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Cognitive activity STUDENTS UNDER practical training

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Abstract.*The article deals with the problems of the agricultural university educational process associated with varying willingness of students to study the subject "Farm machines and their use." Actors offered their solutions by differentiating approach in the management of cognitive activity of students.*

Keywords: cognitive activity, perception, exercise, motive, conceptual and logical thinking sphere, sphere shaped thinking, emotional sphere of thinking, practical tasks

Formulation of the problem. The success of socio-economic development in a market economy is largely provided by the level of professional and general training graduates. Preparation modern experts of the agricultural sector should focus on the formation of qualified efficient land owners who have the necessary professional stock

knowledge, have modern equipment and technology in agricultural production. In this regard, one of the main challenges facing higher education in modern terms, is to provide a practical training of students agrarian adequate to the requirements of today.

Without a deep analysis of theoretical bases of practical training and the results of research psychologists can not develop, organize and implement effective practical training of students paves the bridge from knowledge to skills of their practical application, that creates professional quality of future specialists agrarian. This necessitates improvements, including existing forms and methods of training, development of special methods of practical training.

Analysis of recent research. The improvement in the quality of training highly qualified specialists - agrarian dedicated to the research and development of such famous scientists as S. Archangel, SY Batysheva, AI Demin, Esipov BP, SI Zinoviev, OP Kondratyuk, GS Kostiuk, EO Mileryana, S. Rubinstein, NF Talyzina, DA Thorzhevskoho, SA Shaporynskoho and others. The solution to current issues of practical training of students in higher agricultural

education institutions engaged I. J. Blozva AA Buherko, DG Voytyuk, VS Gaponenko AA Gumenyuk, AI Demin, GA I. Zhyvolup, VN Krasilnikov, PV Laush, PG Luzan, I. Sexton, VI Ryabets, DA Smetanin, PN Yaroshenko, LO Yaroshenko and others.

The purpose of research - Identifying the characteristics of the method in practical training of students during their study of the subject "Farm machines and their use" and its improvement specific to students perception Initial material.

Results. The majority of students of agrarian university - the inhabitants of the countryside, where life enables young people to observe the production processes in agriculture or directly participate in them. This is one of the major factors that continue to help students during their studies - with some disciplines, including engineering. Some students - residents of a city or urban settlement. They have quite a rough idea about the process of agricultural production and the machines that are used in them. The experience of teaching the subject "Farm machines and their use" obtained in the laboratory classes, including listed objective circumstances give grounds to apply an individual approach to students during their studies.

To get a clearer picture of the feature perception student discipline "Farm equipment and their use" in terms of previously acquired knowledge of agricultural techniques, we arbitrarily divided the students of 2nd year agronomy faculty of one of the agricultural universities, which conducted surveillance on four groups:

1. Students who have not seen agricultural machinery.
2. Students who have only seen agricultural equipment and no experience of its use.
3. Students who are learning the university had access to agricultural machines and have little experience in using them.
4. Students - graduates of agricultural colleges profile who have previous professional education in their field and, consequently, the knowledge and skills of the subject "Farm machines".

Preference in the study in terms of previously acquired knowledge students have four subgroups who studied at agricultural colleges or technical schools. Some of these students have a driver's license tractor-category "A". Working with students is much easier because they have a basic knowledge freely operate in answers technical terms and usually have no difficulty in making offset or exam. Training for this subgroup of students is not a mechanical repetition of learned earlier, and the ability to consolidate and expand knowledge and improve skills, test the knowledge gained strength in communication with the teacher. In the case they want to help their comrades prepared less difficult for them to master the course material.

Difficulties arise in the discipline of students in the first three groups. These difficulties in each subgroup are different in character display.

Students first subgroup who did not see agricultural machinery or had not paid attention to her make up about 10-15% of the course. They are experiencing the greatest difficulties in studying technical subjects. Preferably, it is the students who went to the Agricultural Universities are not by vocation, but for other reasons closer to home; less competition; the prestige of the institution, its beautiful old buildings; variety of practical training process (possibility to learn to manage technology).

Feeling the burden of having to learn an entirely new educational technical information, most of these students quickly lose their initial enthusiasm and confidence in their capabilities. These students primarily at risk in "trapped" negative feelings: anxiety, fear, guilt. They have a sense of failure. Due to excessive feelings such students immediately reject any action or begin to learn languidly, without wanting to pre-tuning the lack of positive learning outcomes. Here are some phrases samovypravdovuvannya following students: "... I am of agricultural machines still do not understand and do not understand" or "the village ... I'm not going to go, because what I teach agricultural machines, just head to score too much information."

Professor E. Vasiliev rightly expects that these students can not learn anything at all. Due to negative emotions in their minds formed a vicious circle: doubts then do not believe in ourselves, and if does not believe the brain is not ready to accept knowledge [1]. That brain of such students in the classroom for farm machinery becomes passive perception for educational information and obrikayut they advance themselves in negative educational work.

To this negative circle not worked should "wake up" the brain first subgroup of students, engage them in active cognitive activity.

First, we consider it necessary to adapt the cognitive activity of students perceived sophisticated, in their view, agricultural machines by comparing these machines with manual tools. It is necessary to use previous experience of students in suburban areas, school subbotniks etc .. Adaptation should take place through conversations with relevant questions for students. Example:

- What hand instruments replaces tooth harrow?

Must be a student says:

- Rake.

It should support the right answer:

- Yes, right rake.

Then continue in the same manner:

- What instrument replaces the plow?

- Shovel.
- What replaces inter-row cultivator?
- Sapa.

Responding to questions from the students spend not only logical parallels between "difficult" agricultural machinery and "simple" hand tools, and imagine that the process of these instruments is performed. After this adaptation of agricultural machinery will not seem so difficult as at first. Cognitive activity begins to activate and now can move on to the next stage of learning a new educational information. Students who are part of other groups, which only saw agricultural equipment and no experience of its use constitute approximately 50-60% of the course. These students are familiar with agricultural machinery or by residing in rural areas, or because they have seen her on campus, or because of their curiosity. Difficulties in the early stages of training students in this subgroup associated with lack of experience or lack of perception of information on agricultural equipment. This educational action aimed at mastering certain technical knowledge to students and faculty neinzhenernyh knowledge related to technology, are complex and specific. The acquisition of knowledge of technical disciplines is complicated by insufficient possession of technical terminology. This is primarily manifested in the lack of understanding of simple concepts such as "screw", "frame", "slots", "hryadil" "cardan transmission," "Actuators", "cylinder", "bitters" and many others. When the students first and second subgroups, great importance is the use of visual aids in laboratory studies, but not in the form of charts, picture books, posters, models of machines, and direct objects are treated in kind. This allows students to get acquainted with the real dimensions, its structure, location details and mechanisms. For in-depth understanding of the object being studied, the teacher should be used as a method of training exercises. It exercises as practical problems in searching for parts, components, parts that have a definite purpose, should contribute to enhance teaching and learning of students first and second subgroups [2]. For example, while studying the theme "Breakers" exercises include the following tasks:

- To find and show the working bodies of the plow PLN-3-35;
- To find and show subsidiary of plow PLN-3-35;
- List and show parts of which consists plow, call their destination;
- List and show parts of which consists peredpluzhnyk, call purpose of each of these (and many others) [3, 4].

Something other than a manifestation of the difficulties the students are three subgroups with separate, unordered knowledge and skills. In the process of perception of knowledge are significantly different from the members of the first and second sub-groups, because some of them

were able to perform plowing, assistant to work on the combine, performing minor repairs agricultural machinery and so on. But received for university knowledge and skills superficial, because they have their own roots only sensory or practical experience without a systematization and deepening. For example, a student knows how the plow, but can not call it the basic regulation. He has practical knowledge about the process of combine, but can not name its parts and their functions (eg reel). Significantly different behavior of students and the rest of the third subgroup on laboratory studies, they absently listening to the teacher, distracted. Difficulties arise when protection reports of laboratory work when the teacher raised questions about the structure and regulation of the agricultural machine student response contains many blunders. Thus, difficulty in learning, resulting in three subgroups of students, based on its mistaken notion of their knowledge and skills, reluctance to work with a group in the classroom, use of textbooks and reference books. To direct the cognitive activity of students in active learning mastering the necessary technical information, the teacher should promptly resume a driving force for the learning process. To do this, we create a situation that will allow the student to identify the actual level of knowledge. It is realized during the conversation with the teacher or students in the performance of complex practical problems that would allow no interference teacher assess their knowledge. Practical tasks of this nature give:

- To show how to convert plow PLN-3-35 with a width of 105 cm in width 90 cm;
- View hinged mechanism tractor MTZ-80/82 hole through which the brace should connect with the lower thrust block during plow PLN-3-35;
- To show how to sivaltsi SZ-3,6A set the selected gear ratio drive mechanism cereal devices during setup drills on the same seeding rate;
- Show how to regulate the entry angle arched legs on the ground cultivator KPS-4;
- View hinged mechanism tractor MTZ-80/82 hole through which the brace should connect with the lower thrust block during wide-cultivators, etc. [3, 4].

Consider some of the aspects that influence the cognitive activity of students in these subgroups laboratory work. We know that any human activity is characterized not only by meaningful goals, but the presence of motives. Objective - this is something that it is aimed and that should make it a direct result. "The motive - that's what makes human desire for this and not for any other purpose" [5]. These terms are those motives that cause people purposeful activity. For students these subgroups motives or motives for learning new knowledge is needed.

Conceptual and logical thinking sphere allows the student to perceive and understand laws, laws, concrete and abstract concepts that reflect the existing processes, events, items and other objects under study. With such positive properties of conceptual and logical thinking areas it relies on subjective burden in basic training. In order for the student to have an opportunity to thoroughly understand the course material and good knowledge necessary to master the material time of his mental concepts and the logical sphere. The work in this sphere of thinking in the process of mastering knowledge traced three interconnected stages. The first stage - laying the foundations of concepts, their initial understanding and remembering that require multiple repetition of educational information. The second stage - the versatile play and understanding the basics concepts of addition of new information and skills formation to link these concepts with knowledge of new information. The third phase - the emergence of new problems, hypotheses and search for their solution. This stage of the creative application of knowledge. Creative thinking is based on direct and indirect sensory perception of information about phenomena, processes, objects. Emotional sphere of thought itself does not perform work on understanding the information. However, it can significantly affect the operations of the two spheres of thought. So emotional sphere in the learning process is not used as a separate cognitive power. Consider three subgroups of students to determining motives for learning. As noted above, the students are familiar with this subgroup of agricultural machinery at a certain level and the need for new knowledge they have. But a new impression passed. Student not once seen, for example, a plow or cultivator, had the opportunity to perform some manufacturing operations under the supervision of experienced mentors. The need for knowledge is not new motives for teaching, this need is satisfied. The experience unmet needs at the emotional sphere of thought has gone and therefore motivation, the desire for action on the subject of the study takes place. In addition, the emotional sphere of thinking does not tolerate repetitions. While teaching in laboratory studies of educational material, which partially informed students of the third subgroup takes effect and causes emotional sphere inhibitory processes in the cognitive activity of students, disconnected from the emotions of conceptual and logical thinking and imaginative scope. In order to neutralize the negative effect of the emotional sphere and connect students to the learning of our proposed practical tasks that deplete the students about the installation of the sufficiency of their knowledge. Practical tasks reveal those aspects of the object of knowledge that the student still unknown and thus renewed motivation new knowledge.

For students of the first and second subgroups need new knowledge preserved. The experience unmet needs include motivation, the desire for action to possess the object of knowledge. Emotional sphere of subgroups of students thinking connects to the learning of concepts and logical thinking and imaginative scope. Students are first and second sub-to-read educational information about specific agricultural machine and understand technical terminology must be imaginative picture of the subject matter of which is created by the direct action of the properties of the object on the senses. However, visibility is not giving the full knowledge it is only a stepping stone to learning. Visibility must be accompanied by the work of thought, establishing relevant links, determining causes, comparison and generalization. In order for the student to have an opportunity to thoroughly understand the course material and good knowledge necessary to master the material time of his mental concepts and logical thinking areas. In the first stage of conceptual and logical scope is passive perception by students of educational material - they listen to a lecture or explanation on laboratory studies teacher, working with a textbook, teaching aids. But passive repetition does not allow knowledge to active properties. Passive repetition necessarily changing active when a student plays their knowledge during oral answers. It exercises as practical problems in searching for items of parts and components that have a specific purpose is active repetition, which allows students to reproduce and organize the knowledge to fix them in memory, showing the ability to apply theoretical knowledge to practical action.

Students of four subgroups, the most prepared to perception of educational information on the subject "Farm equipment and their use," the knowledge generated in the first stage of conceptual and logical thinking areas. The advantage in knowledge levels of the representatives of the first three subgroups revealed a rather rapid transition of conceptual and logical thinking areas from the first to the second stage, the stage play and productive use of knowledge in different conditions. Volume and content of educational information on laboratory studies of interest associated with the restoration of motivation knowledge, there is need for experience, or rather the experience of dissatisfaction. The experience connects unmet needs emotional sphere of thinking, which in turn positively affects the conceptual and logical and imaginative sphere, encouraging them in active cognitive work.

Conclusion. Exercises and tasks that we offer for use in laboratory studies are intended to stimulate cognitive activity of students in the study of the subject "Farm machines and their use." Exercises and tasks of the course "Farm equipment and their use" a means to enhance the cognitive activity of students and are an integral part of the basic

methodological complex that directs students to mastering complex technical training information focus of some students to regulate their previously acquired knowledge of agricultural machinery, stimulating them to active learning activities.

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Abstract.*In Article rassmatryvayutsya problems uchebnoho process agricultural high school related razlychnoy hotovnostyu studentov for subject Study* "Selskohozyaystvennыe mashiny s and Using". Predlozhenы deystvennыe WAYS s solutions at the expense of dyfferentsyatsyy approaches for management poznavatelnoy deyatelnostyu students.

Keywords: poznavatelnaya Activities, Perception, Exercises, motive, ponyatyyno lohycheskaya-sector thinking, shaped sphere of thinking, thinking эmotsyonalnaya area, praktycheskye classes

Annotation.*The problems of the educational process of Agrarian university connected with different students' readiness to the study of the subject "Agricultural machines and their utilization" are examined in paper. The effective ways of their solution owing to the differentiation of approaches in the management of cognitive students' activity are proposed.*

Key words: educational activities, perception, exercises, motive, conceptual and logical thinking, creative thinking, emotional perception, practical training

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