

**ADAPTATION TECHNOLOGY OF FUTURE
SPECIALISTS TO THE PROFESSIONAL
ENVIRONMENT DURING PREPARATION
IN THE BASIC DEPARTMENTS**

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Key words and phrases: adaptation; basic departments; student research work.

Abstract: Technology of the organization of student research work in training at the basic departments according to the peculiarities of the process of future specialist professional adaptation is presented in the paper.

New social – economic conditions and the modern labor market, the development of technology-intensive industries cause the need of companies for the specialists with a minimum term of adaptation to industrial conditions and an active lifestyle. A university graduate can work successfully in the professional field, having a certain personality and behavioral skills. An employee is competent if he/or she possesses both professional skills and personality traits, such as a high level of job performance, work culture and interpersonal communication, readiness for decision-making, ability to proactively and creatively solve professional tasks and problems, ability quickly to adapt to new working conditions.

The problem of students' adaptation to the educational environment of high school and future careers is widely discussed in pedagogical literature; Professional career and personal development of the future expert in many respects depend on the success of this process and it influences on the specialist's competitiveness on the labor market. Thus, it is essential to work out a new effective organization technology of student's adaptation process to the professional environment.

The modern industry, the enterprises and the organizations expect the young experts to meet the requirements. However, traditional training of technical expert graduates do not consider to the full the new social and

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economic conditions, the situation which has developed on a labor market and the changes occurring in professional and educational environments that impedes the process of graduates' professional adaptation. As a result, working out of organizational-pedagogical conditions of the future expert adaptation to the professional environment is really necessary. One of these conditions is the creation of the integrated scientifically-educational-industrial structures – base departments of high school at the enterprises or research institutes (**RI**), where experts provide training, carry out researches in certain scientific area and apply the research results in production and education process. This technology enhances the graduates' adaptation in the following ways: it expands space of professional adaptation; allows providing an easy approach of students to professional information resources and laboratory-industrial base; stimulates process of creative self-realization of students in scientifically-innovative activity; guarantees employment of graduates on the selected specialization with a clear prospect of career growth; provides the guaranteed order for training of experts and possibility of development of high school experimental base.

Activity of high school base departments in RIs provides: effective integration of research organizations, universities and industrial structures; the formation of unified logistics and information base; the ability to transfer the results of fundamental and applied researches in the process of expert training for the high technology production; finding out new perspective specialization directions; introduction of new methods and modes of study; attraction of students to scientifically-innovative work; further employment of graduates and possibility for their professional skill improvement. The educational environment of base departments provides possibility for organizing teaching-students' cognitive activity in a production environment under the supervision of the company using the means and objects of professional activity (devices, the equipment, raw materials, engineering specifications).

The indispensable condition of expert training for the high technology manufacturing is the organization of students' scientific work, because the majority of the enterprises is high technology and has high absolute and relative (in relation to the general production costs) expenses for research and development projects. In our study SRW (student' research work) is considered as a comprehensive, independent work aimed at teaching students to carry out scientific research on one of the issues of theoretical or practical character, as well as to generate the skills and active transformation of professional environment. Students, showing an interest in conducting experimental research in the course of laboratory exercises and practical training are involved in scientific work on the subject of basic departments.

The organization technology SRW (students' research work) at the base departments in the course of practical training, and course and graduation work is presented in the Table. Teaching and training process of SRW (students' research work) is carried out by teachers of training department and academic staff (specialists of enterprises).

The lecturer develops a plan for the research, monitors its progress, gives an individual task, organizes the necessary consultations, assists students in selecting of the term papers and graduate projects. The head of SRW (students' research work) training process provides coaching of students who form their business idea with a focus on a thesis related to the research.

**Organization technology of SRW (student' research work)
in training process of the basic departments**

Stage	Functions of		
	University Lectures	Company Experts	Students
1. Planning studies	Statement of the purpose and research problems. Formation of the general direction of research work, selection of means and toolkit. The explanation of work performance requirements and its defense	Analysis of the urgency and practical importance of research. Analysis of information and logistic resources of the base departments necessary for work performance. Formulation of the technical project and the requirements showing work results	Selection of research topics. Participation in statement of the purpose and work problems. Familiarization with the requirements to the research work performance
2. Study options	Assistance in search of information sources on a research problem. Consultations on the organization and carrying out of experimental researches, the use of ICT tools. Monitoring of students activity in solving tasks	Provision of technical standards on the issue of research. Assistance in the organization and implementation of experimental research. Advice on designing formulations, development of technologies and their adaptation to industrial conditions	Collecting, processing and generalization of the data on a research problem. Selection of optimal decision to the problems. Performing the necessary calculations, sketches, diagrams, participation in assembling a laboratory setup. Implementation of experimental research
3. Processing and analysis of experimental data	Assist teachers in selecting methods of data processing, analysis of the results, formulating conclusions. Consultations on preparing reports on the results of scientific research papers, proposals. Monitoring of students in solving tasks	Technical control of the performed work. Comparison of the received results with analogues. Analysis of the practical importance of the produced results from the technological, technical, economic and social points of view	Processing of the results of experimental research. Feasibility report on research results. Preparation of reports, projects, materials for publications
4. Estimation and summarizing of the performed work	Discussion of research results at scientific seminars of base department. Estimation of the performed work and student readiness for professional work	Discussion of research results at scientific seminars of base department. Reviewing of the performed work, feasibility study, and student's readiness for professional activity	Preparation of the report and performance at a scientific seminar, conference (defense of the performed work). The Self-estimation of readiness for professional activity

At the end of research project implementation scientists (company experts) give Assessment to the student, which must be submitted to the department together with the student's Report. The research results are discussed at scientific seminars of base departments.

Thus, training of students at the basic departments enables to reduce time required for the graduates to adapt to the working environment of science-intensive industries; to provide mobility of young experts during the development of adaptation to new technologies; to improve the content of the expert training technologies; to provide an independent estimation of graduate training results and enterprises feedback with the university.

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Методика адаптации будущих специалистов к профессиональной среде при подготовке на базовых кафедрах

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Аннотация: В соответствии с особенностями процесса профессиональной адаптации будущих специалистов представлена методика организации научно-исследовательской работы студентов.

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