

Development of Student Invention Competences and Skills in Polytechnic University

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Abstract : The article considers invention activity in Russia and worldwide, its modern state, and the impact of innovative engineering activity on the national economy of the considered countries. It also analyses the historical premises of modern engineering invention. The authors explore the development of engineering invention at an engineering university, the creation of particular environment for scientific and technical creativity of students on the example of Elite engineering education program at Tomsk Polytechnic University, Russia. It is revealed that for the successful development of engineering invention in a higher education institution it is necessary to apply a learning model that develops the creative potential of a student, which is, in its turn, inseparably connected with the ability to generate new ideas in engineering. Such academic environment can become a basis for revealing students' creativity.

Keywords : engineering invention, scientific and technical creativity, students, project-based approach

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