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The Influence of Interactive Educational Methods on Intellect Dynamics of the Students of Agricultural Field

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Abstract: *In this article the use of interactive educational methods was proven as a factor influencing positively on the formation of professional peculiarities, development of general intellect in the management of educational and instructional process of agrarian sector. In the experiment of using interactive methods in educational process interactive methods such as, problematic education, brainstorming, project and team work methods allowed to evaluating the changes in students' attitudes. Determined the influence of these methods on activity efficacy or personal-professional development of students and in which extent.*

Key Words: *Intellect, interactive, method, agrarian sector, professional education, pedagogical technology, problematic education, cooperative education, project, team work.*

1. INTRODUCTION:

"Where the lack of science and research, there is no development, improvement and the future of particular field" – emphasized the President of the Republic of Uzbekistan Sh.Mirziyoyev.

Modern society has its rapid and deep changeable character in which the pedagogues are required to consider the changes in the society and relatively adjust their educational methods and activity goal on the base of those changes. Nowadays in educational process using pedagogical innovations widely is regarded as global tendency of world development. In the period of rapid development of pedagogical innovations and modernization process in the republic a greater attention is paid to systematic implementation of these news in education sector.

Today modern methods of educational process are being used widely. The use of modern methods leads to achieve high efficacy in education. It is known that the methods are chosen for the lesson considering didactical point of each lesson. By remaining traditional teaching form and enriching it with various modern methods that can increase learners' activity, we can achieve the growth of acquisition level of learners [1].

In recent years in most developed countries the experience-based methods in implementing modern pedagogical technology that can ensure the efficiency of educational process, are called interactive methods.

Interactive methods are widespread and widely used in all types of educational institutions nowadays. Furthermore, there are many types of interactive educational methods which can correspond to perform almost all aims of educational process. Some are to be chosen for specific purpose in practical education. In this case there exists a problem in proper selection of interactive method for specific purpose performation.

For this, the lesson should be organized properly, and also it is required to increase learners' interests and motivate their active learning by trainer, to use the methods such as, brainstorming, team work, debate, problematic case, instructional text, project work and role plays in order to explain the topic effectively and persuade learners to do practical tasks independently by dividing instructional materials into small parts [7].

So the use of interactive methods have special significance in teaching process of agricultural subjects. A thorough study of each interactive method which is used in teaching process and its implementation in practice broaden the thinking of students and influence effectively on the solution of the problem. Also it increases the creativity and activity of the students. When various theoretical and practical questions are analyzed through interactive methods, students' knowledge, skills and experiences are improved and increased.

2. MATERIALS AND METHODS:

During the experiment the impact of interactive education methods was thoroughly studied on intellect dynamics of agro-field students. In the process of investigation we used the methods, such as a comparative study of scientific-methodological literatures on agricultural sciences, pedagogics and psychology; analysis; pedagogical observations; sociometrical survey (conversation, questionnaire form, tests, interviews); experiments; mathematical-statistical analysis; summary of results.

3. RESULTS AND DISCUSSION:

Educational methods include various work methods and forms that are used to perform the tasks on achieving intended goals in a particular pedagogical process. Nowadays practically used educational methods vary in amount and form, particular character and educational opportunity, they are suitable for specific purposes and conditions, differ in other features also. It is obvious that each of these methods can correspond to specific purpose and they can't be substituted with other methods. Because other method is not suitable for this purpose [4]. Therefore, it is necessary to define properly the role of interactive methods of education that reflect modern view of educational process:

-the influence of pedagogical technology on intellectual development of students in their professional improvement;

-reflection of pedagogical-psychological importance of the influence on some factors;

-the role of interactive educational methods in determining general and social intellect level of the students.

In experimental process we accepted as a suitable variant the experimental works on modern pedagogical technology month (seminar-training) which is often organized in Tashkent State Agrarian University. During the investigation we achieved to evaluate the changes in students' attitude while using pedagogical technology and interactive methods such as problematic education, brainstorming, project method, team work in teaching process. Furthermore, we identified how these methods can influence on activity effectiveness of students or their personal-professional growth. General intellect coefficient is regarded as high indicative factor in the acquisition of knowledge by students. We tried to emphasize on scale evaluation of used pedagogical technology while using these methods. According to this method the student were asked to evaluate the influence of innovation educational methods on their activity effectiveness by 5 score scale, if it was important 5 score was given, if unimportant they gave 1 score. Later these indications led to the study of interrelations coefficient of general intellect with emotional and social intellect of students. And by this we determined how to note the knowledge level which is acquired during professional development of students. The results of investigation on the study of influence of educational technology on student activity have been illustrated (Table 1).

It should be emphasized that the comparative case between the indication of knowledge acquisition by students before the month of using educational technology and the indication at the end of this month (by faculties) were studied comparatively.

When the significance indication of the methods which were used as modern pedagogical technology was evaluated by students' attitude, each educational programme reflected in particular value. It was noted that the influence of used technological methods on knowledge level, active learning and mental skills of students can be studied by internal logical relations. Apparently, under the influence of educational technologies used during teaching process on students' activity and according to their use level higher value was illustrated on all faculties in the table of results. We have compared each result hereby.

Table1: Evaluating indications of the influence of educational technologies on student's activity

Professional education programmes	Problematic education	Brainstorming	Project	Group work	Team work	Mean arithmetic amount
Agrochemistry and soil science	4.19	3.70	4.80	4.33	4.63	4.33
Agronomy	4.58	4.15	4.60	4.70	4.72	4.55
Storage and primary processing technology of agricultural products	4.49	3.78	4.30	4.60	4.28	4.30
Plant protection and quarantine	4.71	4.25	4.11	4.58	4.60	4.44
Mean arithmetic amount	4.50	3.97	4.45	4.55	4.55	4.40

By the importance of used methods, all the methods could have positive influence on students in educational process (significance of methods were almost higher than average), but problematic case method, group work and team work technologies could show higher results (4.50, 4.55 and 4.55). Brainstorming method gave lower results compared to other methods. This showed that even the using technology of this method is easier than others (3,97) it has lower value. Considering this it was confirmed that proper and effective use of methods in education may result in positive outcomes, but not their easiness or difficulty levels [3].

When these results were observed in professional education programmes they could show their positive importance too: Agrochemistry and soil science – 4.33, Agronomy-4.55, storage and primary processing technology of

agricultural products - 4.30, plant protection and quarantine - 4.44 results were achieved. It is apparent here that the use of education methods is more than usefulness. Even this case represented positive results in pedagogical technologies month for the active learning of students.

According to results implementation of educational technologies are showing positive effect on active learning and professional development of students in educational process.

While using interactive methods the teacher is required to work out the content of instructional materials, to explain the terms that seemed difficult to students, to evoke mental function in their thinking. For this, the content of topic is transferred to information formed concepts such as comprehension questions, tasks, and cases [3]. When the student is set the problem, he or she tries to solve it. In this case mental activity starts to occur in student's brain [9]. Interactive methods can give effective results in its realization.

Independent idea – is an appearance of attitudes between present knowledge of person and idea and reality as well. Of course this process cannot be realized easily, particularly in education. It is known that education – is a complex of pedagogical relations set between the teacher and the student. In this relation the belief, demand and discipline are essential parts, that is, social knowledge increase and social intellect improves.

In the innovative approach process the knowledge is acquired on the base of social discipline of students and have influence on behavioral changes. Especially, the organization of education by problematic case may affect positively on students' learning activity. In order to achieve this successful process psychological base is to be paid more attention.

When teaching process is organized on the base of modern pedagogical technologies there appear several stages of knowledge acquisition connected with each other: the stages such as delivering ready information to students mind, knowing, remembering, retelling, and written conveying can define the level of knowing and understanding. The learner is not required to perform creatively in these stages.

In the next stages of acquisition the students are required to implement acquired knowledge into practice, to achieve particular results, to enrich or change them by having independent opinion and thinking. Problematic approach is suitable for these acquisition stages.

The higher educational institutions have many opportunities on using new pedagogical technologies. By realizing these opportunities creative technological approach to pedagogical activity provides to have interesting lessons and also enables students to learn completely and easily the knowledge on each theme. As it is known the same lessons with the same tradition result in bored and passive mood of students for knowledge acquisition. In order to prevent such kind of cases the intensive application of advanced pedagogical technologies to educational institutions is regarded as the most effective way in education.

It should be emphasized that organizing pedagogical activity on the base of technological approach shows individual and creative character. Furthermore, the use of new pedagogical technologies in organizing educational process is seemed to be the factor influencing positively on professional character formation, development of social and intellect types of students.

Table 2: Inter-correlation relations between interactive educational methods and the intellect of students

Intellect forms	Problematic education	Brainstorming	Project	Group work	Team work
General intellect	0.328*	-0.211	0.373*	0.389*	0.406**
Social intellect (J.Gilford)	-0.240	0.221	0.339*	0.409**	0.429**

**p<0,05; ** p<0,01*

The indications of scientifical significance were achieved in inter-correlation relations of students' intellect with the impact of interactive educational methods. What we determined in inter-correlation relations of students' intellect with the impact of interactive educational methods is in correlation relations the impact of educational methods made much clearer and positive relations in the indications of general intellect and social intellect. Interactive educational methods such as problematic education (g=0.328, p<0.05); projecting (r=0.373, p<0.05); group work (p=0.389, p<0.05); team work (p=0.406, p<0.01) made positive relations with the general intellect of students. It is obvious here that in the application of interactive educational methods the effectiveness of the influence on general intellect of students is not reflected operatively. It was observed that the group work showed its impact on the formation of group relations. One thing is to be considered that interrelations between the organization of general intellect and problematic education presented positive and high correlation relations in students of the programme of agronomy and plant protection and quarantine. The reason of the effectiveness of the use of this method in these programmes' students is a certainty of their subject tasks and problems, solutions with exact indications.

But in our investigations in most correlation relations that reflect the influence of interactive methods on student's intellect the social intellect was illustrated more. Because, in the results of general education programmes the impact of interactive methods gave positive view on group work by social intellect (by educational programmes): projecting ($p=0.339$, $p<0.05$), group work ($p=0.409$, $p<0.01$) and team work ($p=0.429$, $p<0.01$) showed high results and positive relations with social intellect.

4. CONCLUSION:

Considering the results of our investigations it can be concluded that the use of interactive educational methods is having more positive impact on general intellect and social activity level of agrarian sector students. For professional development of students educational process is regarded a complete system in higher educational institutions and the followings are to be considered in teaching process:

- For professional and intellectual development of students systematically organising psychological-pedagogical influence of approach in teaching process and in personal development of students.
- Creating psychological-pedagogical and social conditions intended to provide personal and mental development, and active learning of students. In its turn, it may lead to individual character development in students.
- Creating special psychological-pedagogical and social conditions for professional and personal development of students in educational process. The mechanism which serves to increase intellect level in professional development of future specialists must have the character of measures that is systematized to solve psychological-pedagogical problems.

On the base of technological approach organising pedagogical activity has individual and creative character. Furthermore, the use of new pedagogical technologies in organizing educational process is seemed to be the factor influencing positively on professional character formation, development of social and intellect types of students.

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