смело утверждать, что Центр профессиональной подготовки представляет собой необходимую среду, без которой невозможно подготовить компетентного, высококвалифицированного специалиста, способного конкурировать на рынке труда и беспрепятственно занять свою нишу на производстве.

VII. Заключение. В статье представлен опыт создания Центра профессиональной подготовки на базе университета Esprit как центра, где студенты старших курсов могут погрузиться в профессиональную среду в рамках образовательной системы университета и применить свои теоретические знания на практике. Результаты, достигнутые данным Центром, состоят, прежде всего, в получение признания на национальном и международном уровнях и предоставление студентам новых возможностей для развития. Международное признание Центра послужит фундаментом для создания новой экономической модели в Тунисе, стране, пережившей политические реформы, а значит нуждающейся в новых возможностях и ресурсах для развития.

ЛИТЕРАТУРА

1. Prince, M. “Does Active Learning Work? A Review of the Research”, Journal of Engineering Education, Vol. 93 No.3, July 2004, pp. 223-232.
2. John S. Lamancusa and Timothy W. Simpson, “The Learning Factory – 10 Years of Impact at Penn State”, International Conference on Engineering Educatio. October 16-21, 2004, Gainesville, Florida.
3. John S. Lamancusa, Jens E. Jorgensen, Josй L. Zayas-Castro, Lueny Morell de Ramirez, THE LEARNING FACTORY - INTEGRATING DESIGN, MANUFACTURING AND BUSINESS REALITIES INTO ENGINEERING CURRICULA – A SIXTH YEAR REPORT CARD, International Conference on Engineering Education, August 6-10, 2001, Oslo, Norway.

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Summary

INNOVATION APPROACHES TO DEVELOPMENT OF EDUCATIONAL PROGRAMMES IN THE FIELD OF ENGINEERING

S.I. Koryagin, K.L. Polupan
Immanuel Kant Baltic Federal University

The article is devoted to the main conditions of effective development and design of educational programmes in the field of engineering.

MODERN DISCUSSIONS ABOUT CONCEPT THE ELITE ENGINEERING EDUCATION

N.I. Sidnyaev
Bauman Moscow Higher Technical School

Article is devoted to modernization of domestic system of engineering education. According to the innovative development in higher technical education there exist contradictory problems which have been studied. The role of technical universities in preparation of professional elite – scientifically-engineering and state-administrative is considered. Analysis of transformation processes in a domestic education system is presented. Considerable attention is paid to the methods of shaping a modern engineering outlook.

THE PROCESS MODEL OF THE PRACTICAL TRAINING OF STUDENTS IN INSTITUTIONS OF HIGHER VOCATIONAL EDUCATION

M.A. Tarasova
Federal State Budgetary Educational Institution of Higher Professional Education "State University – UNPK"

The article deals with the model of students' practical training processes, its unit-by-unit description of processes and relationship between them. It forms the basis for subsequent development of a monitoring model.

MULTIMEDIA LECTURES ON DISCIPLINE "MACHINES ELEMENTS"

M.M. Matlin, I.M. Shandybina,
M.V. Topilin, A.N. Goncharenko
Volgograd State Technical University

The method of development and implementation of the multimedia lecture course on discipline "Machine Parts" into the learning process is considered in the article.

METHODOLOGY OF SCIENTIFIC KNOWLEDGE: THE CASE TECHNOLOGY IN PRACTICALLY-ORIENTED APPLICATION

M.N. Prosekova
Tyumen State Oil and Gas University

Shaping the competences of a Master-student within the framework of Federal Education Code new generation of Higher Professional Education is implemented through an innovative methodology, i.e. case study (portfolio). This methodology is coupled with such aspects as self-control, cooperativeness and, especially, teamwork. This article is a continuation of previously published papers [3, 4, 5].

THE COMPETITION APPROACH IN THE NARFU EDUCATION STANDARD IN THE MASTER DIRECTION OF STANDARDIZATION AND METROLOGY

T.M. Vladimirova, S.I. Tretyakov
Northern (Arctic) Federal University named by M.V. Lomonosov (NArFU)

The article presents the experience in developing educational standard for master's programs in standardization, metrology, and certification. Being developed in line with international practice, the standard extends the scope of professional activities, supplements cultural and professional competences with regard to ecological, economic and ethnic peculiarities of the Russian Arctic zone.

SUMMARY

CURRICULUM DESIGN IN ENGINEERING EDUCATION AND THE ROLE OF PARTNERSHIPS

I. Shimi
Private Engineering School of Technology, Tunisia

Engineering schools have to be aware of three important levels of profile analyzing to guarantee the employability of their graduates: The local market needs in skills, the companies needs in human resources technically, the international openness and importance of partnerships and patronage activities. At Esprit, these three points are considered as key-metrics to design the curriculum in engineering education.

DEVELOPMENT OF PROFESSIONAL COMPETENCES OF JUNIOR HIGH SCHOOL STUDENTS OF ENGINEERING UNIVERSITIES IN THE STUDY OF SURFACES AND BAR BLADE SURFACE CHANNEL GAS TURBINE PLANT WITH AXONOMETRIC DRAWING OF THE CHANNEL

G.A. Pugin, A.B. Mineev
Bauman Moscow State Technical University named after N.E. Bauman

The article describes a course example "Research-Graphic Practicum" oriented at reinforcing previous knowledge and skills in "Engineering Graphics" and further development of professional competences of undergraduates based on the illustrated investigation of the gas-turbine blade. The authors formulated assignments in designing a theoretical model and executed an axonometric draft of the gas-turbine vane.

METHODOLOGICAL ANALYSIS APPARATUS ENGINEERING AND TECHNICAL ACTIVITY AS AUBSTANTIAL BASIS OF EDUCATIONAL NORMALIZATION

G.V. Bukalova
State University – Education-Science-Production Complex

The author addresses the issue of methodology used within the institution to modify the learning outcomes of technical education. The paper represents the methodology for manufacturing process analysis conducted to develop academic content standards for engineering education of automotive profile. The content of structural elements in the analysis of manufacturing process has been substantiated. The methodology for representing production activity parameters in the form of education standards (competences) has been suggested.

THE CREATIVITY ELEMENTS IN ENGINEERING EDUCATION

V.A. Mikhailov, A.L. Mikhailov,
V.P. Zheltov
Chuvash State University

The article describes the conflicts in the development of engineering education, their algorithm definitions which would be eligible for engineers, researchers, instructors, and students. This, in its turn, is the result of long-term experience in the development and application of about 20 algorithms based on TIPS (Theory of Inventive Problem Solving).

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ABOUT THE SPECIFICS OF PROFESSIONAL COMPETENCES' FORMATION OF STUFF FOR FISH PROCESSING INDUSTRY (ON THE EXAMPLE OF THE "TECHNOLOGICAL MACHINERY AND EQUIPMENT" QUALIFICATION)

I.N. Kim
Far Eastern State Technical Fishery University

In leading countries, fishery industry is characterized by high scientific and innovation potential, which makes it one of the leaders at international consumer market. The Russian fishery industry is significantly lagging behind not only other countries in terms of hydrobionts' processing technology, but also Russian pharmaceutical companies and biotech firms.
One of the reasons why Russian fishery industry is lagging behind is low professional level of engineering staff involved in this production. To remedy the situation, it is required to revise engineering training transferring it from qualification-oriented approach to competence-based one, with a graduate acquiring not only professional competences but also skills in innovative ventures.

THE CENTRAL PROBLEM OF EDUCATION IN THE MECHANICAL ENGINEERING

K.A. Kapitonova
Rybinsk State Aviation Technological University

The article considers the necessity and opportunity to develop a system mechanism model as an academic process reorganization basis for engineer training in the machine-tool industry.

THE IMPERATIVE OF INTELLECTUALIZATION AND CAPACITY GENERAL CULTURE OF ENGINEERS

V.V. Likholetov
South Ural State University (National research university)

The causes for stifling innovation in the country, reduction of the engineers' overall culture and quality of their training have been analyzed. The ways of the future engineer's personality development on the basis of domestic experience and modern TIPS tools are considered.

ECOLOGICAL EDUCATION

L.B. Khoroshavin
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Article highlights issues of environmental training in secondary and higher education. Authors suggest universal formula of progressive education, which is targeted at unity and progressive development of Russia by means of environmental training. Current article is of conceptual kind and comprises different areas of environment.

SUMMARY

LEARNING FACTORIES: THE WAY TO CREATE WORLD CLASS GRADUATES THROUGH ENGINEERING EDUCATION

Z.C. Chagra, I. Shimi
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The learning factory can be defined as a type of university – factory (or professional institution or company) that aims to produce better generations of students and make them more ready to market. This paper describes a model of learning factory made at Esprit School of Engineering, Tunis, Tunisia. This paper shows also the specifications of this experience as it is held at in an institution already facing major changes in its curriculum due to following active learning educational approach.

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