The usage of pedagogical technologies in subjects connected with soil studies.

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ABSTRACT

The history of application of pedagogical technologies in Central Asia and their application in Soil Science, Soil Physics and Soil Chemistry.

Keywords: Soil Science, Soil Physics and Soil Chemistry, pedagogical technologies, Yusuf Khos Hajib, Sadiy Sheraziy, Abu Rayhan Beruniy, Abu Ali Ibn Sina, Alisher Navaiy, Husain Vaiz Kashifiy, Abdulla Avlaniy.

Our people have always been child loving and have always paid a special attention to their becoming a completely mature person. This process is really complex, from the ancient times the prominent people of the society have been involved in this process. We understand that this case is really important in the upbringing of the young generation, in not only the maturity of a person, but also in the development of a society. The foundation of a pedagogical technology, the forming of its previous elements and its development dates back to the very old times and it formed differently in different countries. The great thinkers of our country Abu Nasr Farabiy, Yusuf Khos Hajib, Sadiy Sheraziy, Abu Rayhan Beruniy, Abu Ali Ibn Sina, Alisher Navaiy, Husain Vaiz Kashifiy, Abdulla Avlaniy and others depicted the profession of a teacher, its challenges, also the must have peculiarities of a teacher, as well as the precious information about the essential sides of teaching in their works. Based on the above mentioned, we can infer that the pedagogical technologies began to develop since the time people started the activity of education and teaching.

The education was carried out through speaking, explanation with showing when the writing wasn't invented. The period of manuscript books began after the appearing of paper. Manuscript books were prepared with great labour and according to the order of the wealthy people. Therefore they were in a small quantity and not everybody could afford to buy them. Therefore there weren't many educated people who could write and read. At those times the ways of teaching literacy began to form. Making the people literate began to develop with the increase in the number of the literate people. Teaching literacy was considered the main thing in the profession of education and upbringing. Schools were opened and mainly the dogmatic ways of education was used in them. Along with religious subjects, other different subjects were taught in educational institutions. With the development of the ways and methods of education and upbringing, the methods of

teaching every subject as well as the upbringing works began to appear. In this case, let's take a look at the history of education and upbringing carried out in Uzbekistan.

Islamic Religion along with Arabic writing entered Central Asia after the invasion of Central Asia by Arabs. Also, teaching of "Korani Karim", hadis writers such as Abu Abdulloh Muhammad ibn Ismoil al Bukhariy (810—970), Abu Isa Muhammad ibn Isa at- Termiziy played a peculiar role in the history of education. The appearing of previous schools in the region matches this period. Grammar and basis of religion were taught at schools.

A bit later, that is at the beginning of X century the madrasahs (the secondary and higher school of Muslims) were founded. The activity of madrasahs spread from here to Iran, Irak, Syria Little Asia, Egypt and other Muslim countries. In Samarkand kids were taught to literacy from the age of 5, the teenagers were sent to distant tours with caravans with the purpose of teaching them trade. At the beginning of Middle Ages great thinkers such as Abu Nasr al-Farabiy (879—950), Abu Ali ibn Sina (980— 1037), Abu Rayhan Beruniy (973—1051), Yusuf Khos Hajib (IX century), Kaykovus (XI century), Ahmad Yugnakiy (XI century), Mahmud Kashgariy (XI century) became famous for their worldviews about education.

During the epoch of the great commander Amir Temur and Temurids scince, culture, architecture developed in the region. Alisher Navaiy created his great works "Hamsa", "Mahbubul Kulub". Zahiriddin Muhammad Babur's work "Baburnama" appeared. Mirza Ulugbek achieved incomparable achievements in astronomy, the science of space. He constructed an observatory with his apprentices. He made up the table of groups of stars which was the biggest achievement of the Middle Ages with its help. Ulugbek studied the history of Muslim schools which were available until his own period. He urged the people that it is necessary to give a new meaning to education and prepare a person to an independent life. Ulugbek put into practice teaching Mathematics, Astronomy, Science of Medicine, Geography, History in his madrasah syllabus along with the traditional subjects. He initiated the idea of getting knowledge through individual reading. Ulugbek stated that a teacher must work on himself continuously, be aware of secular knowledge and improve his teaching skills constantly. Until the middle of XIX centuries the researches of the scientists of the region gave its fruit , especially in the spheres of Philosophy and History.

Peculiar elements of pedagogical technologies were used in some of the ancient views on education. Our great ancestors used the method of "intellectual attack" in solving their problems when America was not opened. Our ancestors named this method "council", "advice", "consultation". Amir Temur called a council in solving the important problems of his sultanate, after listening carefully to the ideas of ministers, counsellors, the literate people of his palace and his family members on the problem and came to the only solution after that. Such councils were called before big military movements. "If I wanted to lead my troops towards the enemy, I put forward the case of peace or war and I tried to find out the inclination of my emirs to one of the two. If they spoke about peace, I would compare the advantage of it to a disadvantage of a war, if they were inclined to war, I would compare its pros and cons to the disadvantage of the war, and I would make up my mind on the one which was more useful.

According to the great thinker Abu Rayhan Beruniy the traits of a perfect person consists of being knowledgeable, possessing pure morality, good behavior, spiritual maturity. He gave assignments according to the potentials of his apprentices and these assignments became more complex with deepening the students' knowledge.

Burhaniddin az-Zarnujiy wrote in his book "Giving knowledge to the knowledge seeker and the ways of giving knowledge" that the knowledge seeker should have most importantly serious will, precision and bread (i.e. food), and after that a good teacher and enough time in getting knowledge and learning profession. This tells us that the highly effectiveness of education firstly depends on

the student, that is on the serious will and the preciseness of the student, and it is worth stating that the conclusions about the importance of the motives of a student was taken into consideration many centuries ago. Burhaniddin az-Zarnujiy proposes connecting education to life, consciousness, revising the learned things, continuity and systematization. The idea of a thinker that the time is necessary in obtaining all kinds of knowledge is really precious, as we know currently time is not enough to possess deeply all kinds of knowledge.

Also, Alisher Navoiy, Husain Voiz Kashifiy and other great thinkers paid a great attention on the tasks the pupil (student), apprentice should accomplish in solving the problems regarding the education. This requirement is considered as the newly discovered area in the latest pedagogical technologies. We can take the contemporary pedagogical technologies which are based on creating the concrete algorithms of the academic activity that is required from the pupils as a proof of this. Examples of them can be the public system of education, the democratic system of educating according to abilities and others. One of the ancient educational technologies: the education system used by muezzins, which paid the main attention on the activity of the knowledge seeker is also another example of this. One should point out that the tendency which took into consideration that apprentices should teach the knowledge they have learned to the others was followed. The students were tested strictly to find out about the seriousness of their intentions towards studying, their tolerance towards the difficulties of getting knowledge and the level of their preparedness to overcoming these difficulties were tested severely and in an unexpected way. The qualities of pupils such as intelligence, being fast at answering questions and beautiful speech were taught through using the way of Sukrot in schools and madrasahs. The question and answer method of Sukrot is still used as one of the most effective education methods. Thus the pupil was taught to think deeply logically, fluently, critically and creatively, and to be smart, to speak clearly and correctly. For instance, as for the conversations in the way of Sukrot, the methods such as teacher's leading the student to thinking independently and actively, realizing the mistakes in his thinking intelligently and the way of correcting his mistakes are meant. We can simplify such conversational steps in the following way:

1. Identifying the level of the pupil's knowledge and his thinking ability generally through questions and answers.
2. Adapting the meaning of the learned theme to the pupils' motives. This is carried out through choosing the examples which are suitable for the interests and abilities of the pupils.
3. Leading the pupil towards an active communication. In this method, mainly, encouraging ways are used.
4. Teacher behaves himself like a pupil, as if he doesn't know and keeps asking questions.
5. Urging a pupil to think and speak more freely and deeply through encouraging his different ideas.
6. Identifying wrong ideas of a pupil.
7. Through explaining or expressing right ideas about the wrong ideas of a pupil with exact logically based examples a problematic situation is created for a pupil and the pupil is instructed to correct his own mistakes. It can be seen that, it is without doubt to get a result from this method, but it has some serious requirements. This requires the teacher to be widely knowledgeable and possess creative thinking, highest degree of communicational and pedagogical skills.

Various educational technologies were used in Tibetan Lamaism centers which were specialized in teaching different fields of knowledge. There teaching medicine, religion, and other fields were carried out in temples which were specialized for different fields. In this method certain textbooks were memorized completely by the student by revising continuously, the controlling was carried out strictly and the final exams were held strictly by separating the students for a couple of days and making them write their obtained knowledge by heart.

Necessary practical activities were conducted in a way that is really close to real life. While accepting students to such schools, their psychological, physical tolerance, and the level of their willpower were checked strictly. They achieved their students' obtaining the knowledge up to the intended degree.

Physical punishment measures were used. As another example, we can recall the pedagogical technology's elements in the history of educating people in Uzbekistan. From the ancient times different ways of educational technologies of teaching the pupils were available in Uzbekistan and they were used widely. We can take these ways as one the integral parts of the educational technologies as giving knowledge is the beginning of any education and this process consists of peculiar technologies.

Abu Ali Ibn Sina (in the west known as Avicenna), the great scientist of encyclopedias, identified the meaning of ideological growth of abstract things as "seeing the real things ideologically", while he was researching the importance of a person and the power of importance. Therefore, a person needs knowledge to aim the right way in life, explain the events and foresee them, planning the activity and carrying it out, and working out other sciences. Knowledge is a very important means of changing the reality. It consists of a rapidly developing system, and its growth is faster than any system according to its increase. The use of knowledge in the transformative practice of people requires that there must be a special set of rules that indicate what, when, and by what means these goals are required. In other words, knowledge is included in the system of activities and acts as a special form, on the basis of which activities are described.

Abu Ali Ibn Sina defined the following principles of education:

a) The child should not be tied to a book at once;

b) Exercise with the child should be normalized, empowering, teamwork, should be accompanied by exercise, taking into account the child's wishes and abilities;

c) Education should be directed from easy to hard;

d) The principle of representation takes into account the child's particular characteristics.

In his philosophical views, the famous mathematical philosopher Abu Nasr Farabiy points out some important functions of pedagogy as a science. "This is the principle of art of parenting, "he said, "and the following must not go out of the way of those who plan for education: that the children should not be brought up not only for the present, but also for the future; it is necessary, that is they must be taught for the human ideology and his general duties.

The great mathematician and astronomer Mirzo Ulugbek often told his students, "If you want to understand the reality on Earth, you had better be able to plan the future." Abu Rayhon al-Beruniy, a great thinker who wrote many works on astronomy, mathematics, physics, medicine, geography, history and linguistics, remarked: "A smart person will contribute for the future generation, he will be spiritually satisfied when he can observe everybody and everything with wit and intelligence"

Tashmuhammad Kori-Niyaziy, Abdulla Avloniy, Munavvar Kori Abdurashidkhanov made a great contribution to the development of active social pedagogical thinking in our country. In their works the problem of the idea of creating the image of the future person occupies a special place, in the way of achieving this special system of upbringing was to be built. The famous Uzbek educator Abdulla Avloni focused on the analysis of pedagogy's functions many times in his writings and its role in the quality of educational work as a science of education. According to Abdulla Avloniy, "upbringing is the supreme art, and art seeks a direction that does not exist yet, it represents the future aim and ideological image of the creativity. Examples from the rich creative legacy left by the thinkers indicate that pedagogical planning (designing) has been in the center of discussions since ancient times. These ideas will undoubtedly, serve as a starting point for a much deeper analysis of the pedagogical planning tasks, which are

currently available in the work of modern educators. Umar Khayyam paid great attention to deep learning, independent learning, independent intellectual activity, practice of studying realities, and repetition of processes. Alisher Navoiy pays special attention to the peculiarities of the child, the development of cognitive development, the clear presentation of the material, the complete growth of the person. In short, he urged to rely on:

The scientificness of education;

Sensitivity of the education;

As a reflection of life;

Systemization, sequence, instructions in education (use of all senses to fully absorb the studied subject and reality);

Firmness of education;

- To know the age and peculiar and individual features and opportunities of students;

A conscious approach to the acquisition of knowledge by students;

During the formation of new schools in Turkistan, educated scholars Isakhan Ibrat, Sairasul Aziziy, Mahmudkhodja Behbudiy, Abubakir Shakuriy, Abdulla Avloniy, Sadriddin Ayniy, Ismatulla Rahmatullaev, Abdurauf Fitrat contributed to the development of pedagogy in the country. At the beginning of the century, new methods of teaching, such as native language, computing, geography, Russian language, and religious education were taught at the new method schools opened by local intellectuals. The contribution of Munavvarqori Abdurashidkhanov, Murodkhuja Salihov, Sodik Abdusattorov and others to the national school was of great importance.

It is worth noting that at this time, many new method schools were formed on the basis of national pedagogy. Leading intellectuals based on folk pedagogics proposed the idea of creating new methodology jadid schools in accordance with national traditions and customs. At the same time, they noted that these schools should be distinguished from Russian-system schools. They explained that the students' thinking should be carried out in their native language, and secular subjects should be taught, along with religious beliefs.

At the beginning of the 20th century, Abdulla Avloni did not merely say that "Upbringing is a either a matter of life or death, salvation or disaster, happiness or catastrophe", because the role of upbringing in society, its importance in the past and present is big. Education is an important element of the upbringing process, which is the process of forming students' knowledge.

After our Republic gained independence, there was a growing interest in our cultural heritage, which was long neglected in the history of Uzbek pedagogy. The progressive ideas in it were introduced into the educational process.

"The National Program for Personnel Training", adopted by our government, is designed to accelerate students' learning by using the new pedagogical and information technologies, the modular system of training;

According to the Presidential Decree on Providing the Humanitarian Direction of Education on the basis of the rich spiritual and intellectual heritage of the people and universal values, and radical improvement of the highly-qualified training system and development of scientific capacity at the National University of Uzbekistan in 2019-2023; one of the key components of improving the efficiency of using modern pedagogical technologies and methods of education has been approved.

The implementation of these tasks will be assigned to professor-teachers of the faculty of further education, such as the Faculty of Biology, Soil Sciences.

In this direction, new modern teaching methods and tools are being introduced and effectively used in the educational process.

The effectiveness of using interactive methods, innovative technologies, pedagogical and information technologies is increasing in the learning process.

In this process, teachers create conditions for the development, formation, learning and upbringing of an individual and at the same time serve as a guiding, directive. Knowledge, experience and interactive methods of teaching technology and pedagogical skills enable students to be knowledgeable. Innovative technology is a pedagogical process, as well as innovations and making changes into the teaching and student activities, in carrying it

out basically, interactive methods are completely used.

Pedagogical technology is a focused, pre-designed and guaranteed pedagogical process that is a tailored to the needs of the student. These technologies are aimed at enhancing learning, motivating the learning process, improving the understanding of the learning material, self-awareness, and other tasks.

The curriculum of the Soil Studies Department includes lectures, seminars, practical and laboratory classes, coursework and independent work. About 35-45% of the volume of lectures are used and successfully applied with the use of new pedagogical technologies. Depending on the complexity of the subjects in each course, pedagogical technologies are chosen. The bulk of the subject is a lecture session. When conducting lectures by professors and teachers, special attention is paid to the following: Any high-level report, even if it is full of facts, will cause the reader to lose hearing and exhaustion if it goes on for too long. The longer the lecture, the lower the effectiveness becomes. Therefore, dividing the lecture into several parts is a great convenience for students. Each part lasts for 15 to 20 minutes, and after each section, there is a short question-answer and discussion about the topic. There will be some problems for discussion during the lecture. For example, giving direct and indirect effects of soil forming factors. Students voluntarily focus on this problem, make their own points and their ideas are listened. However, the students' ideas are taken into account without being criticized. This will change the attitude about the lecture to the positive side and they will look for a solution from the lecture.Students' individual interviews last up to 5 minutes. Throughout the lecture, the topic is slowly begun with examples of the student's daily activities, and through short discussions, appropriate solutions will be found, and the lecture will be listened again with interest. Such lectures enhance the engagement of both sides and encourage further discussion. In these lessons, visual aids include all the visual aids for the students in the pedagogical technology and include class board writing and other images, books and illustrations, handout materials, posters, photographs, photographic works, videos, films, animals, plants, objects of nature, various objects and so on. The use of visual aids in pedagogical technology allows students to quickly, accurately understand the content of the information and it is taught in various forms and methods.

It is easy for students to learn through presentations on each topic. One of the lessons on "Soil Science" is the use of OREG(Opinion, Reason, Example, Generalisation), technology on the topic "Factors affecting soil formation:"

To give opinion;

Reason;

Example;

Generalizing ideas;

This technology can be used to solve controversies, debates, or at the end of a training workshop, as it teaches students to defend their own ideas, to think freely and pass on their ideas, to analyze the students' learning skills and teaches the students the culture of debates.

The purpose of this technology is that the students should be able to express their thoughts clearly and concisely on a piece of paper.

The technology of conducting.

1 –Step: Since the topic contains a wide range of information and facts, the groups can choose the sections of each topic as they are small.

1st group - role of living organisms in soil formation. There are several types of organisms that influence soil formation in this topic. First and foremost, each student is given the opportunity to choose the one he likes from the problematic questions. For example, a question for a student from the group: What is the role of microorganisms in soil formation?

According to OREG, the student prepares the answers as follows:

The opinion is that microorganisms play a leading role in soil formation.

The reason is that the decayed sedimentary rocks may continue to decay only by the influence of micro-organisms secreted by them. Certainly, this is an idea that causes controversy.

Example- because of the biological suction, nitrifiers were the primary ones, because at that time the sun could not reach the globe because it was still surrounded by water vapor and other gases. Therefore, organic matter was not formed by photosynthesis, but by chemosynthesis.

Generalization - The presented points are summarized. The first step takes place only in small groups.

Application of Pedagogical Technology in Soil Studies Lesson.

Step 2: Problems given to the group are recorded on the paper by the leader of the group.

The responses of the other members of the group will be formulated as OREG and the answer to the problem of "The role of living organisms in soil formation" is formed.

Stage 3: At this stage, each group will review their assignments step by step and get ready to defend the course.

For example, the question of the second group is the role of relief in soil formation, the question of group 3, the role of climate etc.

Stage 4: Each group defends their assignment before the students, teachers, and experts. The examples and arguments they defend provide their group's answers with the facts.

The main purpose of this interactive method is to give students the ability to make correct decisions about the problem, to take into account the opinion of others and to work in a team. The main thing is that you can quickly absorb a lot of material and information on the subject.

Other topics in Soil Science include: graphic organizers such as “Fish skeleton”, “BBB”, “Conceptual table”, “Venn diagram”, “Insert”, “Cluster”, “Why?”, “How?”, and interactive methods such as “Brainstorming”, “See saw” which are controversial methods are widely used.

The second year students of the department are taught the following subjects by highly qualified professors and teachers, such as “Plant Science”, “Agrochemistry”, “Soil Biology”, and “Microbiolgy”.

Lectures on “Soil Physics” include physical laws, as it is partly made up of Soil Science and melioration; it requires the choice of pedagogical technologies according to topics. For instance, we can mention the following pedagogical technologies “Boomerang”for the theme “General physical peculiarities of soil”, “Brainstorming” for the theme “Soil Structure”, and “Zincvein” for the theme “Forms of water in soil”,and “Briefing” method for the theme of “Drought and its causes”. In these lessons the following tasks are carried out while working with multimedia tools and information technologies:

Preparing texts of lectures and practical assignments;

Making up control work questions;

Making up a technological map;

Analyzing the results of a knowledge control;

Editing texts of lectures;

Imagining animations of processes which reflect dynamically in each theme;

It is necessary to follow the abovementioned requirements and others, such as organizing consultations on theoretical and practical questions for students on independent work.

In accordance with these requirements, the organization of the teaching process on the basis of multimedia tools of information technologies will facilitate the work of teachers and will help to manage the learning process and increase its effectiveness.

We will take a look at the currently used draft curriculum on the topic “Water regime of soils in Uzbekistan” and “Causes of drought and its

elimination measures. As the topic consists of a factual material, it is advisable to take the methods of a didactic game technology such as “Press Conference” or “Briefing”. “Briefing” is taken fro English and means short or brief, a press conference on the discussion of an issue or a question.

Conducting stages:

1. Presentation part.
2. Discussion process (based on questions and answers). Briefings can be used to analyze the results of the training.

Also, as a form of practical games, it is possible to organize briefings with participants to discuss actual topics or issues. The press conference classes are held with all students in the classroom. Some of the students act as the experts in the field, most of them act as newspaper, magazine or TV reporters. The topic of the conferernce and the responsibilities of the participants are announced at least one week in advance. The teacher begins to discuss the scholars’ questions and answers with the students at the conference. The questions and their answers should be short and clear.Increasing students' awareness and ecological awareness by introducing students to the types of water regimes, their dependence on natural factors and the agrotechnical activities in the water areas.

The educational purpose of the lesson: To familiarize students with the concept of water regime, its dependence on natural factors and agrotechnical activities on the water regime regions and provide information on drought conditions.

The behavioral purpose of the lesson: Increasing students' awareness and ecological awareness by introducing students to the types of water regimes, their dependence on natural factors and the agrotechnical activities in the water areas.

The developing purpose of the course: to provide students with the connection of environmental factors with water, the essence of the motto "no water - no life", to avoid water wastage and scientific approach to this issue, to develop the skills of logical thinking.

Classroom equipments: Drawings and diagrams showing the water regime, water problems, droughts and the Aral Sea.

The process of the lesson:

1. Organizational part.
2. To acquaint students with the theme, purpose and course of the lesson. One week before the lesson, students are grouped into 4 groups who are given the status of "influential" or "scholars" in agriculture, water management, and soil science. (e.g. Minister of Water and Agriculture, Chairman of the Committee for Environmental Protection ...).
3. The group of students chooses the subject at their own discretion:

Group 1 - “Mountain and mountain zone water regimes”.

Group 2 - “Water regime of typical virgin soils”.

Group 3 - “Water regime of light gray and desert soils”.

Group 4 - “Irrigation type of soil water regime and occurrence of drought”.

Students who have their own roles in each area

Application of technology Pedagogical Technology "Press Conference" in Soil Physics Lessons

will make presentations on their topic. Until each group completes its presentation, the students remain in the status of temporary media representatives and ask their questions: From the Voice of Uzbekistan newspaper (Student’s name and surname), my question is to the Chairman of the Committee for Nature Protection – What measures are being taken to improve the typical virgin land soil?

From Environmental Bulletin Journal” (Student’s name and surname), my question is to the Minister of Agriculture and Water Resources - What negative changes are being caused by water erosion on irrigated soils?

At the same time, each group can comment on the general problem. It is also intended that students, as foreign journalists, can ask questions in Russian or English.

In this way, each group should be able to present their presentations on time, as well as answer questions.

In order not to have a disagreement among the groups, the number of questions will be limited, and another condition is that asked questions should not be repeated.

Students’ knowledge is assessed by giving general points to the group and each actively participated student is encouraged.

One of the experienced teachers of the department is invited to be an expert in order to make the assessment fair. Using this technology not only develops students' positive qualities such as self-reflection, teamwork, respect for one's own opinions, and self-expression, but also responsibility and the information given in the process is gathered and the students will memorize them. The teacher is passive throughout the classes and closely monitors the activities of students and tries to direct the course of the lesson.

The use of interactive teaching methods from the history of soil physics to students as an example of national values has been giving good results in teaching soil physics. Below we will speak about the interactive method of national values and their didactic opportunities to the children.

1. The concept method teaches students to use basic concepts and to express their thoughts. It is appropriate to use the views of the thinker Mahmud Kashgariy in introducing students to the types and properties of soils.

It should be noted that the great scientist in his work "Devoni Lugatit Turk"(in English “The Dictionary Book of Turkish”) divided the soil into different groups according to their appearance and properties. In this case the usage of “Concept”method by the teacher helps the students to grasp the topic effectively on soil which is classified by themselves.It is advisable that the teacher should draw the students’ attention to the following table.

Table 1. Coverage of soil types and properties based on the "concept" method

Soil Types	Their properties
Clay soils	Extremely fertile soil
Earthen soil	Fertile clean soil
Bald soil	Infertile, low growth plants)
Salt soils	Saline, non-vegetated black soil (black saline soil)
Flood plain soil	Very soft, flat, sandy soil (present tugai soil)
Wet soil	Wet soil with uneven surface

2. The "Gallery" method examines individual materials on a new topic in small groups of students and presents the contents of the

educational information in drawings, pictures, images, schemes, tables and diagrams.

At the end of the study process, the students will return to their previous groups and present the contents of the study material on the table prepared by their teammates.

The use of the mosaic method is most effective in providing students with the basics of Avesto ideas. Avesto, a holy book of Zoroastrianism, provides the foundations for environmental ideas of Central Asian nations (water sanctity, air purity - an important factor in agriculture, as well as the divine system of increasing and protection of crop lands). The students of this academic group are divided into three groups when applying this method.

The groups are given a text from Avesto. Assignment: A table reflection of Avesto ideas. Time is separated to do the assignment.

Table 2. Illustration of the knowledge of soil physics in Avesto.

Activity (content of action)	Its result
When somebody sows wheat	He sows the truth seeds
When the seeds are sown in furrows	The Demons move from their places
When the wheat grows	The Demons start to tremble in horror
When the wheat gives flour	The Demons will moan
If the wheat is harvested to the threshing floor	The Demons will die
Whenever wheat springs in a house,	The Demons cannot approach that house
Whene a household has a warehouse of wheat	Heated iron will wrap their necks

The Application of Pedagogical Technology “Brainstorming”

In a 10-minute essay on "Soil Chemistry" on the “Dependence of Soil Chemical Properties on the Properties of Soil”, the student approaches this issue from an individual point of view. The essay can range from 500 to 1000 words.

In this creative work the student can explain one of the properties of soil that is known to him, such as soaking, by the composition of clay minerals.

The strategy of "brainstorming" is used on the theme of «The formation and disturbance of soil structure." This pedagogical technology encourages students to develop the ability to think clearly and comprehensively on the topic, to apply the best ideas and fantasies.

With the help of this practice, it will be possible to find some original solutions to the optional problems. The strategy provides the opportunity to identify certain points of view on the topic and to explore alternative ideas.

The following rules should be followed in order to apply it successfully:

- Creation of conditions for students' self-esteem and papers for writing ideas are prepared;
-The first thing we do is pay attention to the room where the lessons are being held. Because pictures, banners and tables related to this topic should be prepared.
-The terms and conditions applicable to the training process are established; because the students have to prepare for this lesson in advance, everyone is required to have their own group badges.
- The authors of the proposed ideas are recorded and the paper is filled with ideas and hung on a board;
-Ridicule and criticism of ideas expressed by others is not allowed;
-Creation of favorable environment for students' independent thinking and self-expression;
- Attention is drawn to the diversity and abundance of ideas (any ideas being evaluated).

Assessment of students is determined in the prescribed manner, depending on their activity. Evaluation can be done by a guest teacher or a graduate student.

The quality and effectiveness of the pedagogical technology that is being presented at present is largely dependent on the quality and efficiency of all the necessary tools. The proper and effective use of these tools depends on the teacher's qualifications, skills, creativity and dedication.

In conclusion, in order to enhance the effectiveness of the soil science education process, to form a solid theoretical knowledge, activity, skills and abilities of students, and to ensure their transformation into professional skills, the use of new pedagogical technology is a requirement of time and social necessity.

The training is being carried out with a sense of responsibility for the qualitative transformation of the overall content of the process, aimed at the introduction of new pedagogical technologies into the educational process.

The educational process, which is based on the use of new pedagogical technology theory, helps our students to achieve high level of quality in the upbringing of a fully developed personality and qualified specialist.

As American naturalist and pedagogue David Star Jordan mentioned, " The world opens its ways to the one who knows his own way." We consider that we must help the youth to find this way.

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