

The Organization Of Academic Process With The Production Through Technological And Pre-Diploma Practice

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Abstract

The article considers the issues of interaction between the educational institution and the relevant enterprises in the process of production and pre-diploma practice.

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1. Introduction

During twenty years in the North-Western region are were closed state farms, collective farms, association «agricultural machinery» and other agricultural enterprises. Has been violated the established industrial relations and eliminated internship students of engineering-technological Institute of St. Petersburg State agrarian University. Meanwhile have reduced the number of students on the specialty «Mechanization of agriculture». In this regard, the engineering technological faculty decided to open a training students in the specialty «Automobiles and automobile economy» and «Service of transport and technological machines». The admission of students was increased, was an urgent need to find new places for doing manufacturing practices for students.

On the Russian market appeared a large number of new modern, especially foreign cars and trucks. In agriculture began to receive ultra-modern imported tractors and agricultural complex units. The peculiarity work of the Department "Cars and tractors" is that production of the enterprises of agrarian profile have park of automotive engineering from different models. To prepare highly qualified engineer for operation of new equipment must contains learning of basic this machinery. For quality training needed acquire modern components, units, engines, etc. In connection with reduction of class hours of practical and laboratory classes on special subjects and increased amounts of information and technical material needed provide study guides for students ' independent study. Not only ensure. Also needed abolish the unwillingness and inability of our students study design, theory and methods of operation of new equipment. We're not ready to such methods of pedagogical and educational-methodical works and teachers.

2. Methodology and results

The Department "Cars and tractors" has done, as the producing Department of specialty "Automobiles and automobile economy" in accordance with the educational standards and the regulation on the procedure of practice the program and guidelines for practitioners. In particular are practice on the subject of transport and servicing cars (held after the 2nd semester), "practical Training on management of means of transport" (held after the 4th semester), "Production first of technological practice" (held at the end of 6 semesters), "Production second production practice" (held after 8 semesters), "Pre-diploma practice" (held after the 9th semester).

For the full organization of the first and second technological and pre-graduation practice in the specialty "Automobiles and automobile economy», are contracts are concluded for a period of 5 years with

manufacturing companies in auto-business. For example, one HUNDRED Euro-motors Ford” (the official dealer of “Ford”), a HUNDRED Toyota Service - Pulkovo (the official dealer of “Toyota”), agroconcern “Detskoselsky” and other motor transport enterprises.

Two months before the start of practice manager from the Department and the management of STO, together define the number of students, which itself will be accepted. The Department will post the contest announcement the presence of vacant places for practice. All students wishing to undertake practical training at the workplace, are recorded. Then held the competitive selection for the right of passage of practice in the declared place. Selects only those students who have no debts for the semester. Selected students fill the contract supplementary agreement to the agreement, which identifies specific names of students, directed by the University practice. In this contract are indicates the duration of the internship, responsible for practice from the University. On completion of the semester order is issued by the University of consolidation student to practice. The student receives an instruction about behaviour rules in practice, gets certified direction for internship program and methodical instructions on preparation of report on the results of the practice.

At the appointed time students arrive to the place of practice. Are the primary test for the presence or absence of technical knowledge. Students who are tested, can be registered as trainees and receive permission to work according to the points of agreement. Students who have not passed the initial test, must return to the University and can be sent to the reserve places of practice. During process of the internship responsible for practice from the University teacher visits places of practice.

Upon completion of production practice the student is a report on a form given in the guidance. In the report invested characteristic from the enterprise on student.

In the contract on passage of practice in the workplace specifies that the student, the company is not obliged to pay wages, because the student receives a scholarship. However, experience shows that the company pays active students salary from internal resources, and often students even the third course has offered a job If the student refuses job by reason of employment in the learning process, he, as well as the most successful students are accepted in practice by the same company after the fourth year, and externship after the 5th course and there will be employed after graduation.

The Department receives components and units, which prepared for decommissioning by prior arrangement with the company on the basis of separate letters of guarantee. On the received units and aggregates by students engaged in research work of students, they study layouts and sections. From layouts and sections of units and aggregates are forming the theme groups. From the thematic groups are generating classes. In the classroom, in the presence of the theme groups, students not only learn the modern design of the vehicles, but also they can prepare for passing the initial testing of a specific enterprise in preparation for technological practice. [1]

The Department “Cars and tractors” prepares not only motorists, but also of agricultural engineers. Similar tactics we used for dealers that implements tractor equipment in the Northwest region. And to cooperate with them was easier, as in the dealer centers worked our graduates.

Training classes formed in the following way. For example, a training class for studying the structure of tractors. Illustrative material is presented not only photographs of tractors “Belarus 1221”, but also the models themselves tractors with their characteristics, presents the tractor type, classification, etc. Class equipped with multimedia equipment, so the teacher gives only an outline of the material in the form of General schemes, work principles, classifications of units and aggregates. Also presented video footage on the tractors in the field, transportation and other types of agricultural work. The goal of the teacher is not only to acquaint students with the necessary material and be of interest to the student for further study of themes. For practical and independent work created another class called “the Study of structure features of foreign tractors”. [2]

It have work-places for more in-depth, detailed scrutiny of construction of tractors, their components and assemblies. A feature of the workplace is that it individually, student sits before his laptop, which is connected with the teacher's laptop. For example, a workplace for the study of gear box changes. On the table A1 presents a General view of the transmission of the tractor on which a separate box changes gear. On the monitor the student can see the General scheme of transmission, design in General in statics and dynamics, design of individual elements, dynamic gearshift various types and designs transmissions, including automatic gearbox. Switching material on the monitor student manages the teacher, as the monitor of a teacher reflected all monitors all students. Immediately on the table student has a methodological Handbook for the study of the structure of one or another of the box. The student must learn to read technical text to easier to understand diagrams and descriptions of the design. In the audience is also presented separate units and aggregates for tractors, which have their own constructive peculiarities. Completely presented all the units of tractor "Lamborghini R6/100". So arranged jobs for the study of the design of all systems of tractors. After a few practice sessions at the individual workplace students are interested in a deeper study of the material. And in this case, in consultation with the instructor, the student comes to independent learning in this audience and gets deeper information about the design features of tractors. Similarly passes the study of the design of automobiles.

3. Conclusion

The big work on preparation of source material was held teachers. The search and systematization of the material, methodical processing, multimedia presentation, coordination with educational standard and the number of academic hours allocated, accustoming of skills of independent work of students is large and laborious work. This work ultimately aimed at that are not only graduates, but and students of our University in the conditions of competition among the technical Universities of St. Petersburg were need. The results of practical training is the employment of a graduate from a company, where he did an internship during the whole period of study.

References

- [1] M. Ali Affene, and A. Kartoshkin, "Post-graduate Qualification Improvement Agro-engineers on the Problems of Technical Ecology", *Proceedings of International Conference on Engineering Education and Research «ICEER-2013»*, Marrakesh, 2013, pp. 410-417.
- [2] A. Kartoshkin, and S. Lubimov, "The experience of conducting practical classes and independent in the preparation of engineering shots", *Proceedings of International Scientific-Technical Conference «Multipurpose tracked and wheeled machines: theory, practice and training»*, Chelyabinsk, 2011. - pp. 92-95.

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