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Improvement of methodical provision of development of general technical preparation of students based on integrative-modular approach in professional educational institutions

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Abstract

About the types of practical training in the professional education system, the important features of effective training. Organization of production practice for the specialty "50810101-Agricultural mechanization and service technician" in the field of agriculture and water management and formation of students' skills, development of general technical training of students based on an integrative-modular approach, organization of the process of improvement of methodological support.

Keywords. Integrative-modular, Agricultural mechanization, service technician, qualification requirements, curriculum and curriculum, theoretical and practical knowledge, machine-tractor units, maintenance, repair, training skills acquired in training practice, competences in production practice.

Professional education is one of the tasks of effective organization of educational and production practice, improvement of its quality and efficiency, preparation of qualified, competitive junior specialists, formation of practical skills in them.

The difficulty of explaining the integrated modules so that they are understandable and interesting to students is that the ways to overcome this factor are in the development of the best methods tested in practice and in a special system of training engineers.

Factors affecting training based on an integrative modular approach help to develop creative thinking among students, flexibility in decision-making and the ability to find new non-standard solutions, design thinking.

One of the directions of professional education was the renewal of the educational content, the need to teach lessons based on modernized, improved and scientific-innovative technologies, based on innovative experiences and ideas. Because the lesson is the main core of education. As students study the modules, their knowledge is strengthened and their literacy increases. If the education and upbringing given in the sciences is delivered to students on the basis of the laws of life, the dialectic of nature, and the demand of the time, then every teacher will have fulfilled his duty seriously.

We focus on the following factors when influencing the interdisciplinary integrative modality approach:

- selection of production facilities suitable for educational specialization;

- search for ways to create cooperation between the production entity and the educational institution;

- ensuring the relationship between the educational institution and the production entity.

It serves to integrate the elements of the interdisciplinary education process (form, content, methods and tools) into a whole system. It should be emphasized that interdisciplinary integration is one of the most important factors in the implementation of the quality and effectiveness of education.

To implement interdisciplinary integration:

- when studying academic subjects, it is necessary to choose such a sequence that the study of one subject helps to study another subject;
- use of the same approach in the formation of common concepts, skills and qualifications in the sciences;
- ensuring unity of requirements for acquiring skills and qualifications in studying sciences;
- extensive use of knowledge, skills and abilities acquired from other disciplines in learning skills and abilities related to one discipline.

During the development of an integrative module, the volume of interdependence increases and decreases, the operation of the parts of this system and the integrity of the learning object are regulated. Practical integration involves the creation of technical products based on important processes.

Today, great attention is being paid to the development of all aspects of our country, especially to the education of the next generation at the level of well-rounded individuals and competitive personnel. The future of our republic is our young people who are currently studying.

Decree No. PF-5812 of September 6, 2019 of the President of the Republic of Uzbekistan "On additional measures to further improve the professional education system", five priorities for the development of the Republic of Uzbekistan in 2017-2021 reforming the education system in the country by implementing the tasks defined in the Action Strategy, training highly qualified personnel in line with the requirements of the labor market, introducing international standards for evaluating the quality of education, and creating effective mechanisms for the practical implementation of innovative scientific achievements consistent work is being done.

At the same time, the fact that professional education programs are not aligned with the levels of the International Standard Classification of Education (ISCE) adopted by the UNESCO organization, and that the National Qualification System of Uzbekistan has not been fully introduced into the educational process, makes it difficult for trained personnel to have a suitable education in the labor market. has been preventing them from taking over.

In order to improve the professional education system based on advanced foreign experiences, to train qualified and competitive personnel for the labor market by introducing primary, secondary and secondary special professional education stages, and to involve employers in this process.

Starting from the 2020/2021 academic year, the new primary, secondary and secondary special professional education system in the Republic of Uzbekistan, which is harmonized with the levels of the International Standard Classifier of Education (hereinafter referred to as the International Classifier) and a network of educational institutions where differentiated educational programs are introduced was established.

On the basis of educational programs corresponding to the 3rd level of the international classification, completely new vocational institutions were established, which prepare personnel at the initial professional education stage, aimed at social support of 9th grade graduates.

A clear example of this is the introduction of a number of modern techniques and technologies in the field of agriculture and water management from foreign countries and their

production in our country. Taking this into account, it is an urgent task to train qualified junior specialists who can drive and service modern agricultural machines.

Theoretical and practical knowledge on the basis of the qualification requirements, curriculum and curriculum, which are being prepared in primary professional educational institutions in the field of agriculture and water management 50810101-Agricultural mechanization and service technician specialty strengthening, construction and use of various models of machine-tractor aggregates depending on the work performed, as well as technical service and repair work, theoretical knowledge acquired from special subjects and skills acquired in educational practice, production practice, competence formation recommendations are outlined.

Professional education is one of the tasks of effective organization of educational and production practice, improvement of its quality and efficiency, preparation of qualified, competitive junior specialists, formation of practical skills in them.

Currently, the independent Republic of Uzbekistan, which is among the developed countries, is carrying out a number of works on the introduction of advanced technologies in the field of education and the modernization of educational content. At the same time, the best experiences of foreign countries in the field of professional education are being studied in the improvement of the educational system, and the qualifications of specialists are being improved in this regard.

Improving the quality and effectiveness of educational and practical training in professional educational institutions depends on the pedagogical skills of teachers of special subjects and masters of industrial education, their professional training. It is very important for the masters of industrial education to have deep knowledge of new techniques and production technologies and to be able to use them, to have the level of innovation. It is desirable to use new pedagogical technologies and active methods in the educational process, to be able to apply technical tools, to encourage students to work more independently, to develop their knowledge and skills. Some practical exercises are aimed at acquiring intellectual skills. For example, solving examples and problems in mathematics or physics, doing exercises in drawing, calculating, etc. During practical training and educational practices in special subjects, students should develop thorough professional skills regarding the processes performed in production. For this, practical training should be properly organized in terms of form.

Types of practical education

The process of practical education in professional educational institutions is divided into the following types:

1. Laboratory-practical training
2. Practical training
3. Educational practice
4. Production practice
5. Pre-diploma practice

Laboratory-practical training is carried out in order to study the properties of substances and objects, the structure, operation procedure and characteristics of machines and mechanisms studied in theoretical lessons.

Practical training is carried out in order to perform practical work methods and processes using materials and objects, using work tools and tools on the topics learned in theoretical lessons.

Educational practice is based on the program, under the supervision of the teacher, in order to strengthen the theoretical knowledge in one general or professional science, to learn the skills and qualifications of working methods and operations by practical implementation, and under the supervision of the teacher, a training workshop, laboratory and training is carried out on training grounds.

Production and pre-diploma internships are carried out in order to form skills and qualifications for practical implementation of production technological processes, combining professions or specialties, work, methods and operations based on the theoretical knowledge learned in several professional disciplines.

Important features of effective practical training

Educational and practical training is the main component of professional training in professional educational institutions. It consists in forming professional skills and qualifications of students based on the knowledge they have acquired from theoretical subjects.

Forms of organization of the practical-professional education process:

- organization in training workshops of the educational institution;
- organization in laboratories;
- organization of training ground;
- organization in simulators;
- organizing educational workshops;
- organization in the workshops of base enterprises;
- organization in separate (staffed) workplaces;
- organization in production conditions.

The knowledge and skills that students should acquire in the process of practical professional education are formed on the basis of the following methods:

- oral (explanation, conversation, etc.);
- visual (work methods, demonstration of visual aids, use of screen tools, student observations, etc.);
- practical (exercises, laboratory-practical work, solving production-technical tasks);
- divided into checking and active search of knowledge, work skills, qualifications and other methods.

Purpose and tasks of production practice.

The Purpose:

Agricultural mechanized work on the basis of wheel and chain tractors, self-propelled machines and their maintenance, as well as machine-tractor aggregates (hereinafter referred to as MTA) based on self-propelled and aggregated machines perform and ensure MTA and the performance of plumbing tools and devices;

Formation of professional practical experience of professional knowledge and skills by carrying out the organization of timely and quality execution of technological processes under the guidance of a highly qualified tractor-machinist during production practice;

Compliance with traffic safety rules. Training to control the quality of the work performed, to use safe work methods and techniques, to comply with the requirements of labor protection, fire safety and environmental protection.

Tasks:

Providing students with professional skills in the main types of professional activity;

Main and pre-sowing tillage with the help of a highly qualified tractor-machine operator, fertilizing, preparation and sowing of crops, care of planted crops, harvesting of cotton and grain crops and fodder at MTA development of professional practical experience in performing mechanized agricultural work;

Compliance with environmental protection and agrotechnical requirements in the field of agriculture, traffic rules and road safety requirements;

Performing technological adjustment works of MTA with the help of a highly qualified tractor-machinist, eliminating faults of simple and medium complexity;

Disassembly, assembly and adjustment of defective aggregates;

Replacement of separate assembly units, maintenance of aggregated agricultural machines, tractors and self-propelled agricultural machines;

Control of the quality of the work performed. Rational organization of the workplace. Mastering safe methods and techniques to perform the entire scope of work.

Results:

Uses the acquired knowledge and skills in the production conditions of a specific agricultural organization;

MTA, based on wheeled and chain tractors, self-propelled agricultural machines, performs mechanized agricultural work and fodder preparation;

Examines the compliance of the performed work with agrotechnical requirements;

Follows traffic rules and traffic safety requirements.

Carrying out technological adjustment of MTA, troubleshooting of simple and medium complexity, disassembling, assembling and adjusting defective aggregates, replacement of individual assembly units, technical maintenance of aggregated agricultural machines, tractors and self-propelled agricultural machines learns to serve.

Controls the quality of the work performed, organizes the workplace effectively, uses safe work methods and techniques, learns to comply with the requirements of labor protection, fire safety and environmental protection.

In production practice, the student will have the following competence:

As a result of practical training, students should have the following practical skills, practical professional experience and professional competences:

Disassembly, assembly and repair with the help of locksmith tools when adjusting agricultural machinery:

KK-1.1. Disassembly of agricultural machines, aggregates and aggregates, components and mechanisms with locksmith tools;

KK- 1.2. Assembly of agricultural machines, aggregates and assemblies, components and mechanisms with locksmith tools;

KK-1.3. Carrying out technical maintenance and repair of agricultural machines, aggregates and aggregates, components and mechanisms with plumbing tools.

MTA to carry out mechanized agricultural works.:

KK- 2.1. MTA based on wheeled and chain tractors, self-propelled agricultural machines performs mechanized agricultural work.

KK- 2.2. Reaping grain with a combine harvester and picking cotton.

KK- 2.2. Prepares fodder for livestock with MTA

KK-2.3. Transports agricultural goods on a tractor trailer

Putting agricultural machinery into MTA storage after the season and taking it out of storage before the season and preparing it for work:

KK- 3.1. Storage of agricultural machines, aggregates and mechanisms after the season.

KK- 3.2. Implementation of pre-season storage of agricultural machines, aggregates and mechanisms.

KK- 3.3. Implementation of MTA preparation works from agricultural machines, aggregates and mechanisms before the season.

Production practice planning.

Production practice training is scheduled after the completion of practical and theoretical training for each professional module.

At the beginning of the academic year, the deputy director of industrial education approves the schedule of industrial practice with the "Educational process schedule" at the first pedagogical council. It is advisable to plan production practices according to the seasons of planting, care and harvesting of agricultural crops.

Organization of production practice.

Practical training is carried out directly at the workplace, in the conditions of agro-industrial production, during which the graduate must work independently as a trainee for a highly qualified tractor-machinist attached to production, production education systematic monitoring is carried out by the foreman.

According to the qualification requirements, based on the production practice program, based on the teacher's advice, the learner is prepared for the following types of activities: use (use) and technical maintenance of agricultural machinery, tractor and self-propelled management of the MTA as a trainee ("assistant") to the main highly qualified tractor-machinist of the techniques used in the performance of all types of agricultural work on agricultural machines. Land preparation and planting of agricultural crops, crop care, harvesting and harvesting of agricultural crops, as well as planting, processing, storage and processing of fodder for livestock are carried out using machines and equipment.

These processes are carried out in district machine-tractor parks (MTP), agricultural clusters, farms, direct fields of livestock farms and workshops.

Before the beginning of the academic year, the deputy director of the professional educational institution for production education, the head of the department of special subjects, the teacher of special subjects and the master of production education should go to agro-industrial production enterprises and pay attention to the following should focus on:

- material and technical support of the practice base for conducting production practice at a high level;
- to the organization of work;
- that it is provided with modern agricultural techniques;
- to use advanced intensive technologies;
- availability of necessary conditions for students;
- to be able to provide students with a job;
- to be able to provide a certain part of students with a paid job.

Agreements are made with the head of the agro-industrial production enterprise about the duration of the internship, the assignment of a supervisor to the students, and other organizational issues.

It is advisable to plan to send 5-8 students to each practice base.

Assessment of students' knowledge and skills.

During the training program, the knowledge and skills acquired by the students are evaluated based on the current procedure for internal control.

Assessment methods include oral, question-and-answer, practical tasks, which allow determining the results of mastering the educational element. Control questions and tasks should be consistent with the set goal.

Forms of evaluation (certification) (based on the results of practical training) The form of certification of production practice is a practical qualification work, the results of which are in the report on the execution of the production practice with an application diary and a copy of the order on internship in the enterprise organization documented.

Improving the quality and efficiency of educational and practical trainings incorporating integrative knowledge in professional educational institutions depends on the pedagogical skills of special subject teachers and industrial education masters, and their professional training. It is very important for the masters of industrial education to have deep knowledge of new techniques and production technologies and to be able to use them, to have the level of innovation. It is desirable to use new pedagogical technologies and active methods in the educational process, to be able to apply technical tools, to encourage students to work more independently, to develop their knowledge and skills.

It serves as one of the interesting and effective methods that can direct students to scientific and creative research using more integrated interdisciplinary knowledge.

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