

# **Analysis of the learning model “School-University-Enterprise” in preparation of personnel pool for enterprises of Russian electrical energy industry**

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## **Abstract**

This paper analyzes the effectiveness of the training model, designed for the preparation of a personnel pool for high technology industries. The model provides a through training, starting from a group of students of the 10th grade to young professionals in the framework of the adaptation period in the company. Implementation of the model is shown on the example of preparation of a personnel pool for enterprises of Russian electrical energy industry in Tomsk Polytechnic University. The research was carried out within 8 years, from 2008 to 2016. Statistical analysis of the achievements of students who participated in the project and their academic activity was done. Questionnaires for graduates, university professors and heads of energy sector enterprises were developed and used for this study in order to evaluate the quality of training of young specialists. The article also discusses a wide range of applied learning technologies, which complement each other. Attention is paid to the problems arising in the implementation of this learning model, and possible solutions are given. The main purpose of this article is to present and discuss the learning model “School-University-Enterprise”, wishing thereby stimulate further discussion of this study.

## **Keywords**

Technical higher education, stakeholder engagement.

## **Biography**

**Yuriy V. Daneykin** is the Head of the Division of Academic Methodology, Associate Professor of the Department of Nuclear Power Plants at the National Research Tomsk Polytechnic University, Tomsk, Russia. He has extensive experience in teaching Physics for the students of the Institute of Physics and Technology. He is a member of International Society for Engineering Education, International Engineering Educator “ING-PAED IGIP”, “Russian Nuclear Society”, and Expert of the Russian Association of Engineering Education. He has published works in journals and conferences.

**Elena V. Lisichko** is an Associate Professor Department of Experimental Physics and Deputy Director of the Students Administration Centre at the National Research Tomsk Polytechnic University, Tomsk, Russia. She has published works in journals and conferences. She has extensive experience in teaching Physics for Bachelor's Degree students majoring in of "Power and Electrical Engineering". She has developed a variety of educational projects intended for professional orientation of schoolchildren.

**Vera V. Shestakova** is an Associate Professor in the Department of Electric Power Systems at the National Research Tomsk Polytechnic University, Tomsk, Russia. She has published works in journals and conference

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Natalia V. Daneikina is a senior teacher of the Department of Foreign Languages of the Institute of Physics and Technology at the National Research Tomsk Polytechnic University, Tomsk, Russia. She has published works in journals and conferences. As a PhD student she is interested in implementing of CDIO Approach in TPU.

**Artem S. Korolev**, developed career in the Ministry of Energy of Russia, where worked as head of administration of Deputy Minister, responsible for the development of coal and peat industry, international cooperation in the field of energy. Since 2011 – founder and president of “Youth Mining Leaders Forum” (leading youth association of the mining sector). Since 2014 - director of Fund “Reliable Change” (leading charitable fund for development of human capital of energy and mineral complex of Russia). Developer and director of the International engineering championship «Case-in» (the largest educational project for students of energy complex of Russia). Included in the Federal Reserve managerial staff of the Russian Government. Awarded by diplomas of the Ministry of energy of Russia for achievements in the development of fuel and energy complex of Russia.