

students of the Kazan National Research Technical University named after A.N. Tupolev-KAI (Kazan, Russia) and 90 representatives of the industrial enterprises, which revealed the criteria of efficiency of social partnership of the Technical University with industrial enterprises. The aim of ascertaining stage was to determine the structure and efficiency of the traditional managerial system of students' training. In the formative stage the analysis was made of the regional labor market; a regulatory framework for the cooperation of the University with the social partners was developed; forms of social partnership were defined; employers were involved in the organization of educational process, the development of qualification requirements, verification procedures of professional knowledge, abilities, skills and competencies. The purpose of the control phase was to check the efficiency of mechanisms for industrial and pedagogical management of students' training for specialty 150202 "Welding Equipment and Technology." To assess the quality of specialists' training a complex task was developed that included: theoretical, practical, professional units. The theoretical unit included questions on 10 academic disciplines, forming professional knowledge on specialty. Practical unit was to manufacture the machine parts according to the drawing issued by the complexity for the 2-3 category of worker. Professional unit consisted of two parts: the development of technological process of manual manufacturing of parts; performing of the same process with the application of modern computer-aided design systems. For each unit the rating scales were developed objectively assessing the performance of tasks and giving the total score. The complex task was examined in Kazan Motor Industrial Association and Kazan Aviation Industrial Association named after S.P. Gorbunov and received a positive opinion. As a result of complex tasks' performing the vocational training levels were identified: high, average and low. Table 1 shows the results of students' professional training

Table 1. The results of students' vocational training on the specialty 150202 "Equipment and technology of welding production" (in persons)

Year	The need for labor market	Trained	Employed	The quality of training		
				high	average	low
2016	170	170	170	130	40	-
2015	170	170	170	140	30	-
2014	150	150	150	150	-	-
2010	250	240	240	140	90	20

The results presented in Table 1 show that over the past three years, in terms of social partnership of the University with industrial enterprises the quality of students' vocational training increased. The results in Table 2 show that all graduates are in demand and are employed.

Table 2. Anchoring in the production of university graduates on the specialty 150202 "Equipment and technology of welding production" (in persons)

Year	employed	By profession	Working hours in the specialty			
			1 Year	2 Years	3 Years	More than 3 years
2016	170	170	-	-	-	170
2015	170	170	-	-	20	150

2014	150	150	10	20	120	-
2010	240	240	160	50	20	10

Table 2 shows that, in the conditions of social partnership of the University with the enterprises of the industry, its graduates are working in the industry according to the specialty for more than three years.

During the survey of 450 teachers, 740 students, 90 representatives of the industrial enterprises, performance criteria of social partnership of the University with industrial enterprises were identified: the degree of implementation of the contractual obligations for highly qualified specialists' training, who are competitive and mobile at the labor market; the level of social and vocational adaptation of graduates in the workplace.

Discussions

The content and organization of social partnership of the University with industrial enterprises is the subject of many studies. In the publications of A.I. Subetto (2002) the content and organization of social partnership of the University with industrial enterprises are considered from the standpoint of the quality of engineering education. According to A.I. Subetto (2002) the quality of engineering education is a system of knowledge, potential, relationships, textbooks, methods, techniques, mechanisms to ensure its accessibility for all social strata. The undoubted merit of A.I. Subetto (2002) was to establish the relationship of the mechanism of the rising quality of the reproduction of social intelligence and the quality of management as the relevant ones to the law of advancing development of the quality of human, educational systems. However A.I. Subetto (2002) did not specify the current requirements for the content of engineering education in the context of social partnership of the Technical University with industrial enterprises. Studies of N.A. Selezneva (2002) allocate but do not disclose student-focused orientation of technical education. The writings of Yu.V. Gorin, A.D. Nelyudov & B.L. Svistunov (2010), N. Lenskaya (2015), E.V. Protas (2013) study mechanisms of the development of integrated educational curricula for specialists' training in the conditions of social partnership. However, the works of these authors do not define the essence of social partnership of the University with industrial enterprises. The monographs and papers of V.M. Zhurakovsky (1997), A.A. Kirsanov (2001), D.V. Chernilevsky (2002) clarify the relationship of engineering education and science. But engineering education in the works of these authors, is considered by the external determination, the main entities (teachers, students, employers) do not participate in the selection and structuring of the content of engineering education. As a result, the idea of social partnership of Technical University has not been completed. All stated actualized the purpose of the study.

Conclusion and Recommendations

Organization of social partnership of the University with industrial enterprises, within the framework of the organizational and administrative, scientific and methodical, information-analytical areas, allows one to: 1) delegate to enterprises responsibility for determining the needs for specialists and planning their training and retraining; 2) strengthen ties of the University with the labor market through the involvement of employers and other social partners in the development of qualification requirements, knowledge, professional abilities' and skills' inspection procedures; 3) strengthen the role of enterprises in the teaching of competencies that meet the specific requirements of industry; 4) involve social partners in the management, control and

evaluation of the activities of universities through their licensing and certification procedures; 5) promote universities' self-management, economic methods of management, the implementation of outcomes' assessment methods.

Industrial and pedagogical managerial mechanism is aimed at ensuring of the most effective training of students at minimal cost time and money, and provides the following functions: 1) ensuring of the labor market with the required quantities of competitive, mobile and highly qualified specialists; 2) promotion to students' successful socialization, with a view to self-determination, active life activity, quick adaptation to innovation of modern high-tech industry (Pugacheva et al., 2016c).

The study results allow outlining of prospects for further research of the problems that are associated with the development of forms, means and methods of social partnership of the University with industrial enterprises. The paper Submissions can be useful for managers and university professors; Staff of continuous professional education and retraining centers for the selection and structuring of the content for continuous professional education of the teaching staff in universities.

Disclosure statement

No potential conflict of interest was reported by the authors.

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