motiven a los estudiantes a continuar su educación en las universidades. En el contexto de las nuevas formas de

relations the problems of unschooling are studied, when in addition to the school education, children are taught by their parents, who create informal networks. The revealed objective necessity of searching for variable ways of using training continuity in the conditions of continuous education as an activating factor of young people's professional formation should be considered as the principal novelty.
Keywords: Continuing education, humanization of professional education, principles of diversification and economic competence, start-ups, organizational-pedagogical conditions, community network, educational unschooling.

mejorar el nivel educativo de los jóvenes y al preparar a los jóvenes para trabajar bajo las condiciones de las modernas relaciones de fabricación, se estudian los problemas de desescolarización, cuando además de la educación escolar, los padres de los niños aprenden; crear redes informales. La necesidad objetiva revelada de buscar formas variables de utilizar la continuidad del entrenamiento en las condiciones de educación continua como un factor activador de la formación profesional de los jóvenes debe considerarse como la principal novedad.
Palabras clave: educación continua, humanización de la educación profesional, principios de diversificación y competencia económica, start-ups, condiciones organizativas y pedagógicas, red comunitaria, desescolarización educativa.

1. Introduction

At the end of the past and the beginning of this century, A.M. Novikov formulated the main directions of vocational education (VE) development in the post-industrial era. He also highlighted the principles on the basis of which this development was carried out. Humanization of the VE provided the principles of fundamentalization, activity orientation, development of basic competencies; democratization – equal opportunities, a variety of professional educational programs and systems, social and public administration. The advanced development of VE was supported by the principles of advanced development of the individual, advanced social order, the advanced level of professional education of the population. VE continuity was supported by the principles of the education content continuity, continuity of the educational process, organizational ensuring of education continuity (Novikov 2003, 2010). At the beginning of this century, T. Y. Lomakina substantiated and supplemented the principles of diversification and economic competence (Lomakina 2006, Lomakina et al. 2014). These principles contributed to the transition of VE to a new track of development and the solution of such problems as: redistribution of young people on the VE steps and building a succession of these levels; the redistribution of young people's into VE profiles; the solution to the problem of age-explained unemployment among young people by engaging the service of population employment; the employment of young specialists, etc.

Today, the VE system is being innovatively developed and is a process of purposeful changes that introduce new stable elements (innovations) into the educational environment, causing the transition of the educational system into a new qualitative state. This development is based on the following scientific approaches. The *adaptive* approach characterizes the activation of educational organizations in correlating their capabilities in the provision of educational services with the needs of customers who need employees and potential students. This approach is implemented through the system of social partnership. The *analytical* approach provides for the correlation of existing professions and specialties with changes in the labor market and with the processes of economic spheres development. It implies analysis of regional labor markets requirements and their mutual compliance across the country; improvement of the mechanism for forecasting the demands for professional knowledge, skills and competencies of graduates; the development of more flexible and open educational programs. The *optimization* approach is used in restructuring the VE network in the regions, building a system of continuing education, creating new types of educational organizations (resource centers, continuing education centers, etc.). *Modular competence-based* approach is focused on the formation of a new content of training and is used in the development of a new generation of standards and systems for assessing the VE quality. On the basis of the *personal-activity* approach, the content and organization of training is built, which is manifested in the organization of new forms and technologies of training, individual and integrated curricula. The *imitation* approach allows creating a virtual model of an enterprise, a firm, where the necessary professional skills are worked out, communication skills are formed, and corporate ethics of professional relations is established. The *economic* approach provides multi-channel funding and financial literacy

training.

The innovational process is based on the activity, the characteristic features of which are the value character of innovation, the significant dependence of behavioral processes on the social situation, blurred boundaries of the pedagogical phenomenon as innovation, etc.

In the course of the research we conducted a survey of a group of experts from different regions (Moscow, Arkhangelsk, Astrakhan, Tambov, Saransk, Voronezh, Cheboksary, Yaroslavl) to identify problems in the organization of innovative activities in the system of secondary vocational education (SVE), which showed that 74% of respondents pointed to the problem of insufficient stimulation of educational organizations' innovative activities, 65% spoke about the lack of opportunities for obtaining qualified advice, 35% spoke about the lack of methodological support for innovation, 57% noticed the lack of opportunities for training managers and teaching staff.

The bulk of educational organizations leaders is aware of the need for significant qualitative changes in the VE system and notes that in some regions there is a tendency to increase the degree of favorable conditions for innovation, but the rate of changes does not meet real needs.

One of the fundamental problems of VE in Russia is a significant gap between the requirements of high-tech, dynamic production and the traditional education system, the isolation of knowledge from practice, the low level of graduates' competence, forcing them to improve the skills in the process of work at the enterprise. A key condition for serious changes in the specialists' training in Russian universities is the close interaction of higher education with science, business and production, their strategic partnership and shared responsibility for practical results, which also needs taking into account the world practice of training young people (Horsburg et al. 2001).

The most important role in solving these tasks belongs to the start-ups (Verna and Gambini 2013). Startups are becoming increasingly popular in science, education and manufacturing, with young people between the ages of 18 and 30 as the main contingent of participants. In 2019, according to the draft program "Digital economy of Russia" proposed by the Ministry of communications of Russia, final qualifying works of students can be performed in the format of startups (Startup instead of the diploma work). The Ministry of education and science of Russia also granted universities the right to independently determine the form of final qualifying works defense, subject to the main condition — it must demonstrate the graduate's readiness for independent professional activity. Several universities have already begun to accept diplomas in this form, including the Far Eastern Federal University (FEFU), the St. Petersburg National Research University of Information Technologies, Mechanics and Optics (ITMO University), the Baltic Federal University in the name of I. Kant (BFU), Saratov State Technical University in the name of Yuri Gagarin (SSTU).

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2. Findings

It is established that startups organically fit into the strategy of vocational education development, its transfer to innovative tracks. They also promote orientation of education onto practice, science and education getting closer to the needs of the market; provide business development and creation of new jobs (Aksenova 2017). For university graduates, the developed startup is a convincing confirmation of their professional competencies and real achievements, because they should be able to identify potentially promising business areas, understand the methods of innovation and production management, find optimal solutions in the creation and promotion of the created products, find access to appropriate equipment, work areas and sources of funding for their project (Blank 2016, Jackson 2013). Nowadays one of the traditionally weak points of Russian enterprises has been the lack of start-upers' financial literacy. Most start-ups do not have the professional competence to analyze and evaluate the financial market, to develop a financial model of the project that can interest investors, which reduces the startups' "survival" (no more than 10-15%).

For university students, the resource base of potential startups is fundamentally different than for specialists who have already completed their studies and are working in some

workplace. Universities and their employing partners can act as a parent company providing multifunctional support to their graduates, young entrepreneurs at all stages of the startups' creation and development. For example, they could help with the promotion and justification of the idea of a business project at the first stage of the startup. In the second phase of the project they can support them in the development of the business plan, including: a) functional characteristics of the project product and their relevant technical specifications for manufacturing of this product; b) the technical specifications for the testing of the finished product; c) a marketing strategy of determining the expected volume of demand for this product in the market and the optimal time of this product's release onto the market; d) feedback from consumers in order to gather information about the results of promoting the product to market.

At the final stage, they could help with the selection of sources and conditions of financing. Large universities can also help and act as a co-founder of small innovative enterprises. For example, the budget of the Far Eastern Federal University and the budget of Vladivostok city are approximately the same (13 billion rubles) (Startups from the university bench: why do not Russian universities develop innovations). Thus, the assistance of the University as a parent company, its intellectual, financial resources and infrastructure, allow us to assist and participate in the approval of the project key stages; in the conduct of expert assessments on marketing, legal, and economic issues; in training of start-uping students to use effective forms and methods of business negotiations; in presentation of startup project at specialized conferences; in preparation of materials for publication in mass media.

At the same time, the problem of creating and developing startups by graduate students is far from being resolved and requires, in our opinion, the restructuring of the entire educational system. Universities need to develop scientific, educational and material infrastructure aimed at systematic interaction with the real economy and external investors. This cooperation with business and production is necessary not only for the creation of sponsorship and trustee models of cooperation, but also for the commercialization of intellectual innovations starting with the inception of the startup project to its "cultivation" and entry into the market. We consider classroom, lecture and laboratory educational processes, educational technologies and various forms and methods of training as the most important components of vocational education and emphasize that for its *innovative breakthrough and approaching the best world standards it is necessary to overcome the departmental isolation of education*, *"exit" into the whole social and economic space, which is the basis of its continuous development and independence.*

It is revealed that the role of mid-level specialists in modern production is very significant, however, not always the most trained graduates of the basic school come to colleges. Therefore, there are two problems arising – how to form the motivation to continue education in colleges and how to ensure the accelerated adaptation of former school students in secondary vocational education on the basis of continuity with the school subjects and with acquired knowledge and skills.

Of all the subjects studied in compulsory school, "Technology" provides a comprehensive formation of psychological and functional readiness of young people at the propaedeutic level. These are needed to master a specific modern profession demanded on the labor market. The analysis showed that the content of educational programs of "Technology" subject is not fully consistent with the goals of an effective worker formation at the propaedeutic level, who would be competitive in the conditions of the modern labor market, motivated to master the professions in SVE. The discussion about the expediency of using the proposed three concepts of learning and teaching "Technology" does not solve this problem today. In each of the concepts there is some positive beginning, but a holistic approach to the technological education of young people in secondary school has not yet been achieved. The problem of "Technology" course continuity in secondary and higher education remains open. Yet it is necessary as an element of the integral continuous technological education of a modern person as an effective worker.

It was also found that school teachers do not know the content, goals and objectives of technological education in colleges, while teachers of secondary vocational education have

no idea of the target and content emphasis of the "Technology" school subject. This becomes an important problem for the implementation of effective continuity in the educational complex school-college in terms of continuous technological education of citizens in our country as a determining condition of productive activity (Angelo 2007, Schuller and Watson 2009, Tummons 2014).

Thus, the following questions have emerged:

- is there a fundamental opportunity to implement the continuity of technological education in the educational complex school-college;

- how to organize the learning process in the secondary school, so that students formed motivation to continue studying in a college;

- what is the informative indicative basis of the college teachers ' activities to ensure the accelerated adaptation of young people to the new educational environment on the basis of the level of education acquired in the main school, in particular – in technological education.

Basic compulsory education is accepted as a leading level of education, since the majority of college applicants are school graduates. It is shown that the effective continuity of technological education at school and in colleges becomes possible if the indicative basis of school teachers' activity is made up by the personal results of training provided by the federal state educational standard for the main school. They receive their development in the course of formation of the universal competences presented in educational standards of SVE.

The focus on using the student's personal educational results presented in Standards, becomes especially relevant in connection with world trends in the use of the human factor as the main factor in increasing production, productivity and quality of work (Bychkov 2016, Jackson et al. 2007).

The correlation of personal results and generic competencies showed their partial match that allows using them as a systemically important start to ensure the continuity of technological education in school and college with a focus on the students' motivation to learn a profession in college and to provide a rapid adaptation of high school graduates in secondary vocational education.

To this end, it is advisable to create organizational and pedagogical conditions in the secondary school, ensuring the continuity of education on the basis of the implementation of educational and developmental content of personal results and universal competencies (Bychkov 2017). Organizational and pedagogical conditions will allow:

a) to form an understanding why it is appropriate to study in a college from the point of view of personal self-realization;

b) to understand the creative (innovative) content of labor activity in a particular profession as a condition for the formation of interest in this type of labor;

c) to develop ideas about the essence of intellectual activity and the content of intellectual property (patents), including those created by college students, as well as about the rules of material encouragement of intellectual work;

d) to form the understanding of importance of the fastest development of the profession in difficult modern social and economic conditions as one of social security options;

e) to fulfill students' personal ambitious aspirations through higher education after graduation from a college, including that on preferential terms of continuing education in a higher education institution (admission to universities for shortened educational programs, the creation of prerequisites for the successful mastering of university educational programs, etc.).

The proposed essential content of organizational and pedagogical conditions is quite difficult to reproduce, firstly, because "Technology" teachers don't understand how to include the proposed innovations into the curriculum, and secondly, because school teachers don't understand the importance of SVE as part of modern production, thirdly, because parents and students themselves have a prejudice against receiving education in the SVE system

due to the low educational and upbringing level of school programs in former vocational schools. Therefore, it is advisable to organize retraining of school and college teachers on specially designed educational programs that reflect the continuity of educational standards of basic general and secondary vocational education.

In the process of our research we conducted the analysis of relevant electronic publications on the issue of forming partnerships between major teacher training colleges / educational complexes (EC) (Nikitin 2017) and online communities. Thisanalyses established that the practice of Russian educational unschooling is in its infancy, but already has over 100 thousand families participating. The modern resources of a large educational college-EC allow it to perform the functions of a network facilitator of the activities of educational unschooling as an innovative practice of the Russian out-of-school, informal, home-education/training of children and adolescents on the basis of transferring family traditions, the development of children's curiosity in role-play situations and social interaction (Svorotva 2017).

The department of rapid pedagogical response as a poly-subject team of specialists and students-freelancers of the pedagogical college-EC, should have psychological and pedagogical skills and sufficient experience in preventing family conflicts. The creation of such departments, in our opinion, is a long overdue necessity, which is also confirmed by the analysis of actual crimes committed by teenagers in Russian and foreign educational organizations. Departments of rapid pedagogical response can be viewed not only as a new object of inter-professional communication, but also as a sphere of intra-professional activity at the junction of different specialties SVE, which demand such new types of professional activity as: *"radio host", "club host", "sports commentator", "toastmaster", "entertainer", "manager of professional skill competitions", "director of the youth theater"*, etc. (Jones et al. 2015, Tiunova 2016).

The conducted research allowed to design the following *poly-subject scheme* of development of the Russian educational unschooling using the resources of a large college-EC, which is based on the four basic *principles* of network communication: poly-subjectivity, continuity, life-long character and modularity. The five *groups of practice-oriented objectives* to promote Russian educational unschooling have been developed and proposed for testing. An education group together with parents-unschoolers is developing the content of personalized modular programs of training, education, development of creative abilities of different age groups of children. The financial group provides monetization of educational programs modules, methodological support, qualified professionals teams salaries. The management group creates a parent committee (*consisting of parents-unschoolers*) and the quick pedagogical response department. The group of labour mobility organizes different formats of educational practices, training of students in the unschooling parents' families; creates a youth exchange platform of students-babysitters (Cognitive Neuroscience and Education); the educational group provides parents-unschoolers with specialized and operational help for the prevention of family conflicts and conducting special events in the family (*birthdays parties, holidays*, etc.).

The effective implementation of the developed scheme is possible in partnership with the pedagogical college-EK with educational non-profit organizations and specialized network communities, which will contribute to the development of local practice of educational unschooling and will improve the quality of professional qualifications of young professionals-teachers and will develop new social relations, as they will have a new sphere of skilled labor application.

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3. Conclusion

Thus, new forms of vocational education development are aimed at innovative activities of educational institutions and contribute to the *establishment of cooperation between vocational education and production*, which will solve the following problems:

- ensuring the functioning of the vocational education system as an important factor in the quantitative and qualitative development of the country's labor potential, constant renewal in the economy and society;

- improvement of the education content in order to improve the efficiency of the use of specialists, the development of their professional competence and mobility;

- changes in the management system of educational institutions in accordance with market mechanisms;

- introduction of new types and technologies of training (training in the workplace, "credit training" as a combination of training and practice, modular training, etc.);

- finding ways to make better use of vocational education to educate various categories of the population, including disabled persons, women with children and persons released from prison, in accordance with their individual characteristics;

- development of a system to support continuous in-house training, differentiated for large, medium and small enterprises;

- significant improvement of retraining, both of professional educational institutions teachers and of enterprises employees through the introduction of various forms of interaction.

Ackonwledgement

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References

Aksenova M.A. (2017). Startups as an innovative direction of the competence center. Innovations in education, 11, 38 – 44.

Angelo, D.G. (2007). From Didactics to e-Didactics: e – Learning Paradigms Models and Techniques. Napoli: Liquori.

Blank S. and Dorf B. (2016). Startup: founder's handbook. Moscow: Alpina Publisher.

Bychkov A.V. (2016). The human factor is the compulsory public and additional education (with the example of technological education). Moscow: ABV-IZDAT.

Bychkov A.V. (2017). Organizational and pedagogical conditions of continuity: school-college. Education and society, 4, 100 – 104.

Cognitive Neuroscience and Education. https: goo.gl/xm U3 mv (date of access: 25.12.2017).

Horsburg M., Ladmin R. and Williamson E. (2001). Multiprofessional Learning: the attitudes of medical, nursing and pharmacy students to shared leaning. Blackwell Science Ltd Medical Education.

Jackson M., Erikson R., Goldthorpe J.H. and Yaish M. (2007) Primary and Secondary Effects in Class Differentials in Educational Attainment: The Transition to A-Level Courses in England and Wales. Acta Sociologica, 50(3), 211 - 229.

Jackson M. (2013). Determined to Succeed? Performance vs Choice in Educational Attainment. Stanford: Stanford University Press.

Jones R.H., Chik A. and Hafner C.A. (2015). Discourse and digital practices Doing Discourse Analysis in the Digital Age/Egs. N.V.: Routledge.

Lomakina T.Y. (2006). The modern principle of development of continuing education. Moscow: Nauka.

Lomakina T.Y. Sergeeva M.G. and Shcherbakova N.I. (2014). Continuous economic education as the factor of professional development of personality. The Science Of Krasnoyarsk, 6(17), 74.

Nikitin M.V. (2017). Network educational communities of SVE as an innovative subject of continuing education. Professional education in Russia and abroad, 3(27), 25 – 29.

Novikov A.M. (2010). The structure of the system theory of professional education.

Proceedings of the fourth international scientific readings dedicated to the memory of the Soviet Union hero, academician RAS S.Y. Batyshev. Russia, Moscow, 18-20 October 2010. Moscow: Izd-vo AGUES.

Novikov A.M. (2003). Professional education and national security in Russia. "Specialist" Journal, 6.

Schuller T. and Watson D. (2009). Learning through life. Leicester: National Institute of Adult Continuing Education (NIACE).

Startup instead of the diploma work. Retrieved from: https://news.mail.ru/society/30125335/?frommail=1

Startups from the university bench: why do not Russian universities develop innovations? Retrieved from: http://www.forbes.ru/tehnologii/343245-startapy-s-universitetskoy-skami-pochemu-v-rossiyskih-vuzah-ne-razvivayutsya

Svorotva Y.V. (2017). Socio-cultural environment of a college as a means of preparing future teachers for professional activities. Russian and foreign pedagogics, 1(3(39)), 127 - 140.

Tiunova N.N. (2016). Educational platforms as a means of intensifying the professional training of college students. Professional education in Russia and abroad, 2(22), 103 – 108.

Tummons J. (2014). A-Z of Lifelong Learning. London: Open University Press.

Verna A. and Gambini L. (2013). The New Regulation on 'Innovative' Start Ups in Italy. Portolano Cavallo. Studio Legale. Retrieved from: http://www.portolano.it/2013/06/the-new-regulation-on-innovative-start-ups-in-italy-2/-Title from screen.

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[Index]