



ACTUAL PROBLEMS OF MODERN SCIENCE, EDUCATION AND TRAINING

KHOREZMSCIENCE.UZ





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**MODERN PROBLEMS OF PEDOGOGY AND PSHYCHOLOGY**

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METHODS OF USING ROBOTIC ELEMENTS IN PHYSICS LESSONS

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Annotasiya. Mazkur maqolada o'quvchilarning texnik ijodkorlik qobiliyatlari, ta'lim olish bo'lgan motivasiyasini oshirishda robototexnika o'quv materiallari va vositalaridan foydalanish imkoniyatlari yoritib berilgan. Shuningdek, VIII sinf fizika fanidagi "Tok manbalari" mavzusidagi dasrlikda berilgan o'quv materiallariga mos robototexnikaga doir o'quv materiallari va vositalaridan foydalanish metodikasiga doir ma'lumotlar yoritilgan.

Kalit so'zlar: o'quv dasturi, elektron didaktik vosita, elektron darslik, simulyatorlar, virtual laboratoriya stendi, elektron konstruktor.

Аннотация. В статье освещены возможности использования учебных материалов и инструментов по робототехнике для повышения навыков технического творчества студентов, мотивации к обучению. Также дается информация о методике использования учебных материалов и средств робототехники в соответствии с учебными материалами, приведенными в учебнике по теме «Виноградные источники» по физике VIII класса.

Ключевые слова: программные средства обучения, электронный дидактический инструмент, электронный учебник, тренажеры, виртуальный лабораторный стенд, электронный конструктор.

Annotation. In this article, the possibilities of using robotics training materials and tools to increase students technical creativity skills, motivation for learning are highlighted. Also, information on the methodology of using educational materials and tools for robotics in accordance with the teaching materials given in the textbook on the theme "Vine sources" in physics of the VIII class is covered.

Key words: programmed teaching aids, electronic didactic tool, electronic textbook, training simulators, virtual laboratory stand, and electronic constructor.

Introduction. As a result of the students perform various tasks on robotics in their extracurricular and extracurricular activities, all cognitive processes are actively developed in them [5, p. 83]. Students imagination, outlook and speech are improved. Engaging in robotics has a special impact on the development of educational activity motivation. It is effect of the impact that students interest in robotics as a new direction of innovation in modern technology and technology development increases [6, p. 148], [10, p. 15].

General secondary schools VIII class in physics on the topic sources of electricity it is envisaged to give information about the source of electricity, galvanic elements, accumulators, electric chain. In the plan of this topic on electric chains, the following

information is described. Connection of the power supply, electric light bulb and switch with each other through conductors (wires) (Figure 1, a). The key will be needed to turn off the electric bulb and activate it. An electric bulb is a consumer. Radio, tape recorder, television, computer, refrigerator, iron, electric heater etc are also electric consumers [4, p. 28].

The power supply, conductor, power consumer and switch make up the simplest electric chain. In order for an electric current to form and pass through the chain, it must be closed. 2-a, the picture shows the connected state of the Switch in the electric chain, that is, the closed state of the chain.

As a rule, the electric chain is described in the style of the drawing. Drawings in which the connection methods of the element in the electric chain are described are called an electric scheme. 1.- open chain in Figure b and 2.- Figure b depicts the electrical circuits of the closed chain.

The connection of the power supply, switch, conductors in the electric chain, various electrical consumers and other elements are indicated by the corresponding conditional signs in the electrical circuits (Figure 3).

In general secondary schools, the use of instructional materials and tools related to robotics appropriate to the subject matter is possible.

Literature Review. In general secondary schools, extensive attention is paid to the use of robotic elements as a learning tool in teaching and learning of physics [7, p. 177]. One of the urgent tasks is to draw attention to the teaching methodology using the elements of robotics in physics lessons, to formulate information, communicative, educational and cognitive competences on the types of activities of students on the basis of modern forms and methods of teaching.

Currently, in the development of technical creativity skills of students in secondary schools of general education, the use of robotics tools in the teaching of Sciences, their directions methods and techniques, taking into account the peculiarities of robotic devices as a new object of the modern technological environment, is of great importance.

E.I. Written by Yurevich "Osnovi robototekhniki" is a training manual, in which information about the period of development is described so far, starting with the creation of "Mechanical Man", one of the important directions of Science and technology. Robotic devices and similar robotic devices, software of robots, intelligent robotic devices, research on the creation of robotic devices on the basis of modern design requirements, the use of robotic devices in different directions of human activity, the achievements of rapidly developing robotics, including micro-robotics, the

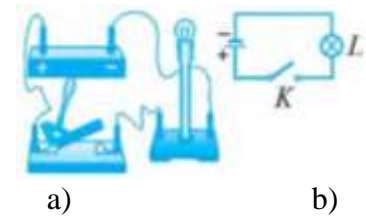


Figure 1: The switch key open

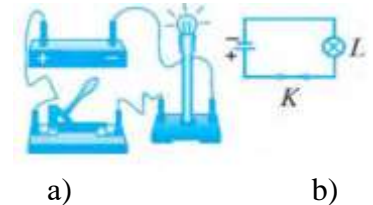


Figure 2: The switch key closed

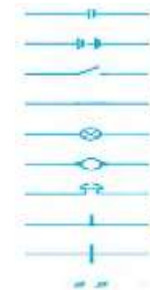


Figure 3: Electric chain consumers and other elements

creation of artificial intellect-based robots are considered from the sentence [3, p. 5]. While the materials described above give students the opportunity to get acquainted with the information on robotic devices, they do not give students the opportunity to fully demonstrate their ability to model and construct such devices in the development of their technical creativity skills.

S.Q.Kahhorov, M.R.Nazarov, H.O.Jo 'raev, A.S.The issue of automation of processes in the drying unit, which works on the account of renewable energy sources in the device of the kahhorovs "Combined solar dryer", has been studied. In the course of the research, a device with a reserve dryer was created. The processes going inside the device are controlled in automatic mode [8, p. 11], [9]. The information on the achievements of Science and technology used in this invention does not provide an opportunity for students to realize their technical creativity skills.

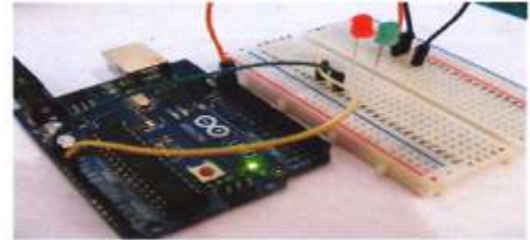


Figure 4: Plata make-up

Research Methodology. In Robotics, a special circuit board is used to connect the circuits. The Plat is used in combination with payvandling equipment in the performance of various design works. A special plate is made of plastic. A special groove is opened on the board, in which a large number of electronic components or jumpers are inserted into the legs, fasteners of various elements are held [1, b. 32], [2, p. 34]. The grooves are connected to each other by conductive materials passing through the bottom of the plate. In electronic networks, when connecting devices to the scheme, conductors of 5 V (+) Red and black (-) colors are used, so that students do not get distracted. The remaining conductors can be of any color (Figure 4). The groove allows you to connect two or more double-legged components, as well as prevent a short circuit or various defects that may occur in the chain parts. There are a number of holes marked blue and stripes on the top and bottom of the board, which are used to supply power to the components installed on the main part of the board. They are called voltage sources. Positive and negative sources are connected horizontally to the board. Red lines are positive, blue lines serve as a negative source. Connecting various components to the macetd is carried out with the help of wires. Connecting wires are insulated with a core, the ends have special connecting CIMS. It is convenient to connect and disconnect them on the board. When the connecting cable is inserted into the circuit board, the spring clamp catches it and ensures the implementation of the connection. To connect the scheme, the components can be inserted into the Joint into the groove, and the connection can be done (Figure 5).



Figure 5: Connecting the conductor to the board

Learning to connect a Light-emitting diode lights on the Arduino board. To connect the scheme, we will need the following equipment (Figure 6):

Necessary components: Arduino board, breadboard, Light-emitting diode, resistor 10 kOm, connecting cables

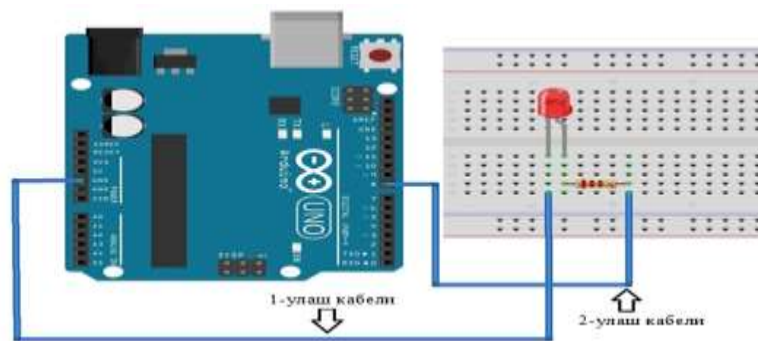


Figure 6: connecting a flashing LED on the Arduino board

Such a compact, simple scheme that students can independently assemble on the basis of the relevant instructions of the teacher. It consists of simple elements, is the initial stage of learning how to connect a chain.

The process of operation of the device:

When the key is connected, the chain connects to the network. Such keys are also called Open, usually the picture shows a scheme of Open Keys (Figure 7).

The assembly of the scheme is carried out in the following order.

1. Install the switch on the layout board as shown in the picture. Resistor with the switch 10 kOm and connect the Arduino board together.

2. The Switch a connects the legs to the 10-pin of the Arduino circuit board with the corresponding legs of the resistor, the resistance of which is 2 kOm. The other leg of the resistor is connected to the ground contact of the circuit board, while the ground contact is connected to the GND contact of the Arduino circuit board. And the B foot of the Switch is connected to the source of the Arduino board, which is +5 V (7-figure).

3. Install the svetodioid to the plat make-up, the long leg of the anode is connected to the Arduino plat 13-pin resistor with resistance 220 om, and the hip leg to the ground coupling (GND) part of the plat. With the formation of skills to connect different schemes in the students, they will be able to learn how to connect chain schemes that look more complicated to them, or learn how to connect various additional devices.

Conclusion. During the lesson, they acquire the necessary knowledge in understanding the principles of the operation of various simple-looking devices, as well as in the independent design and construction of chains by students. The use of elements of robotics in the course of the lesson contributes to the improvement of students ' perception, imagination, thinking, memory and speech, as well as the development of educational activity motivation.

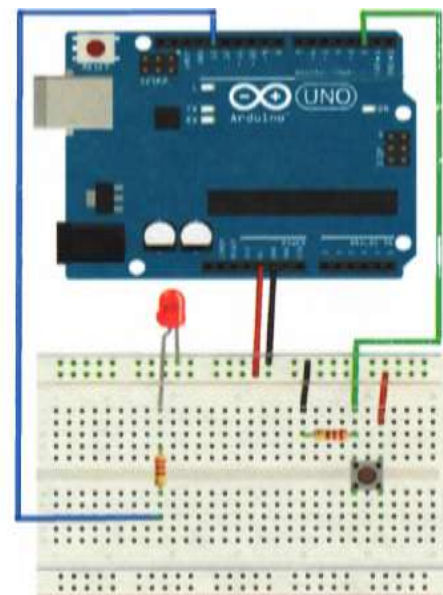


Figure 7: Connecting scheme of controlled switchgear with switch



The use of the elements of robotics in the development of technical creativity skills of students serves to improve the competence of modern tools used in everyday life and their structure, the process of performance.

As a result of the use of the elements of robotics, students will acquire modern Polytechnic knowledge and skills, strengthen and deepen their knowledge in Physical Science, ensure the formation of knowledge and practical skills.

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EMERGENCE OF DEPRESSION IN ADOLESCENTS.

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Annotasiya: Fan – texnika taraqqiyoti rivojlangan hozirgi kunda depressiya, tajovuzkorlik, xavotirlanish kabi ruhiy kechinmalarning ko‘payib borayotgani oddiy holga aylanib qolmoqda. Har bir kishi muayyan salbiy kechinmalardan himoyalaniшни yaxshi bilishi lozim. Inson o‘z hayoti davomida shunday vaziyatlarga duch kelishi mumkin-ki, bu kechinmalar odatiy hayotni barbod qilayotgandek tuyuladi. Bunday holatlarni boshdan kechirish ko‘pincha atrof olamni va shu olamda o‘z o‘rnini idrok etishni susaytiradi. Maqolada o‘smirlik davrida kuzatiladigan depressiv holatlar, uning shaxs ijtimoiylashuviga va tevarak-atrofdagi olamga ob'ektiv munosabatda bo‘lishiga ta'siri haqidagi ma'lumotlar keltirilgan.

Kalit so‘zlar: stress, psixika, emosiya, kayfiyat, fobiya, ijtimoiylashuv, ipoxondriya, frustratsiya.

Annotation: In today's world of science and technology, it is becoming commonplace to experience an increase in mental experiences such as depression, aggression, and anxiety. Everyone should know how to protect themselves from certain negative experiences. A person may encounter situations throughout his or her life that seem to disrupt normal life. Experiencing such situations often weakens the perception of the world around us and our place in that world. The article provides information about the depressive states observed during adolescence, its impact on the socialization of the individual and his objective attitude to the world around him.

Keywords: stress, psyche, emotion, mood, phobia, socialization, hypochondria, frustration.

Аннотация: С развитием науки и технологий становится обычным явлением испытывать увеличение умственных переживаний, таких как депрессия, агрессия и беспокойство. Каждый должен знать, как защитить себя от определенного негативного опыта. На протяжении всей своей жизни человек может сталкиваться с ситуациями, которые, кажется, нарушают нормальную жизнь. Такие ситуации часто ослабляют восприятие мира вокруг нас и нашего места в этом мире. В статье представлена информация о депрессивных состояниях, наблюдаемых в подростковом возрасте, их влиянии на социализацию личности и его объективном отношении к окружающему миру.

Ключевые слова: стресс, психика, эмоция, настроение, фобия, социализация, ипохондрия, фрустрация.

Introduction. The success of socio-economic reforms in our independent republic is closely linked with the formation of young people as harmoniously developed individuals, and the creation of all necessary conditions for this is an

important direction of state policy. In the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021, "Education of physically healthy, mentally and intellectually developed, independent-minded, loyal to the Fatherland, strong outlook on life", "Support and realization of creative and intellectual potential This is evidenced by the fact that such important tasks as "the formation of a healthy lifestyle among children and youth"

Factors influencing the implementation of business objectives have both positive and negative qualities. Among the factors that hinder, a person's emotional tension has a special place. Problems related to a person's emotional states and their role in various activities and relationships have been studied in depth in the science of psychology.

The American psychologist-scientist R. Lazarus, who studied the problem of emotional states, proposes to distinguish between the concepts of physiological and psychological stress in order to fully understand the essence of the concepts of emotional tension and stress. According to him, these cases differ from each other depending on the nature of the stimulus, the mechanism of occurrence and the type of response.

Emotional tensions in the learning process can manifest with varying degrees, strength, and quality. These include stress, frustration, anxiety, aggression, depression, and more. Depression is an emotional state in which a person experiences from negative emotions such as depression, low self-esteem, and at the same time can negatively affect the progress of the person. During depression, a person's self-confidence decreases, which in turn can have a negative effect on his ability to set big goals and enter into interpersonal relationships. This can be even more dangerous, especially during adolescence, and its personality formation can play an important role in the composition of individual characteristics.

The aim of the study was to determine the factors that cause depressive states in adolescents and their impact on the formation of adolescent personality.

Literature Review. Today's teenagers have some physical, mental, and political advantages over their predecessors. In them, the process of sexual maturation, socialization, mental growth is manifested earlier. That is why in our country boys and girls are considered to be teenagers from 10-11 to 14-15 years old.

In the emotional life of a teenager, a new stage begins in the emotional life of small school students. The adolescent's emotional state changes. This applies to general emotional tone as well as changes in mood and morals. New social connections, social life events, and new attitudes toward other people's behavior emerge. It is on the basis of this relationship that a new kind of experience emerges, in which the child develops an emotional relationship to things that were previously unimportant to him.

Such relationships include, first and foremost, the adolescent's relationship with adults and the experiences associated with them, as well as the experiences associated with their peers. In short, in adolescence there are feelings of a social nature, the child wants to do good to people.

As noted above, adolescence is characterized by a sense of self-growth, a sense of independence, a sense of independence that requires a real change in the objective attitude to the world around us.



The teenager wants to be given the opportunity to think freely, to be taken seriously. Such desires of the teenager are often ignored. As a result, the adolescent develops feelings of resentment and anger towards the world around him, especially his loved ones. "I'm stubborn, I don't agree with anyone's opinion, and even though I know I'm wrong, I do what I know," the teenager says to himself. "Sometimes you want to go to the movies, but the family won't let you, you ask all day, you beg - it's useless, you frown, you don't talk to anyone," complains another teenager.

Relationships with adults create dreams, desires, and other different thoughts about how a child will behave in order to "take pain from adults" as he or she grows up. Many teenagers dream of doing great things, showing heroism, being like the best people, enjoying the good deeds of adults. (A 7th grader says, "I wanted to be as strong-willed as Muhammaddockir Abdullaev, and I wanted to be like the writer Abdulla Qodiriy.")

In addition to enjoying the ideal images of adults, the disrespectful attitude of adults towards adolescents can create feelings in adolescents such as anger and resentment towards adults for not understanding their inner world.

Experiences related to community life are starting to play a big role in a teenager's experiences. The team is also needed because the teenager is able to satisfy the desire to interact with their peers in the team, experience common emotional states with the team that result from general excitement, a particular experience, initiative, or thoughtful action.

Both happiness and unhappiness are in the hands of man. Happiness is created by everyone with their own hands. We are limited to judging it as good or bad. I.P.Pavlov admits in this way about many life situations that cause discomfort in the cortical part of the cerebral hemispheres. "In general, life is unpleasant and full of difficulties," he said. These difficulties have a strong effect on the nervous system, indicating its existence. Life can always be very difficult, difficult situations cause unexpected upheavals and depression. "Difficulties in life can be divided into two categories. The first group is the challenges that can be overcome, it takes a lot of effort to overcome them. The second type of difficulty is not overcome at all (for example, cancer has not been cured, but some people believe that it will be cured in the future).

Depression is the most common emotional condition in our lives.

Depression is derived from the Latin word "depressio", which means defeat, depression. Depression is a mental disorder characterized by a depressed mood, inability to feel joy, and a slowing down of thoughts and actions in the human mind, behavior, or behavior.

In a state of depression, initially, heavy experiences are experienced with feelings of anxiety, frustration, sadness, despair. A person's enthusiasm and general activity for daily activities - study, work, work - suddenly decreases. There is a loss of interest in life and activity. Feelings of guilt, helplessness, and despair in the face of life's challenges are heightened. A person in a state of depression has a low self-esteem, a misunderstanding of time, and time seems to pass very hard and slowly for him.

Depression leads to lack of enthusiasm for activities, rapid fatigue, lethargy. Sometimes a state of prolonged and severe depression can even lead a person to the level of suicide.



Depression can be described as a disease accompanied by mental and physical changes. Because it leads to depression, sadness, despair, severe depression, desire for self-death, slowing of mental processes, loss of desire to think, a sharp decrease in the effectiveness of thoughts, inability to acquire mental knowledge, insecurity, guilt. Depression is also reflected in physical changes. Decreased physical activity, rapid fatigue, lethargy, loss of appetite, constipation, insomnia, in some cases, on the contrary, a lot of sleep and eating, in some cases, "freezing" for hours.

One of the most worrying symptoms of depression is a disorder of comprehension and thinking. Sometimes this condition can be considered mentally weak.

According to statistics, people over the age of 40 are more prone to depression. Two-thirds of them are women. Among people over the age of 65, depression is three times more common.

Causes of depression include:

- Fear, panic, sadness, grief;
- Depression, dissatisfaction;
- Conditions that cause long-term mental pain;
- Frequent mood swings;
- Dependence on others;
- Low self-esteem and self-blame;
- Personal loss - betrayal of a lover, death of a spouse, divorce, loss of parents, children and loved ones;
- Failure, failure, dismissal;
- Criticism and insults;
- Sometimes after an infectious disease, take a lot of certain medications, especially central nervous system sedatives, without a doctor's supervision. [6.29].

Depression is such a common emotionally painful experience that it is accompanied by feelings such as despair, insecurity, guilt, decreased interest in outside activities. These manifestations of depression are accompanied by decreased mental and motor activity, lethargy, rapid fatigue, loss of appetite, mood swings, insomnia (especially in the morning). In some types of depression, insomnia and loss of appetite are replaced by drowsiness and overeating. These physical manifestations are vegetative signs of depression and are the basis for the already existence of assumptions about its psychosomatic nature.

In a state of depression, he looks at his personal inner world with high attention and his interest in external environmental activities decreases. He thinks of the human personality as nonsense, ridicule (hypochondria). Often, depression is preceded by initial hypochondriac discomfort.

Depression is a sad mood, depression, or anxiety, sometimes a health-related, health disorder. In medical terms, the various symptoms of illness that accompany mood disorders are anxiety, a mental state that leads to feelings of inadequacy. In many cases, depression is manifested in complaints such as suicidal ideation, lag in psychomotor characteristics, various somatic symptoms, disorders of the physiological system (insomnia).



Depression is also seen as a syndrome and symptom of many diseases. Sometimes this concept is used vaguely as a symptom of a disease state syndrome. According to Wright and McDonald's observations, behaviorists have addressed the problem of depression, focusing on creating a module of depression. The development of the behavioral approach was driven by the experimental work of Seligman and his colleagues, who attempted to explain depression as an assimilated weakness, a hopelessness. According to Seligman, all the situations that cause depression have in common, that is, aspects that are important to the individual for himself are related to the perception of inability to control areas. Harmful events cause reactions in the individual to fear, panic, and adaptation.

As a result of repeated repetition, the organism assimilates it. The accumulation of negative experiences creates experiences of helplessness, weakness, and depression in the individual. As a result, depression limits fear and stops its manifestation on an individual basis. Fear and depression manifest as mutually contradictory processes. With the disappearance of the damaging effect, the fear disappears, but the depression persists. According to differential theories of emotions and some psychoanalytic views, depression is an interaction of different emotions (interactive), in particular, the interaction of "grief - fear".

According to Clerman, depression is not just a set of conditioned (maladaptive) reactions.

Depression in children performs the following functions:

1. Social treatment;
2. Psychological agitation;
3. Subjective responses;
4. Psychodynamic defense mechanism.

Through depression, the baby communicates to the adults around him that something is wrong with him. Clerman also tries to justify the "purposefulness" of depression. Thus, the emotions and tensions experienced in human activity are varied. However, their impact on performance is also unique.

Depression is a condition that always requires treatment. The peculiar nature of perception and the evaluation of things around it can cause great pain to a depressed person, when everything looks bad to the eye or a little talk can lead to conflict in it, loss of contact with close people, suicide. As the depression worsens, the patient is less likely to kill himself as his movements slow down, but suffers more severely during the contraction process. Because of the possibility of altruistic homicide in pre-existing psychosis and depression observed in schizophrenia, the patient is dangerous to relatives because he believes that not only himself but also his loved ones do not need to live.

After two major works by Abraham Maslow on the problem of depression, published in 1911 and 1916, Z. Freud published his work in 1917, entitled *Sorrow Meloncholy*. In this work, the essence of the basic concepts is clarified.

In 1924, Rado developed the problem of manic depressive disorders in his article. In the first, cited article, A. Maslow provided information about his fundamental discovery. He learned that the basis of the mental life of depressed clients is ambivalence, the effect of which is stronger than compulsive neurosis.



Depressed customers can't love. Even if they love, they hate at the same time. In them, love and hate are manifested together and with equal power. Abraham later identified the pregenital basis of ambivalence, and depressed clients are as ambivalent to others as they are to themselves. He pointed out that those who accuse themselves of sadism were the ones who first saw sadism outside.

Freud's work, "Sorrow and Melancholy," begins with an analysis of self-blame depression, arguing that depressed individuals behave as if they have lost their "I" after the loss of the object.

Freud described the pathognomonic projection. He showed how depressive states testify to the existence of a superego, and that after the projection comes the struggle of the superego with the ego instead of the struggle between the original ego and the ambivalent favorite object.

As a result of his work, A. Maslow proved that self-blame is not only the body of the internalization of the "ego" to the object, but also the effect of the internalization of the object in relation to the "ego". The book goes into great detail about the conditions under which depression develops in a new way (especially about early childhood depression). Freud gave a detailed account of his views in his book *Community Psychology and the Analysis of the Self*.

Depressive moods often develop in individuals who are at risk of life-altering or life-altering changes. The main psychodynamic factor in this is the conscious and unconscious perception of changes such as personal loss. Usually this loss is easy to identify. This could be the betrayal of a lover, the death of a spouse, a divorce, the loss of a job, and so on. But in other situations, it is necessary to determine its symbolic significance. For example: progress in service is experienced as a loss, not a success. Because it awakens a sense of guilt. Some people take a hard look at change. That is, in order to get used to the conditions, it is necessary to weaken the connection with the past.

A person may experience difficulties in maintaining their value after loss, especially if they are overly dependent on others. Individuals with such dependence are more prone to situational (situational) depression. They maintain a violent but conflicting internal relationship with the lost object psychic events. Love for an object leads to an identity that is aimed at keeping it within. And the feeling of hatred requires him to fail. Because a person is identified with a lost object, he or she experiences destructive attacks directed against him or her. If the depressive symptoms are less pronounced, then the depression is considered a neurosis. But the process of situational depression can lead to serious depression. Cyclothymic oscillations in mood swings from ascending to descending are similar to manic depressive oscillations. During depression, feelings of inadequacy and high levels of self-esteem decrease.

There are two types of depression:

1. Mental functional depression
2. Psychological depression

The concepts of mental depression and psychological depression are different. Depression is common in mental illness. This is definitely a set of severe psychiatric symptoms that require medical attention.



Psychological depression is a temporary condition. It is more variable than a state of mental depression. In the case of mental illness, depression is persistent and regular, making it difficult to cure. The mental state of depression is variable, the state of a person changes from one good to one bad for various reasons. The psychologist, on the other hand, can find these causes and exert his influence. Then the state of mental depression improves and disappears for a lifetime.

Psychological depression is a changing condition. Psychological depression is the effect of depression or dissatisfaction. Initially, this is the effect of man on the difficult conditions of life. This can lead to resentment or disappointment from others. If the state of mental depression lasts a long time, the human psyche becomes accustomed to this state and effects. The human psyche changes. He also falls into a state of mental depression for trivial reasons, and then the state of mental depression becomes like a conditioned reflex in every favorable situation and recurs frequently. The "favorable situation" is easily found by the human psyche for depression. In such cases, psychological services are necessary for a depressed client. Otherwise, depression can eventually lead to mental illness.

Mental depression is not a physical illness. In many cases, it initially occurs not because of internal causes of the disease, but because of external causes, for example: dissatisfaction with one's own life or those around and close ones. Later, the psyche of a person suffering from mental depression for these reasons will change. For example, there is a regular bad mood or its severe symptoms.

Mental depression is a form of swallowing into internal aggression (i.e., rebellion). Psychologists have found that people who are often depressed are always belligerent, quarrelsome, or aggressive in this situation. But it puts aggression into a person. Indeed, if a person is aggressive, or dissatisfied with his life and those around him, his loved ones, he will try to alleviate his depressed mood and improve his life. But social conditions (upbringing, customs, laws) cannot exclude this aggression, and man suppresses his own aggression (rebellion). But the power of this aggression is nowhere to be found. He suffers and is disappointed by the revolt within himself. Slowly a state of mental depression occurs.

Research Methodology: As defined in the research; during exams, the pulse in freshmen ranged from 79 to 98 beats per minute. Heart rate during the exam is different from normal. During the exams, the pulse reached 120-150 beats in 3.8% of students, and even tachycardia and bradycardia were observed in some students. Especially in students with a weak nervous system, the effects of the sympathetic and parasympathetic nervous systems are clearly observed and the stress is very severe. Studies have shown that the degree of depression depends not only on the strength of the factors that cause it, but also on the type of higher nervous activity of the person feeling it.

Subjective methods of assessing the level of depression include psychological (sheet and projective) tests, introspection, recording the control of their emotional state, and others. Depression can have serious and negative effects on a person's development if it is not detected and treated in time during adolescence.



Depression is a change in the adolescent's psyche that can lead to nervousness, fear, anxiety, depression, depression, low self-esteem, and, in the most severe cases, suicide.

As a result, it is important to identify changes in students during adolescence, to prevent depression and its consequences, to work with adolescents who are prone to depression, and to form a healthy, well-rounded person who understands himself.

The first phase of the study aims to diagnose the predisposition and manifestations of depression in adolescents, to study the relationship between emotional stress and depression in adolescents and their personality traits and self-esteem, to teach depression and ways to overcome it, to prevent depression. important goals were identified, such as finding ways to get. The examiners participating in the study were selected and explained to them in accordance with the guidelines.

The study scale of depression is adapted by TI Balashova and is conducted for 20-30 minutes. Students will be given the following instructions: Without thinking long and hard about the following 20 questions, they will choose one of the answers: "Never", "Rarely", "Sometimes", "Often", "Almost always".

In the second phase of the survey (data collection), the survey questionnaire and the text of the questionnaire were distributed to the subjects and the answers were collected. Students answered 20 questions.

The key to the methodology was used in the third phase, which consisted of analyzing the research results.

The degree of depression is determined using the following formula:

$$D.D = W_{\text{right}} + W_{\text{inverse}}$$

$$W_{\text{correct}} = 1,2,3,4,7,8,9,10,13,15,19$$

$$W_{\text{reverse}} = 2,5,6,11,12,14,16,17,18,20$$

The result - if less than 50 points - I- no depression:

50-59 points - II- mild depression

Up to 60-69 points - III sub depression, i.e. masked

Up to 70-80 points - IV- represents true depression.

Qualitative analysis of the obtained results shows that the average score of the group was 43.1 points. This suggests that almost all of those involved in the study did not have depression. 26.6% of the subjects had a mild degree of depression and 74.4% had no depression at all.

Conclusion. Based on the analysis of psychological and pedagogical literature, observations and interviews, qualitative analysis of the results of psychodiagnostics surveys, aimed at revealing the specificity of the state of depression, which manifests itself in human behavior and is typical of many, the following conclusions can be drawn:

- Depression can affect different aspects of the human psyche. This is manifested primarily in the general emotional sphere, that is, a person in this state of mind becomes sad, depressed, and pessimistic.
- Prolonged depression weakens a person's self-confidence compared to normal;
- Ignoring social norms and standards during depression. He may not even pay attention to his appearance.



Frequent or long-lasting depressive states can change a person's character and even create new negative character traits.

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METHODS OF ORGANIZATION AND EVALUATION OF LABORATORY WORK FROM SUBJECTS INCLUDING INFORMATICS

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Annotatsiya. Ushbu maqolada informatika turkumiga kiruvchi fanlardan laboratoriya ishlarini tashkil etish va baholash usullarini takomillashtirishga oid taklif va tavsiyalar berilga.

Kalit so'zlar: informatika, laboratoriya, mezon, tajriba, dasturiy vosita.

Аннотация. В данной статье рассматриваются рекомендации по проведению и оцениванию лабораторных работ по дисциплинам, относящимся к категориям информатики.

Ключевые слова: информатика, лаборатория, критерий, эксперимент, программный инструмент.

Annotation. This article offers suggestions and recommendations for improving the organization and evaluation of laboratory work in the field of computer science.

Keywords: computer science, laboratory, criteria, experiment, software.

Introduction. At the heart of the reforms in the higher education system is the task of "developing and implementing comprehensive mechanisms for the integration of continuing education with science and industry." One of the most important tasks in the full implementation of the set tasks is to further improve the effective organization



and management of laboratory training. The purpose of laboratory classes is to strengthen and enrich students' knowledge gained in lectures through laboratory work, to develop thinking skills as a researcher [1].

Literature review. In this regard, including the theory and methodology of organization and management of laboratory work in higher education institutions, methods of using information technology in the organization of laboratory work are researched by scientists such as in our country and the Commonwealth of Independent States M.H. Lutfillayev, P.M. Jalolova, A.A.Maleva, V.V.Malev, S.ISokolov, S.V. Sherbenko.

However, in their work did not conduct research on improving the organization and evaluation of laboratory work in the field of computer science.

Today, due to the improvement of modern hardware and software in the field of informatics, there is a need to organize laboratory classes and introduce new approaches to their management.

Research Methodology. A laboratory exercise is an experiment conducted by students using hardware and software under the guidance of teachers, that is, the study and analysis of various processes and events [7]. This, in turn, creates the following opportunities for students to study: increase their interest in science; formation and development of a system of universal educational activities, such as analysis and synthesis of studied materials, comparison, presentation of work results in various forms; conducting various observations, measurements and experiments; describe the assignment under the guidance of the teacher; systematize and generalize reasonable types of information; design of educational assignments; providing an individual approach; use additional sources of information to complete the assignment; advance and formulate simple hypotheses.

Laboratory classes should be planned in a way that reflects the process of knowledge formation, that is, the discussion of the results obtained during the experiment, observation, experiment [5]. During the study of computer science, students are offered a variety of laboratory and practical work. Another part of the work involves participating in research where students can get or collect results for later understanding. Sometimes, after experience and discussion, additional questions arise that require clarification. They allow students to conduct, analyze, compare, draw conclusions, or generalize necessary research about various objects and processes.

In the laboratory work is a teacher's introductory speech on the development of students' knowledge and skills, in which he identifies the problem and sets a goal. The teacher explains the progress of the lab, distributes assignments, points out, and asks problematic questions to draw conclusions and generalize [8].

This is characterized by the following features of the organization of laboratory classes: 1) The lesson, as a rule, begins with the definition and formation of the topic and task of the work. 2) Focuses on the content of students' practical activities, the sequence of activities that ensure the appropriateness of observations. 3) Familiarity with the methods of recording laboratory work, the need to record the results and record the conclusions [3].



The success of a lesson, including laboratory work, depends on: the description of the task, its clarity; disclosure of the sequence of work; follow instructions at all stages of the work (regulates student activities) [9].

It is very important to shape students' laboratory work in terms of research. To do this, students need to have the basic knowledge needed to determine the nature of the process during observation, experimentation, and practical work. In conducting laboratory work on the topic of research, it is necessary to pay attention to the following: students get acquainted with the problem, the contradictions are identified; problem solving, hypothesizing, and experiment planning [2].

The effectiveness of independent work largely depends on the quality of leadership perception. It is important to not only give students a task, but also to show them what to do with it, to make a plan to teach them how to do the lesson [10]. The beginning of independent work should include answers to the following questions: what are the goals and objectives of laboratory work; what methods should be used; how to keep the workplace in order; compliance with safety requirements at work; record the results.

Laboratory work is done independently by students, but in the early stages, as well as when conducting relatively new types of independent work (by department), it is recommended to divide the work into parts. Before each of them begins, the teacher gives explanations. It is also recommended to actively develop study assignments for all departments. Particular attention should be paid to the completion of laboratory work. A few minutes before the end of the work, students should be notified of the expiration of the allotted time. It should be noted that the performance of the work should be discussed and conclusions should be drawn.

The use of a scoring system is effective in assessing student performance. Accordingly, for each completed laboratory work, the student is graded for the timeliness and quality of the work, its completion and defense. The quality of the work is assessed against several criteria, some of which are typical for all laboratory work (these criteria are listed below), and some are specific to specific laboratory work (these criteria are given in the description of each work).

The quality of the defense is not assessed in all laboratory work, only when the defense consists of several parts, one of which is mandatory for all students. Completion of any part of the defense allows you to collect points for the quality of protection of laboratory work.

Scores are based on the principle of timely completion and defense of laboratory work (the sooner the work is submitted, the more it is collected). Admission of each laboratory work to the teacher consists of four stages (only in the prescribed manner): 1) demonstration of the program on a computer (the correct operation of the program is checked); 2) explanation of the content of the report (understanding of the logic of the program, knowledge of the theoretical material on which the program is written, and compliance of the report with the established requirements); 3) protection of laboratory works (answers to control questions); 4) general requirements of the report.

In his research, SI Sokolov recommended the following requirements for conducting laboratory classes [4]: title page; description and choice of assignment for



laboratory work; description of the developed software; Results of research and all tasks; program code or practical projects written by students; try the program.

Based on the results of our research, we are convinced that in conducting laboratory training, it is necessary to improve its evaluation criteria. The main reason for this is the emergence of modern computer hardware and pedagogical software. Therefore, we recommend general criteria for evaluating laboratory work reports (presented in Table 1):

General criteria for evaluating the submitted laboratory report:

Table 1.

General Evaluation Requirements	The evaluation criteria of the report	
1. Depending on compliance with the reporting requirements.	If the report meets all the above requirements, 1 point is awarded.	The report meets the above requirements, if it does not answer, but contains the required sections, 0 points are given.
L.I. is not accepted - the report does not contain at least one mandatory section.		
2. Errors.	1 point - all possible errors and non-standard situations (for example, unsuccessful attempt to open the file, splitting to 0) are processed by the appropriate program.	0 points - not all possible errors are processed by the program.
3. Apply the principles of structured programming.	1 point - all repetitive or logically integral parts of the program are separated as functions; the performance of each function is completely determined by its parameters (no global variables are used, all the information necessary for the function to work is transmitted to it through the parameters); the program allows you to change all the parameters related to its operation without refilling; there are no numeric constants in the program text (all required constants are declared).	0 points - otherwise (none of the above is true).
4. Availability of comments in the program text.	1 point - comments are enough to document the source code.	if the comments are not enough, 0 points are given.
5. On the completeness of the material of laboratory work.	If you answer all the questions quickly and correctly, you will get 1 point.	If you do not answer all the questions correctly and quickly, you will receive 0 points.

Analysis and results. Based on the above evaluation criteria, experimental work was conducted among students majoring in computer science teaching methods of pedagogical higher education institution. It involved 50 students, 25 students were



divided into a control group and 25 students into an experimental group. Their mastery is given in Table 1.

Experimental group				Control group			
5 points	4 points	3 points	2 points	5 points	4 points	3 points	2 points
9	12	4	0	8	8	7	2

The obtained data were analyzed mathematically on the basis of student-fisher criteria. According to the results of the analysis, the results of students in the experimental group showed that the mastery rate of students in the control group increased by 10.6%.

Conclusion. In conclusion, we recommend the use of the above evaluation criteria in the organization of laboratory work in the field of computer science. This allows students to objectively assess their knowledge, skills, and competencies related to laboratory work. Thus, the method proposed by us in conducting laboratory work (Table 1) is effective for assessing students' knowledge, increases their interest in science and ensures regular preparation for lessons.

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IMPORTANCE OF TEACHING EXPRESSIONS OF COMPLIMENTS AND THEIR RESPONSES TO UZBEK STUDENTS

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Annotatsiya: Ushbu maqolada biz, til o'rgatish jarayonida muloqotga kompetent bo'lishni talabarga o'qitishni istasak, pragmatik ko'nikmalar ham biz beradigan bilimlarning bir qismiga aylanishi kerakligini taklif qilamiz. Pragmatikaga oid turli xil adabiyotlar, xususan, pragmatikani o'qitishning foydaliligiga ishora qilgan va o'qitish uslublarini tavsiya qilgan maqolalar ko'rib chiqildi. Amaldagi ish kirish, mavzuga oid adabiyotlarning tahlili, tadqiqot metodologiyasi, tahlil va natijalar hamda xulosa qismlaridan iborat.

Kalit so'zlar: kommunikativ kompetentsiya, pragmatika, pragmatik kompetentsiya, nutq aktlari, xushomad, autentik til

Abstract. We suggest in this paper that if we are to realize the objectives of communicative competence for our students, pragmatic capacity must become part of what we teach in the classroom. Different kinds of literature on pragmatics has been reviewed, in particular those papers that specifically point to the usefulness of teaching pragmatics, and those that recommend teaching methods. Current work consists of introduction, literature review, results and discussions and conclusion part.

Key words: communicative competence, pragmatics, pragmatic competence, speech acts, compliments, authentic language

Аннотация. В этой статье мы предполагаем, что если мы хотим реализовать цели коммуникативной компетентности для наших учеников, прагматические способности должны стать частью того, что мы преподаем в классе. Были рассмотрены различные виды литературы по прагматике, в частности те статьи, которые специально указывают на полезность обучения прагматике, и те, которые рекомендуют методы обучения. Текущая работа состоит из введения, обзора литературы, результатов и обсуждения, а также заключительной части.

Ключевые слова: коммуникативная компетенция, прагматика, прагматическая компетенция, речевые акты, комплименты, аутентичный язык.

Introduction. In our everyday experiences, language is used to accomplish several distinct purposes, such as sharing knowledge, thoughts, opinions, feelings and attitudes with each other.

Social interactions from a variety of registers have become much more frequent, especially during the last few decades, due to the development of society, particularly from globalization. As a result, a growing number of people are enthusiastic about to

learn English as foreign language. Undoubtedly, language can be obtained by learning the grammatical structures and vocabulary. But, we think to merge the language, culture, and pragmatics together to help students to sound more natural. It is essential for students to learn pragmatic competence, besides, just the four basic language skills listening, speaking, writing and reading. Pragmatic competence is a central component of more general communication skills. A particular language is a mirror of a particular culture. By studying a language, students gain knowledge and understanding of the culture in which the language is embedded; in fact, students cannot truly learn the language until they have also mastered pragmatic competence. Since, pragmatic competence is the ability to use language effectively in a contextually appropriate fashion

Language and culture are inextricably related and interdependent. Therefore, the interdependence of language learning and cultural learning is so apparent when it comes to the area of teaching and learning that one can infer that language learning is cultural learning and, therefore, language teaching is cultural teaching.

In view of some provisions of the communicative courtesy principle, the author considers the compliment as a form of convivial speech act through which interpersonal relationship harmony is preserved or restored and a large number of etiquette patterns are described. The analysis of the identified intentions determines systematization of pragmatic functions of compliments and highlights the acts that deal with breaking social distance and status normative, or notify potential misconduct or disrespectful acts, as well as restore relations in warm position.

Literature review. Pragmatics is a language in use, in other words actual use of the language. Since pragmatics is a theory of language use and language comprehension, it is relevant to many branches of linguistics. These related fields include pedagogical linguistics and educational linguistics, which are directly related to language teaching. Social communication is essential in language teaching because it is often based on culture and plays an important role in our language choice. Therefore, the connection between pragmatics and language teaching cannot be denied. Pragmatics need to be learnt as well as taught to comprehend fully how language is used in a specific context. We need pragmatics to understand how language is used in a specific context and to be able to properly use it. Pragmatics is described as a concern about how people make sense of the verbal contact with each other. In conversations, it explores meaning and how it is perceived in relation to the interaction context. Pragmatics is characterized as the study of language use. Some scholars argue that 'pragmatics need not be associated with a particular unit of analysis'. Pragmatics is more than having high level of proficiency, it is the other knowledge that interactants need in order for communication to occur.

This is inevitable that the knowledge we have is what makes us understand each other. But interactions, especially non-native speakers, complain that while their linguistic knowledge is excellent, they can often not properly express their messages and appear to misinterpret or be misunderstood by native speakers.

Pragmatics includes an overview of how speakers arrange what they want to communicate according to who they are talking to, and where, and under what conditions the conversation takes place. In order to understand the intended meaning

of the speaker, it studies contextual meaning, describing how listeners can draw inferences regarding what is said. This is the main reason why we suggest blending language teaching/learning along with pragmatic awareness.

Pragmatic competence refers to the ability to use language skills properly in social context. According to Dippold, Pragmatic competence is the knowledge about form and strategies used to transfer thoughts and ideas, while socio-pragmatic competence is the knowledge of the application of these forms and strategies in the appropriate context.

In order to be pragmatically competent, learners must form their socio-pragmatic knowledge and be able to use this in a communicative context. Taguchi describes the Pragmatic Competence as "an object of study in many fields of science: linguistics, applied linguistics, anthropology, sociology, psychology, communication theory, and intercultural research."

One of the most important goals in teaching foreign languages is the formation of the ability of students to intercultural communication, that is, the acquisition of the required level communicative competence. Dialogue speech suggests the use of speech acts of various modal orientation, knowledge of various means of expressing the same speech act and possession of skills and abilities to use them in appropriate speech situations. The theory of speech acts begins with the premise that not a word or other expression is the minimum unit of human communication, but rather the performance of certain forms of acts, such as complimenting, making comments, asking questions, expressing disagreement, describing, explaining, apologizing, thanking, congratulating, etc. Teaching of speech acts to students learning English as a foreign language is essential. However, speech acts are an important marker of the communicative competence of our students because they represent key moments of verbal and non-verbal expression when the speaker's intention must be communicated properly within a cultural context. Having no sufficient awareness of pragmatics can lead to embarrassment, misunderstanding or even can be a reason to arise conflicts between interlocutors in international communication.

Another American language theorist J.L. Austin introduced the topic of speech acts. His studies, ceremonially published in his famous book 'How to Do Things with Words'. Austin introduces basic terms and fields for investigating and recognizing locutionary, illocutionary and perlocutionary acts. Indeed, the locutionary, illocutionary and perlocutionary acts are three fundamental components with the help of which a speech act is created. Leech distinguishes them briefly in following way:

- locutionary act: performing an act of saying something
- illocutionary act: performing an act in saying something
- perlocutionary act: performing an act by saying something.

In a language, the cultural-specific essence of politeness is closely linked to some lexical and syntactic structures that can be seen by comparison with other languages.

Among all other speech acts complimenting has been extensively studied both in theoretical and empirical studies of politeness. This action of expression is at the centre of cross-cultural and cross-linguistic studies.

Furthermore, social –cultural norms should be followed and compliments need to be paid and received carefully. Compliments are good in socialization if constructed

according to these norms. Since they are seen as a motivation and social distance breaker.

Scientific findings of politeness phenomena show that there is a near correlation between indirectness and politeness, as originally suggested in various theories of politeness. As Leech suggested, when "more and more indirect type of illustration" is elaborated, the degree of an utterance on the level of politeness is greater. Not all societies, however, value indirectness, but directness is seen to be correlated with sincerity on the contrary. For instance, the Russian understanding of politeness relies on directness and clarity. It is agreed that being indirect is "a waste of the time of the listener". Although Uzbek people are polite, they seem to be semi-indirect nation, as they like to be clearly understood by hearer.

As the research work mentioned previously, compliment speech acts and responses of compliments have brought a considerable consideration in the last thirty years. There are 2 reasons: First as Golato stated, complimenting and complimenting responses are far more complex according to their frameworks than other speech acts such as thanks, address, apologies, which are studied in isolation. Second, according to Manes and Wolfson, deep social-cultural values were expressed in complimenting and complimenting responses. Let's look an example of responses to compliments of someone praising your child's score.

.g. "Your son did a good job at school!"

In Uzbekistan, Uzbek people likely to say "Raxmat", "Yanada ko'proq harakat qilamiz." Native English speakers tend to say "Yes, my child made a lot of effort in his studies." Dissimilarly, in Uzbek culture, downgrade compliments especially, in front of people who have a higher status than themselves, or just "thanking" is the sign of respectfulness.

Consequently, the process of teaching compliments and compliment responses should be taught by taking into consideration of learners' culture emic and culture literacy in language education. Comprehension of consciously selecting appropriate compliments and compliment responses could minimize misunderstandings and helps to build better relationship with English speakers.

According to past research, compliments in English are often used to:

- express admiration or approval of someone's work/appearance/taste;
- establish/confirm/maintain solidarity;
- serve as an alternative to greetings/gratitude/apologies/congratulations
- soften face-threatening acts such as apologies, requests and criticism;
- open and sustain conversation (conversation strategy);and
- reinforce desired behavior

The main compliment sources include the conversational partner's features, including:

- 1.appearance/possessions (e.g., You look absolutely beautiful!)
2. performance/skills/abilities (e.g., Your presentation was excellent.)
3. personality traits (e.g., You are so sweet.)

In the 1980s, researchers found that 97% of compliments use one of the structures listed below. More recent studies investigating compliments appearing in



language is also found roughly comparable distribution of these grammatical structures.

- 1 Your blouse is/looks (really) beautiful. (NP is/looks (really) ADJ).
- 2 I (really) like/love your car. (I (really) like/love NP).
- 3 That's a (really) nice wall hanging. (PRO is (really) a ADJ NP).
- 4 You did a (really) good job. (You V a (really) ADV NP).
- 5 You really handled that situation well. (You V (NP) (really) ADV).
- 6 You have such beautiful hair! (You have (a) ADJ NP!).
- 7 What a lovely baby you have! (What (a) ADJ NP!).
- 8 Nice game! (ADJ NP!).
- 9 Isn't your ring beautiful! (Isn't NP ADJ!).

Research methodology. According to Herbert and Straight (1989), semantically, common responses to compliments can be categorized into acceptance, mitigation, and rejection. Each category has sub-categories:

1. Accept:
 - Token of appreciation (Thanks/Thank you.)
 - Acceptance by means of a comment (Yeah, it's my favorite, too.)
 - Upgrading the compliment by self-praise (Yeah, I can play other sports well too.)
2. Mitigate:
 - Comment about history (I bought it for the trip to Arizona.)
 - Shifting the credit (My brother gave it to me/It really knitted itself.)
 - Questioning or requesting reassurance or repetition (Do you really like them?)
 - Reciprocating (So's yours.)
 - Scaling down or downgrading (It's really quite old.)
3. Reject:
 - Disagreeing (A: You look good and healthy. B: I feel fat.)
- 4 No response.
- 5 Request interpretation:

All information listed above can directly be used in classes of EFL. If no pragmatics subject is taught separately we recommend using them in speaking classes by adapting materials.

Complimenting is a good tool to give motivation, share happiness, approaching in relationships. In educational settings, it is more than important for teachers how best deal with it. At the same time, ESL/EFL learners should have pragmatics related lessons in speaking classes.

Conclusion

In conclusion, we may argue that we need pragmatics to be able to consider all the factors that influence communication, especially in analyzing cross-cultural interaction.

As J. Austin reflects: dealing with the pragmatics of intercultural communication requires the consideration of quite a number of different dimensions, which probably all extend beyond the domain of language use and even communication, and which will therefore require interdisciplinary attention and collaboration, far beyond the linguistic sciences.



Thus, we may argue that grammatical errors in target languages are more recognizable and can be more easily overcome than pragmatic errors

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USING DIGITAL RESOURCES IN TEACHING A FOREIGN LANGUAGE

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Annotatsiya: Maqolada zamonaviy jamiyat tomonidan qo'yiladigan bo'lajak mutaxassislarning shaxsiy va kasbiy fazilatlariga, ularning chet tillarini o'qitish jarayonida rivojlanishi, shuningdek, buning uchun raqamli texnologiyalar va Internet-resurslardan foydalanish talablari o'rganilgan. Xususan, bu o'qituvchi tomonidan qo'yilgan aniq maqsadlarga erishish uchun o'qitish vositalarini tizimli ravishda tanlash muhimligini ko'rsatadi.

Kalit so'zlar: zamonaviy ta'lim; kompyuterlashtirish; raqamli texnologiyalar; o'quv qo'llanmalarini tanlash.



Аннотация: В статье рассмотрены требования к личностным и профессиональным качествам будущих специалистов, предъявляемые современным обществом, об их развитии в процессе обучения иностранным языкам, а также о применении для этого цифровых технологий и ресурсов Интернета. В частности, показано значение планомерного выбора средств обучения для достижения конкретных поставленных преподавателем целей.

Ключевые слова: современное образование; компьютеризация; цифровые технологии; выбор средств обучения.

Annotation: The article examines the requirements for the personal and professional qualities of future specialists, imposed by modern society, about their development in the process of teaching foreign languages, as well as the use of digital technologies and Internet resources for this. In particular, it shows the importance of a systematic choice of teaching tools to achieve specific goals set by the teacher.

Key words: modern education; computerization; digital technologies; choice of teaching aids.

Introduction. In an era of rapid development of information technologies, society makes a requirement for future specialists to have the skills and abilities necessary for independent acquisition of knowledge, and their application in practice to effectively solve various problems, collect and analyze facts, perform generalizations and reasoned conclusions [2; 6], to achieve success it is necessary to be sociable, to work together in various situations, to look for a way out of conflict situations; think critically and creatively, finding ways to solve emerging problems using modern information technologies; work independently to raise their own cultural level. The development of the above skills and cognitive skills of students in the educational process is due to active learning technologies [4].

At present, the main indicator in the choice of teaching means is the achievement of the final levels of proficiency in foreign languages, developed by the Council of Europe and representing an effective pan-European system of information exchange [3]. “Educational activities for mastering a language should become an exciting, meaningful activity and real language creativity. Only in this case, the student will turn from a learner into a learner, acquire autonomy and a desire to self-develop in accordance with new educational standards” [1].

Literature review. Currently, global computerization has embraced all spheres of human activity, including science and education. The development of the Internet and the emergence of many computer programs that simplify the learning process have greatly changed the study of foreign languages, making it faster and easier to work with authentic sources.

Computer training programs have a number of advantages over traditional teaching methods, being, first of all, means of direct audiovisual interactive interaction. Their use in the classroom together with traditional teaching methods allows you to train various types of speech activity, understand the nature of linguistic phenomena, form linguistic abilities, create communicative situations, automate language and speech skills and ensure the implementation of an individual approach and intensify the student's independent work, and also helps to increase cognitive activity, motivation and quality of knowledge of trainees.



Computer communication technologies make it possible to implement in a new way method that activate the creative activity of students. They can participate in virtual discussions on various educational sites and thematic forums, carry out joint creative projects together with students from various educational institutions. Thus, the use of modern information and communication technologies in the educational process can be considered as one of the active forms of individualization of learning [8].

The inherent properties of new technologies, such as their interactivity, polymodality, multimedia, content visualization, play an important role in learning. Thus, computer visualization of educational content, especially in a playful, interactive form, develops cognitive styles of thinking, creativity and mental activity of students, and also has a positive effect on their psychological and emotional state [9].

Research methodology. According to N.K. Ryabtseva, “the use of computer technology introduces heuristic novelty in the learning process and creates motivation for productive self-knowledge and self-improvement, and also makes the lesson attractive and truly modern, individualization of training takes place, control and summing up are objectively and timely” [5].

It should be noted that if we want training to be the most effective, we must reverse the order of consideration of these questions and start planning the use of technologies with setting the goal to which we strive, that is, with the question "Why?"

When considering the question "What to use?", We will inevitably face a huge number of available digital resources, each of which has a large number of admirers who prefer it as the most effective or revolutionary. There are many digital resources, both online and requiring installation on a device, that implement the processes of creating a new one or researching an existing one.

These resources can also be presented in the form of various courses (MOOCS, iTunes Courses), tools (Google Docs, Camtasia, Explain Everything), encyclopedias and other academic sources (Google Search, Wikipedia, offline dictionaries, Microsoft Office) and help conduct research at various stages: collection of information, synthesis, further supervision of the study process and work with research results. And also, the process of creation, starting from uniting in creative groups, planning, and ending with the analysis of the work done.

Analysis and results. The main difficulty in choosing digital technologies, asking first of all the question: "What to use in the learning process?" and considering all these applications is that we are often not aware of the complexities that arise in direct use of the selected resources due to lack of awareness of how to apply and use them correctly. The teacher may not have enough time or desire to study in advance all the possibilities and rules for using the selected resources.

In order to make the most of applications and programs, we must first ask questions: “Why? What is the main purpose of using computer technologies in the educational process? ”

The reasons can be different:

- improve understanding of the studied;
- Increase teaching time by encouraging students to use educational applications and resources outside the classroom;
- to increase the level of the teacher's work efficiency;



- development of students' independence;
- increasing the level of skills in working with computer technologies;
- development in students of such qualities as determination and purposefulness in achieving the result;
- preparing students for the future life;

For example, if we want to improve students' understanding of the material or topic being studied, we should plan to consider those resources that will contribute to the understanding of the topic. To do this, you need to look at the problem from different angles. Today, the Internet and various online resources offer teachers and students extensive access to expert opinion on many issues. A teacher cannot always act as such an expert due to the fact that it is impossible to be fully knowledgeable in every area, and also, due to the fact that he is often too immersed in the problems and needs of his students to objectively assess a particular issue ... Therefore, to study a particular topic, it is necessary to get acquainted with the opinion of an expert who has a more complete and modern vision of the subject of research.

To get acquainted with the opinion of experts, such Internet resources as youtube.com and ted.com with the ed.ted.com platform are suitable, which allows you to create your own lesson based on the proposed video. The teacher can break the video into thematic fragments and work through the discussion of what he saw in the lesson [9].

Conclusion. The use of Internet resources in teaching foreign languages makes it possible to create conditions for the development of all the necessary and appropriate competencies in students of the present day.

Methods of joint acquaintance with modern ideas and trends and their further discussion, which are widely used by teachers today, also have a great motivational power in teaching foreign languages. Along with this, the presence of their own computer and digital devices with Internet access for almost every student greatly facilitates the teacher's task of involving students in the process of learning a foreign language through the Internet [7].

The main questions when a teacher chooses digital technologies are: what to use, how to use and, most importantly, why use this or that resource. It is necessary, first of all, to determine the main goals and objectives of the lesson itself, and, consequently, the use of computer innovations within the framework of this lesson. Then we must already ask ourselves what resource needs to be used to most effectively achieve these goals and objectives, and, finally, how the chosen training tool functions. A detailed understanding of the above issues can significantly increase the involvement of students in the educational process and the development of their skills and abilities necessary for the successful implementation of future professional activities.

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COMPARATIVE ANALYSIS OF FOREIGN ANTI BULLYING SCHOOL PROGRAMS

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Annotasiya: Butun dunyoda ta'qib global muammolardan biri xisoblanadi. Ta'qib jabrlanuvchiga o'ziga nisbatan zo'ravonlikni to'htatishga imkon bermaydigan kuch tengsizligini nazarda tutuvchi xarakter. Bu esa, o'quvchini ta'lim olishga hamda ruhiy holatiga salbiy ta'sir ko'rsatadi. Shu bois, maktab o'quvchilari orasida zo'ravonlikni oldini olishga qaratilgan choralar ortib bormoqda.

Muallif ta'qibni oldini olishga qaratilgan xorijiy dasturlarni mazmun mohiyati, metodikasi, samaradorligini tavsiflashga harakat qilgan.. Maqolada milliy dasturlar:

SAVE, GRIN, Bulli and Pupe, ViSc, Friendly school, xususan, OBPP, KiVa, Positive Action mashhur dasturlarning qisqacha qiyosiy tahlili aks ettirilgan. Har bir dastur ta'qibga qarshi kurashda o'ziga xos dastur turlari, yosh toifasi, ta'lim metodikasi (rolni modellashtirish, dramatik faoliyat, yangi ko'nikmalarni o'rganish) ga ega.

Maktabda ta'qibni aniqlash, va bartaraf etishda bosqichma-bosqich amalga oshirishilishi lozim bo'lgan tavsiyalar, o'qituvchi va maktab ma'muriyatining o'rni to'g'risida ma'lumotlar alohida o'rin egallaydi. Mazkur maqolada tadqiqotchilar, o'qituvchilar uchun zo'ravonlik/ta'qib holatlari to'g'risida nazariy, tahliliy ma'lumotlar hamda ilmiy mushohadalar bayon etilgan.

Kalit so'zlar: tadqiqot, ta'qib, jabrlanuvchi, tajovuz, ta'qibga qarshi dastur, algoritm, o'quv qo'llanma, pedagogik kompetensiya.

Аннотация: Во всем мире буллинг является актуальной проблемой. Повторяющееся агрессивное поведение в сторону даже одного ребенка оказывает негативный эффект на всех учащихся, затрагивая не только непосредственных участников травли, но и ее свидетелей. Буллинг влияет на физическое и психическое здоровье учащихся, тем самым негативно влияет на успехи в учебе и в социализации ребенка. В результате потребовались стратегии вмешательства, подходящие для такого рода проблем. Цель данной статьи является детально ознакомиться с антибуллинговыми программами зарубежных стран для дальнейшей разработки стратегий в профилактики школьной травли.

Автор на основе анализа весомых научных работ и достижений зарубежных стран по профилактике школьной травли, предпринял попытку охарактеризовать методы, специфику, эффективность программ. Тем самым, ориентируя педагога на разработку школьной программы по предупреждению школьной травли. В статье описаны национальные программы: SAVE, GRIN, Bulli and Pupe, ViSc, Friendly school, в частности, краткий сопоставительный анализ трёх известных программ как: OBPP, KiVa, Positive Action. Каждая их этих программ по-своему уникальна. Имеет свою возрастную категорию, образовательную методику (ролевое моделирование, драматическая деятельность, обучение новым навыкам) в борьбе с буллингом.

Статья будет интересна исследователям, учителям, представителям школьной администрации, так как, в работе подробно описано, пошаговые действия сотрудников школ в выявлении и устранении школьной травли.

Ключевые слова: исследование, буллинг, жертва, насилие, антибуллинговые программы, алгоритм, эффективные программы, методические пособия, педагогическая компетентность.

Abstract: Bullying is an urgent problem all over the world. Repeated aggressive behavior toward even one child has a negative effect on all students, affecting not only the direct participants of bullying, but also its witnesses. Bullying affects the physical and mental health of students, thereby negatively affecting the child's academic success and socialization. As a result, intervention strategies suitable for this type of problem were required. The purpose of this article is to get acquainted in detail with anti-bullying programs of foreign countries for further development of strategies in the prevention of school bullying.

Based on the analysis of significant scientific works and achievements of foreign countries on the prevention of school bullying, the author attempted to characterize the methods, specifics, and effectiveness of programs. Thus, orienting the teacher to develop a school program to prevent school bullying. The article describes the national programs: SAVE, GRIN, Bulli and Pupe, ViSc, Friendly school, in particular, a brief comparative analysis of three well-known programs: OBPP, KiVa, Positive Action. Each of these programs is unique in its own way. It has its own age category, educational methodology (role modeling, dramatic activity, learning new skills) in the fight against bullying.

The article will be of interest to researchers, teachers, and representatives of school administration, as it describes in detail the step-by-step actions of school employees in identifying and eliminating school bullying.

The article will be of interest to researchers, teachers, and representatives of school administration, as it describes in detail the step-by-step actions of school employees in identifying and eliminating school bullying.

Keywords: research, bullying, victim, violence, anti-bullying programs, algorithm, effective programs, teaching methodological, pedagogical competence.

Introduction. Bullying is an urgent problem in every school and for many centuries controversy has been introduced as to the extent to which the school should perform educational functions. Undoubtedly, the school's resources in the prevention of school bullying are great, but with the condition of providing school staff with the necessary instructions and a set of methodological aids for the prevention of bullying.

Research has shown that the quality of children's relationships with the adults around them is important, and teachers can play a vital role in reducing and preventing violence and bullying among children - like building good relationships with their students. The participation of children is critical to understanding bullying, but it is also imperative to ensure that their views are taken into account when making decisions on their behalf. Often, children and young people are concerned that no action has been taken in response to reported incidents of bullying, making them even more fearful of reporting such incidents, not least because bullying may worsen after such reports. ...

Education plays a vital role in preventing violence in schools and in society at large. A safe school environment fosters respect for human rights and a culture of peace and non-violence, which is essential both for the well-being of children and for an optimal learning environment.

A common reason children drop out of school is a sense of insecurity or hostility in the school environment. Research shows that school violence and bullying have a significant impact on the academic performance of those exposed. International grades of achievement clearly indicate that bullying lowers student grades [1].

Literature review. In 1980, on the initiative of the Norwegian Ministry of Education, the first anti-bullying program appeared in the country, which was based on the works of the great scientist Dan Olweus [2]. The effectiveness of this program was overwhelming, with a 50 percent decrease in bullying cases [3]. In the early 1990s, about 15 anti-bullying programs appeared, at the moment the number of anti-bullying programs of this type cannot be accurately calculated [4]. Three of them (OBPP, KiVa,



Positive Action) are recognized as effective in various countries around the world. In addition to them, there are many local programs created as part of government orders (Bulli & Pupe, S.S.Grini, SAVE, ViSc, etc.).

Researchers who have made a significant contribution to the study of the phenomenon of bullying are usually called: D. Olweus (Norway), K. Rigby (Australia), D. Pepler (Canada), P. K. Smith (England), K. Salmivalli (Finland), R. Ortega (Spain), D. Espelage (USA). It is believed that, despite the abundance of anti-bullying programs, most of them are not universal, and some are not at all effective [5].

Research methodology. Effective programs usually have a specific set of components that are used at different levels of interaction.

SAVE is the first program developed in Spain to be included in the first national anti-bullying campaign ANDAVE [6]. In the late 1990s, about ten schools took part in the pilot testing of the program, and the research team was also able to collect data on the delayed effect of the program after four years.

One of the authors of the program proposed a series of one-time actions at different levels of school interaction. These actions are primarily aimed at developing a sense of well-being, communication skills in schoolchildren, highlighting common values and meanings in adolescents. In addition, during the course of the project, it was planned to work with the teaching staff, namely, education in the problem of bullying in schools and issues of teacher cooperation. At the personal level, empathy and the ability to reflect were developed, and work was carried out with the skills of critical thinking.

The most effective vector of the SAVE project is the democratization of the process of managing the coexistence of schoolchildren in a team, as well as emotional and value learning. The main method was direct work with the disciple-initiators or victims. It was aimed at increasing the emotional competence of students, teaching the skills of pro-social behavior.

Thanks to such work, the share of “initiators” and “victims” in the team decreased by 57%, and the share of “witnesses” increased by 7% [7]. In addition, in the treatment group, there was a 16% increase in the number of children reporting better relationships with their peers. Also, the number of victims who were repeatedly bullied during the year has decreased by 41%.

BULLI & PUPE is an Italian anti-bullying program that aims not only to change the behavior of individuals, but also to build cohesion among the peer group [8]. The main goals of the program are to reduce the level of victimization and the number of cases of bullying. Bulli & Pupe is designed for both individual work and work with a group of teenagers, the program runs throughout the school year. The target audience is middle and high school students, that is, children from 10 to 16 years old.

Within the framework of the program, training videos and booklets are used, discussions and other events are held. The goal is to convey to students that bullying can lead to many negative outcomes in the long run.

The program was tested in a three-hour session once a week for three weeks. Children had to learn, recognize and understand the negative consequences of violence, look for alternatives to escape the aggression, and learn the skills of compassion and empathy.



The Bulli & Pupe program covered three broad themes: peer bullying, children witnessing domestic violence, and the cycle of violence. A training and educational video was shot for each of the topics. These videos were supposed to start interactive lessons, during which the teachers discussed with the students the video itself and the part of the booklet with which the video was thematically linked. All lessons in a trial version were supervised by experts, and teachers collected various opinions of teenagers on the topic of school bullying in focus groups. The program turned out to be the most effective for secondary school students (11-14 years old), since for this age interpersonal communication among peers is a priority.

In addition to watching videos, group discussions and role play were included in the training. For the creators of the program, it was important to show the emotional support of victims from both peers and the teaching staff. Any active actions in conflict resolution and assistance to victims in overcoming the consequences of bullying were also encouraged. According to Baldry and Farrington, the program had a positive effect on middle and high school students, but at the same time the statistics on school bullying among younger students deteriorated [9].

The authors suggested that the program worked better with high school students because they had better cognitive skills, while junior high school students reported more bullying after starting the program because they were better able to recognize bullying scenarios.

Viennese Social Competence (Visc) is the main prevention program for students in grades 5-8 (11-15 years old) in Austria [10]. The prevention of aggression and school bullying is defined as the task of the development and growth of the school itself. The initial implementation of the program lasted for about a year.

In line with the Austrian national strategy “Together Against Violence”, the main goal of the ViSC program is to reduce violent behavior and the incidence of bullying and to develop social and intercultural competences in schools. During the first semester of the academic year, the program deals with preventive measures in the school, with teachers being the main target group of training. Class-level preventive measures for students are introduced by teachers in the second semester. During this semester, both teachers and students become target groups.

To facilitate the transfer of knowledge between researchers and practitioners, a cascade model of “train of trainers” has been developed and applied: researchers train ViSC trainers (called multipliers), multipliers train teachers and teachers train their students. The ViSC course for training animators took place at the University of Vienna for three years.

ViSC trainers were recruited by the Austrian Federal Ministry of Education through official invitation letters that were sent to all university rectors and heads of school psychological services in Austria. The idea was to train staff working in educational institutions or in school psychological services to ensure a continuous transfer of knowledge between researchers and practitioners. ViSC courses introduce trainers to the philosophy and tools of the ViSC program and provide them with detailed instructions on how to best implement it.

The implementation of the program in schools was carried out at the individual and school level. Students were encouraged to take responsibility for their social



environment and for interacting with peers, and were given the opportunity to actively contribute to improving the school environment. There were also single components aimed at stimulating social and emotional skills such as emotion management, self-esteem training, and coping strategies (strategies for coping with difficult situations). ViSC provided schools with a student and teacher guide, and the educational program included 13 2-hour sessions. As methods of work, trainings, role-playing games, discussions, dramatic performances, etc. were offered. These methods made it possible to analyze social situations, and adolescents received information that such situations can be understood in different ways. Then the students had to participate in project work in creative groups on the prevention of bullying (for example, songs, videos or wall newspapers were created).

ViSC has been implemented in many Austrian schools. A large-scale evaluation of the programme's effectiveness was conducted in 13 schools, which included both pre-testing and post-program evaluation [11].

It was also supposed to monitor changes at all stages of the program.

The program was effective in reducing the frequency of adolescents' involvement in bullying situations, and the number of both initiators and victims of bullying decreased [12]. At the same time, preliminary results showed that the level of victimization changed slightly, but we note that there is evidence of a decrease in cyberbullying rates.

S.S. GRIN is a school program designed to help children improve their social skills. It was developed in the format of a training course on teaching the skills of social adaptation for victims of bullying (primarily social, associated with refusal to communicate) and for children in difficult life situations. This type of anti-bullying program can be applied to a range of problems (aggressiveness, low self-esteem, depression, social anxiety, social orphanhood), not just the problem of bullying.

The authors argue that the program goes beyond the most common social skills, emphasizing the cognitive aspects of building relationships and working with emotions. That is, children not only learn about the communication skills themselves, but also learn to use them consciously. Such training can help students regulate their own emotions on their own, as well as improve their coping strategy skills. Overall, the program is a combination of social learning methods with cognitive behavioral therapy methods. By its structure, S.S. GRIN is quite complex, since its content is included in the teaching of several school disciplines at once. Each lesson consists of didactic instruction combined with active practice such as role play, modeling or discussion [13].

Children participate in group activities for eight consecutive weeks. each lesson lasts about an hour. The groups are led by a school counselor and trainee who have been trained and supervised by one of the program's instructors.

FRIENDLY SCHOOLS is the first anti-bullying initiative based on extensive research on Australian children and adolescents. The project targets three main groups: a) the entire school community; b) families; c) a separate group of students in grades 4-5 and their teachers.

It was tested in 15 primary schools in Australia, and the effectiveness study involved a group of more than 1000 pupils aged 8 to 9 years and an equivalent control

group [14]. The study lasted three years, taking into account data before, during and after the implementation of the program.

The project was implemented throughout the entire educational process. It included three main vectors of transformation: school policy, family impact, and classroom curriculum. Teaching aids were provided for each school's specially created program coordination committees with examples, ideas and strategies that could be useful in implementing anti-bullying policies. Teachers received structured manuals and additional learning, as well as provided students with a specific curriculum, which included nine different types of activities [15]: role-playing, project activities, discussion club, etc.

The content of the project focused on understanding what bullying is, reporting incidents of bullying to adults, responding appropriately and supporting affected students. The trainees and their parents received brochures with specific information about the program and instructions.

Friendly Schools was a theoretically grounded program. The educational methods of the project (eg role modeling, dramatic activities, teaching new skills, etc.) were based on insights derived from social cognitive theory and several others [16]. The project was based on the idea that developing qualities such as resilience, positive self-esteem, empathy, social skills, self-regulation, decision-making and conflict resolution skills can help protect students from the harmful effects of bullying.

The results of the study confirmed the effectiveness of the Friendly Schools program, the prevalence of bullying in schools has decreased significantly. Self-report data was collected in 29 schools over three years. The frequency of bullying was measured, and the responses of those who support the initiator and those who simply observe the situation of bullying were also evaluated separately.

The results show that students participating in the project were significantly less likely to experience bullying at 12, 24, and 36 months, and were less likely to be bullied at 12 and 36 months after program implementation. The likelihood that children in the experimental group would not provoke bullying situations (survey 12 months after the program) became much higher than the students in the control group. No differences were found in children's judgments about the frequency of suicidal thoughts or self-damaging behavior.

Conclusion. Most of these programs have arisen as a result of school bullying research based on the OBPP program, but taking into account national circumstances. In the United States, programs aimed at working with social-emotional learning, indirectly related to the Positive Action program, have become widespread.

Most of the programs were analyzed using the program effectiveness criteria outlined by Ttofi & Farington [17]. Hereinafter, we understand efficiency as:

- a steady decline in the prevalence of bullying during the period of testing and implementation of the program;
- availability of an assessment of the delayed results of using the program;
- description of guidelines;
- a comprehensive program for the implementation of anti-bullying tools.

Within the framework of the studied programs, a direct analysis of the stages of implementation of the program, the peculiarities of working with different categories



of participants in the process, and indicators of a decrease in the prevalence of school bullying was carried out.

Many schools find that sharing information on best practices with other schools and local authorities is helpful for their work against bullying.

Evidence suggests that some curriculum approaches, such as videos or written material, are generally insufficient on their own to reduce bullying and may actually increase the incidence of bullying after the intervention. Partial implementation of an anti-bullying program also has a strong negative impact on its success. Self-confidence training has been shown to increase the confidence of children and young people, as well as develop social problem solving skills.

If children and young people feel unsafe at school, their ability to learn will be seriously affected. The academic performance of those who are intimidated may also be affected. Evidence points to the fact that some bullying occurs in the classroom, including in the presence of a staff member. If this is the case, then the school needs to figure out when and where this happens in order to effectively address the problem.

Schools should consider:

- Does the school raise awareness of bullying as part of an ongoing process rather than a one-off session?
- Does the school use a variety of resources to support the anti-bullying program?
- Does the school consider disseminating anti-bullying information in curriculum subjects, for example, using ICTs to combat bullying?
- Does the school use posters and videos as fully integrated elements of all school anti-bullying policies to improve understanding, understanding and behavior?
- Does the school use classroom time (elementary) or tutor time (secondary) to discuss bullying?
- To what extent are children and young people involved in the design, implementation and revision of the curriculum?
- Does the school have a comprehensive program for developing the social and emotional skills of children and youth to help them.

Bullying is unlikely to be eradicated, but schools should try to reduce the frequency, severity and likelihood of bullying. It is important that everyone in the school community is aware that bullying exists and that they are working together to deal with it.

- Establish and understand the needs of your school community. Adjust your Anti-Bullying Policy to these needs.
- Listen carefully to what children and young people have to say and believe them. Ask children and young people where and when bullying occurs, and work with them to find possible solutions.
- Develop a school-wide approach in which children and young people work with adults to create a non-bullying environment
- Take a 'drip, drip' approach to raise and maintain awareness of bullying issues and challenge violent behavior Sustained efforts over a long period of time are likely to be more effective than a short, sharp campaign once a year.



- It is important to assess the impact of your actions to assess whether policies and practices have worked.

Make sure you measure the difference the event made in terms of emotional health and well-being, and a sense of security.

- As awareness rises early in the implementation of the Anti-Bullying Policy, initially reported incidents of bullying may rise.

- As children and young people are more willing to report incidents, the school will need to ensure that systems are in place to ensure that incidents are managed appropriately and that children and young people grow up believing they will happen.

Thus, within the framework of the analysis of anti-bullying programs, there was no problem of separating programs: although, in fact, there are differences, they do not allow one to equalize programs with different focus of problems. While many school bullying prevention programs exist, not all have been found to be effective. All of the above programs have a good effect on reducing the number of situations of bullying, the level of victimization and raising awareness.

Today, there is a lot of research on the topic of bullying. But to this day, there is no single model for the prevention and prevention of school bullying. It should be noted that the most demanded program is the “comprehensive program”.

Comparison of various global anti-bullying programs allows us to note how important the participation and assistance of the state is. As the results show, the most effective programs are those that were created by order of the state.

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TEACHING RUSSIAN IN MULTINATIONAL CLASSROOMS

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Annotasiya: So‘nggi yillarda rus tilini ko‘p madaniyatli muhitda o‘zlashtirish muammosi tadqiqotchilarning diqqat markazida bo‘lib kelmoqda. Maqolada rus tilini o‘rganish jarayonida turli yondashuvlarning roli va ahamiyati muhokama qilinadi.

Kalit so‘zlar: rus tili, polietnik maktab, ko‘p tillilik, lingvo va etnomadaniyat.

Аннотация: В последние годы проблема освоения русского языка в поликультурной среде находится в центре внимания многих исследователей. В



статье рассматриваются многосторонние подходы к проблеме изучения языковых контактов.

Ключевые слова: русский язык, полиэтническая школа, многоязычие, лингво и этнокультура.

Abstract. In recent years, the matter of learning Russian language in a poly-cultural environment has become a main focus of many researchers. The article deals with the issue of multilateral approaches to the instruction of Russian language.

Key words: Russian language, multi-ethnic school, multilingualism, linguistic and ethnic culture.

Introduction. Today in the globalized world schools have become the most effective instrument for achieving the formation of a culture of interethnic relations. On the basis of this fact, we claim that the matter of teaching Russian language in a multinational school has both educational and social significance.

At present along with traditional schools in Uzbekistan, there are several multiethnic schools aiming at teaching Russian language. A number of children of different nationalities study at such schools. They, as we assume, do not fully know Russian, and poorly adapt to school environment. Therefore, in the social and cultural environment of multinational schools, special attention is paid to the formation of students' communicative and intercultural competences. Currently, the creation of new schools requires the definition of specific goals, content and technologies helping to learn the Russian language.

Uzbekistan is a multicultural community of a special type, where typological features of the Russian and Uzbek mentality coexist in the complex unity of interpenetration and mutual influence [5].

Literature review. The study of the Russian language in a multi-ethnic school with the Russian language instruction must ensure the achievement of the level determined by the state standard. A multicultural class can be either multilingual or monolingual, with a homogeneous or heterogeneous linguistic structure. In the context of the methodology of teaching the Russian language, the term "multicultural" cannot accurately reflect the situation, and is more appropriate when it comes to teaching the humanities such as history, cultural studies etc. [6].

A pedagogue of the Russian language of a multiethnic school, contacting children of different nationalities, inevitably comes to the understanding that a nationally special identity, mastered by another culture, gives a clear idea of polyethnicity and linguistic diversity even in a small educational space [1].

Russian teachers of multi-ethnic schools enrich their cultural competences through the use of sociocultural approaches to teaching in their professional activities, along with communicative ones. The sociocultural approach to teaching the Russian language is also important in the educational aspect. Great attention is paid to identifying the common moral interests of multilingual peoples; for this, Russian teachers of polyethnic schools use the social experience of their learners. A good beneficial and productive factor for learners of multilingual schools is considered the frequent and constant impact on the learners of Russian environment and their inclusion in continuous language practice. The work of Russian teachers at multiethnic schools, in comparison with the activities of teachers with mono-ethnic contingent, has

a number of its own characteristics, specific features, determined, first of all, by polyethnicity and multiculturalism as well as zero preparation of learners of Russian language [7]. Below you may find out the main characteristics of the activity of Russian teachers of multi-ethnic schools, which distinct from the activity of teachers who instruct Russian and literature:

1. profound knowledge on methodology, which entails the need to change approaches and forms of teaching while improving teachers' methodological competences;
2. the culturological orientation of all pedagogical activities, as well as the selection of didactic material require taking into account not only the foreign language, but also its gender and age characteristics, and many other social and regional factors in the work of multiethnic schools;
3. the work and time of Russian teachers spent in the process of preparing for classes, is multi-volume and meaningful.

Research methodology. A significant and necessary prerequisite for the success of the work of teachers of multiethnic schools is, first of all, their respect and solicitous attitude for the national mentality, the specific forms of its manifestation that arose in the process of teaching children for whom Russian is not their native language [8].

In the conditions of a multilingual and multi-level school community, a modern teacher of the Russian language faces with the need to combine the methods of Russian as a non-native language and Russian as a native language in the educational process [2]. The main differences in the principle of presentation of language and content for Russian teachers are as follows:

1. For learners of Russian-language schools, the formation of literacy is carried out on the basis of existing speech competences and generalization of models; awareness of the language system occurs through the decomposition of the integrally perceived units of the language such as words, phrases, sentences etc. In teaching, everything should be organized under the principle from general to specific; communicative competence is formed through the development of different functional varieties of language and various genres of speech. For learners whose communicative competence and literacy do not meet the requirements of the program (educational standard), it is necessary to introduce extra courses [4]. At the same time, the methodology puts the learner in front of the fact to carry out volitional, logical actions and rules, language structures remain in the form of formal schemes and operations that are stored in the memory of learners for a short period of time.
2. The primary goal in teaching bilingual students is the formation and improvement of their communicative competences based on an in-depth study of grammatical models of the Russian language. Speech developing content is mastered as a general integral material, not in parts. An analytical approach to the knowledge of language units is possible only at a very good level of knowledge of the language. Mastering the theory is limited to the concepts of "part of a word" (not a morpheme), "part of speech", "part of a sentence." The basic principle of teaching is teaching from specific to more general.

The experience of working in bilingual and multilingual school communities and checking process of the methodological developments in practice showed that the points of contact of these different methods are in the field of extra courses for weak



and unsuccessful Russian-speaking learners within which language models and structures are constantly revised. The effectiveness of such courses depends on the use of modern teaching technologies [3]. The mastery by learners of the lexical, phonetic, grammatical phenomena of the language system should be accompanied by somatic sensations e.g., seeing, hearing, feeling, etc.). Also, in Russian classes, it is important to select such tasks that can be completed by the whole class or a group of students. Moreover, it is useful to use various language related games in Russian lessons.

Modern linguists and methodologists doubt the need for intensive theorization of the Russian language course. They fairly refer to the excessive complexity of the teaching material, which does not contribute to the literacy of students' written and oral discourse. However, the Russian language teaching program is built on one of the didactic principles of the leading role of theoretical knowledge. Majority of Russian course books correspond to this basic principle: their main goal is to present a theoretical knowledge of the language structure as a system of socially fixed signs and the rules for their implementation. The principles of presentation of linguistic material in course books are teaching from general to specific. With this approach, the topics of the course are developed in accordance with the theoretical structuring of the language system by their division into smaller linguistic groups such as phonetics, morphemics, morphology, vocabulary and syntax, which make the course more harmonious and logical. These kind of courses are usually cannot be completely denied. Conversely, in the field of Russian language teaching methodology, such a course structure affects literacy training. Learners not only achieve automatisations in their speech production, but also lose what they already have, since the learner receives separate words, phrases or sentences abstracted from the context as material used for consolidating the theory.

Conclusion. It would be effective if there was a combination deductive and inductive approach in the process of teaching Russian, which allows learners working with spoken and written texts, functional varieties, and styles. In Russian classes with a multi-lingual and multi-level school community, such an organization is possible when working with texts rich in grammatical material in accordance with the aims and objectives of a particular lesson. This allows Russian teachers to solve a complex of methodological problems during the lesson: to work out spelling, punctuation and grammatical models of the language; conduct lexical and word-formation work; analyze the structure and content of the texts, and then reproduce some of their fragments. When performing different types of assignments and tasks, students often refer to the text, thus memorizing the lexical and grammatical means of the language used in it. The content of the texts must comply with the following principles:

- 1) establishment of correlative and intercultural relations;
- 2) reflection of the linguistic and ethno-cultural specifics of the Russian language;
- 3) frequent repetition of linguistic facts.

It is necessary to work on the skills of learners to create an associative field (in comparison with the native language) and discover different linguistic patterns. This process becomes more interesting and engaging if language instructors include non-linguistic associations such as various movements, facial expressions, gestures, sound etc.



Thus, introducing the means of another language in the classroom of the Russian language has the following goals:

- the formation of students' linguistic thinking, showing the diversity of languages and the importance of any language foster students' tolerance;
- drawing students' attention to the variety of ways of expressing one idea and its meaning in different languages;
- showing students the presence or absence of the corresponding language equivalents.

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**MODERN PROBLEMS OF TOURISM AND ECONOMICS**

UDC 336.63

**INFLATION TARGETING MONETARY POLICY OF CENTRAL BANK:
THE CASE OF UZBEKISTAN**

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Annotasiya. Mamlakatimizda inflyasion targetlash pul-kredit siyosatiga o'tish, pul taklifini qat'iylashtirish, ishsizlik darajasini pasaytirish, barqaror iqtisodiy rivojlantirish masalalarining tutash nuqtasini topish muhim masalalardan biridir. Maqolada inflyasion targetlash siyosatini amalga oshirishda pulning miqdor nazariyasiga hamda rivojlangan mamlakatlar tajribasiga tayangan holda inflyasiya darajasini pasayishidagi "yo'qotish" va "yutuqlar" ni e'tiborga olish, uni ishsizlik darajasi bilan mutanosibligini, iqtisodiyotning hozirgi, qisqa va uzoq muddatli barqaror rivojlanishini ta'minlash muammolariga javob topishga harakat qilindi.

Kalit so'zlar: inflyasiya, targetlash, real, kutilayotgan, ishsizlik, foiz stavkasi

Аннотация. Одной из важнейших задач является нахождение «опорной» точки между целями обеспечения устойчивого экономического роста при ужесточении предложения денег, переходе к инфляционному таргетированию в монетарной политике, снижении уровня безработицы в стране. В статье на основе изучения опыта развивающихся стран и опираясь на количественную теорию предложения денег сделана попытка найти оптимальное соотношение между «издержками» и «выигрышем» снижения инфляции в текущем, среднем и долгосрочным периодах для устойчивого развития экономики.

Ключевые слова: инфляция, таргетирование, реальная, ожидаемая инфляция, безработица, процентная ставка

Annotation. An important aspect in the sustainable development of the economy is to find out the leveling point between the tighten inflation targeting monetary policy and lowering of unemployment in a country. In this article on the basis of new methodology and developing countries' experience a robust attempt was made to use quantitative theory of money in order to optimize the ratio between "costs" and "gains" of inflation reduction in the current, short and long-run sustainable development of the economy.

Key words: inflation, targeting, real, expected inflation, unemployment, and interest rate.

Introduction. The development of science, education and the digital economy in the Republic of Uzbekistan, the use of block chain the, cryptocurrency, electronic money and other modern technologies in improving the information platform and monetary policy instruments of the banking system, as in developed countries, combining them with alternative fiscal policy, the transition to inflation targeting is increasing [1,2]. The Central Bank is conducting research in this area, including the

adoption of the "Main directions of monetary policy for 2019 and 2020-2021." According to it, the issue of improving monetary policy in the country, the transition to inflation targeting is set, and in the coming years it is planned to reduce inflation to below ten percent [16]. The article tries to find answers to the problems of ensuring the current, short and long-term sustainable development of the economy, taking into account the "losses" and "gains" in the reduction of inflation in the implementation of inflation targeting policy, based on the theory of money and the experience of developed countries.

Literature Review. The world's leading banking scholars Kidland, Prescott (1977), Barro, Gordon (1983b) and Rogoff (1985) studied the problems of central bank independence and the variability of time in the elaborating of optimal strategic banking development plans. The time inconsistency occurs when the central bank announces its future goals in the initial planning period and these goals differ from the results achieved in the real world. U.S. analysts Kidland and Prescott noted that in the short term, monetary policymakers will face the challenge of balancing the rate of unemployment with the rate of inflation. They expect entrepreneurs to have low inflation but politicians want higher inflation to ensure low unemployment. Therefore, representatives of the private sector act accordingly in the market, believing that monetary policy is an alternative, based on the theory of rational expectations. As a result, in the long run, these expectations lead to a high rate of inflation and a natural rate of unemployment in the economy. To solve this problem, the above scholars proposed the rule of monetary policy and the reduction of inflation. They stressed that the implementation of this rule requires that private sector representatives expect stable prices and that policymakers adhere to it.

Barro [3 - 8] objected to this, proposing an econometric model that would explain the central bank's reputation so that monetary policymakers would keep their promises if a rule was kept and followed.

Research methodology. The research process used methods of cognitive theory such as induction and deduction, logical approach, time and space, comparative analysis. As a result of the research, the relationship between money supply, inflation, unemployment and sustainable economic growth, which are the mechanisms of monetary policy in the Republic of Uzbekistan, and macroeconomic parameters were identified, regression equations were developed and proposals were made to curb inflation. According to the above-mentioned model, if monetary policymakers do not meet the announced expected level of inflation, then the private sector will completely lose confidence in the words of bank representatives for life. Relying on both approaches, Rogoff suggested the direction of entrepreneurial behavior and the central bank's policy-making rule. In particular, a firm's actions in response to a monetary policy rule may affect the stability of the economy. Therefore, in some cases, the inflation rate may be partially higher if it serves for stability. Hence, inflation policy can partially keep the inflation rate high in order to optimize gross domestic product volumes and respond to external shocks. As a result, it will be possible to reduce the differences in unemployment rates with inflation and respond to external influences [9,11, 15].

$$y = y' + \beta(\pi - \pi^*)$$

$$L = \omega\pi^2 + (y - ky')^2$$

y' - GDP growth rate at full employment, %

k - The effect of a one percent reduction in the natural unemployment rate on the growth rate of GDP, (coefficient).

β - "achievement" under the influence of inflationary shock, acceleration of economic growth, %

ω - Expenditure on inflation, "losses" of the economy, %

π^* - expected inflation rate, %

Monetary as a result of structural changes in the economy the degree of influence of factors on inflation, the period and its changes in duration. The L-monetary policymaker's "loss" over a period of time, that is, lowering inflation, can reduce the country's unemployment rate and, consequently, economic growth in the short term, without changing other factors. To prove this, let us refer to the law of quantity of money supply in economic theory. According to it, in macroeconomic stability, the amount of total money in the economy is equal to the total value of goods and services produced:

$$P * Y = V * M$$

Where P is the price vector for goods and services, Y is the vector of quantity of goods and services, V is the annual turnover rate of money supply, and M is the quantity of money supply. From the above equation, based on the assumption that the variables change according to the exponential law, we obtain their growth rates and form the following equation [15]:

$$\pi + y = v + m$$

Here π is the real picture of inflation in the reporting period, %

y - Economic growth rate, %

v - Annual turnover rate of money supply, %

m - growth rate of money supply, %.

If we find the rate of inflation from the equation: $\pi = y - v - m$

Thus, an increase in inflation leads to economic growth by lowering the unemployment rate, and a decrease in it leads to a slowdown in economic growth by raising the unemployment rate without changing other factors [15].

At the same time, the duration of the impact of monetary factors on the price level was seven according to the results of the central bank researchers its highest sensitivity is two, making up a quarter observed after the quarter. Although the impact of monetary factors on inflation increased to some extent at the end of the study period from 2006 to the first half of 2017, its absolute value remained insignificant, and showed an inverse correlation between monetary aggregates and inflation over certain periods [16].

If the expected future inflation rate is $\pi = \pi^*$ for the current period, then $\bar{\omega}\pi + \beta^2\pi = \beta y'(k - 1) + \beta^2\pi^*$

If $\pi = \pi^*$, then the rate of economic growth in the coming period of the economy will remain the same as in the current period, without changing other factors $y = y'$

$L_s = \omega(k-1)\beta)^2 \frac{1}{\omega^2} + (y' - ky')^2$. In this case, the amount of economic "loss" is found from the following formula.

$$L_s = \frac{\beta^2}{\omega} (y'^2(k-1)^2) + y'^2(k-1)^2$$

$$L_s = \left(\frac{\beta^2}{\omega} + 1\right)(y'(k-1))^2 \quad (1)$$

$$L = \omega\pi^2 + (y' + \beta(\pi - \pi^*) - ky')^2.$$

To find the optimal level of inflation, we take the first product of the variables in the equation, set the result to zero, and find π from it:

$$\frac{dL}{dP} = 2\omega\pi + 2[y'(1-k) + \beta(\pi - \pi^*)]\beta = 0$$

$$\omega\pi + \beta^2\pi = \beta y'(k-1) + \beta^2\pi^*;$$

So

$$\pi = \frac{\beta(\beta\pi^* + y'(k-1))}{\omega + \beta^2}$$

If $\pi = 0$, then the expected economic growth rate will be equal to the previous period

$$\begin{aligned} y &= y' \\ \pi_p &= 0 \end{aligned}$$

The amount of "loss" of the economy is determined as follows.

$$L_p = y'^2(k-1)^2 \quad (2)$$

If $\pi = 0$, then $\pi = \frac{\beta(\beta\pi^* + y'(k-1))}{\omega + \beta^2}$ is formed.

$$\pi f = \frac{\beta y'(k-1)}{\omega + \beta^2}$$

If $\pi = 0$ and the long-run inflation rate is equal to $\pi = \pi f$.

$L = \omega\pi^2 + (y' + \beta(\pi - \pi^*) - ky')^2$ is formed.

$$L = \omega\pi^2 + (y' + \beta\pi - ky')^2$$

$$L = \omega\left(\frac{\beta y'(k-1)}{\omega + \beta^2}\right)^2 + (y' + \beta\frac{\beta y'(k-1)}{\omega + \beta^2} - ky')^2 \dots$$

$$Lf = \frac{y'^2(k-1)^2}{1 + \frac{\beta^2}{\omega}} \quad (3)$$

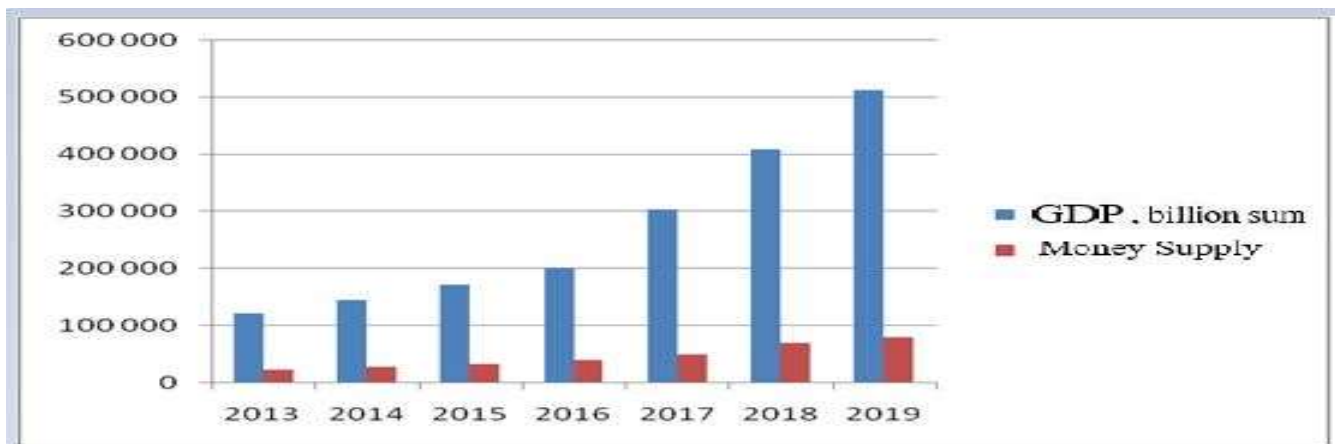
Excessive tightening of the money supply can lead to a decline in investment activity in the economy. Its unreasonable easing and a sharp increase in lending will not only stimulate consumer and investment demand, but also lead to a sharp rise in inflation. It should be noted that monetary policy alone cannot be the main source of sustainable growth of the country's economic potential. In the long run, the main factors ensuring economic growth are the implementation of sustainable structural reforms aimed at ensuring full natural employment in the economy, improving the competitive

environment, increasing labor productivity and energy efficiency, strengthening the internal and external competitiveness of the economy through infrastructure development. The task of developing and implementing effective and forward-looking monetary policy in the transition to inflation targeting is directly related to the implementation of a number of principles. Therefore, the above econometric modeling methods were used to solve these problems in a holistic, systematic way.

Results and discussion. The central bank cannot directly influence the efficiency of technological factors or technological development through the use of monetary policy instruments. At the same time, measures in the monetary sphere are mainly aimed at short-term regulation of the economy, balancing seasonal and periodic fluctuations and preventing deviations from the economic potential of growth rates, which will have a short-term effect. The current macroeconomic conditions under the influence of the above factors show that in the short term, a sharp increase in lending to the economy, increased investment and consumer demand has led to an increase in inflation. In 2019, the volume of GDP in current prices, according to preliminary data, amounted to 511838 billion soums, and the money supply (as of January 1, 2019) amounted to 80165 billion soums, which is 4.2 times and 3.4 times more than in 2013. This means that the GDP growth rate was much higher (1.2 times) than the money supply.

Table- 1.

**Gross domestic product and money supply in
the Republic of Uzbekistan (M2)**



Source: Statistics Committee and Central Bank of the Republic of Uzbekistan [14]

Money Supply Based on the study of the dynamics of inflation targeting policy instruments and the experience of developing countries, we have identified the "gains" and "losses" that can be achieved by increasing (decreasing) the inflation rate by one percent [10,11,12]. In particular, for the Republic of Uzbekistan, the costs of increasing the $\bar{\omega}$ -inflation rate, the "losses" of the economy, or in other words, the elasticity of inflation coefficient $\omega = -0.224$. β - "achievement" under the influence of inflationary shock, acceleration of economic growth $\beta = 0.162$.

The effect of reducing the natural unemployment rate by one percent on the growth rate of GDP, (coefficient), $k = 1.2$. Putting the found coefficients into the above formulas (1), (2), and (3), we calculated L_p , L_s and L_f current, short-term, and long-term "losses" as a result of curbing inflation: $L_p = 1,12$; $L_s = -1,26$; $L_f = -1,12$. This means

that if the inflation rate does not change in the expected period, the unemployment rate in the country will increase by 1.12%, and in the long run the unemployment rate will decrease by 1.12%. If inflation falls by one percent in the medium term, the unemployment rate will rise by 1.26 percent.

As international standards for the level and rate of unemployment and the calculation of inflation have not yet been introduced in our country, there are some conditional hypotheses in these calculations. As the database improves, the practical significance of the model increases and can be used in the practice by the Central Bank of Uzbekistan for inflation targeting monetary policy.

Conclusion. 1. In preparation for the transition of the Central Bank to the inflation targeting policy in the Republic, special attention should be paid to the speedy resolution of these problems. As a result of the implementation of monetary policy under the proposed model, it will be possible to alternate the money supply rate and plan it taking into account the level of unemployment.

In this process, the amount of bank reserves will change, the interest rate will be set for the short term. The Central Bank will not be able to influence economic growth in the long run.

2. The Central Bank must be independent in order to move to an inflation targeting policy. The independence of the central bank is determined by:

- (1) The CB is free to pursue its objectives,
- (2) The CB decisions cannot be changed by other organizations.

So independence means the purpose of the bank and the freedom of the instruments used.

3. If the central bank is independent, confidence in the bank will be high. The main goal of monetary policy is to ensure low inflation. Future scenarios identify changes in external and internal conditions under the influence of various factors and a set of measures to be taken by the Central Bank in response to them.

4. Along with setting the main directions of monetary policy for the coming years, the Central Bank will ensure the consistency and continuity of goals and actions in this area. This, in turn, will create predictable economic conditions, strengthen the confidence of the population and businesses in the monetary policy and increase its effectiveness.

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ROLE AND PLACE OF RISK MANAGEMENT IN SMALL BUSINESS FINANCE MANAGEMENT

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Annotatsiya: Kichik biznes sub'ektlari faoliyatini rejalashtirish jarayonida xatarlarni boshqarish elementlarini birlashtirishga asoslangan ichki moliyaviy rejalashtirishga yangi yo'naltirilgan yondashuv ko'rib chiqildi, xatarlarni hisobga oladigan yangi tamoyillar o'rganildi. Korxonada moliyaviy tavakkalchilikni "tavakkalchilik" toifasidagi iqtisodiy ta'riflarni tahlil qilish va umumlashtirish asosida tashkil etishga yondashuv asosida, moliyaviy rejalashtirish jarayonida

tavakkalchilikdan farqli o'laroq, riskning informatsion roli aniqlandi. Menejment tadbirlarini amalga oshirishda korxonada to'g'risida axborotni olish mumkinligini kengaytirishga asoslangan ma'lum xulosa, xatarlar rejalashtirish bosqichlari va ularning mazmuni, ishtirok etadigan bo'limlari o'rtasidagi farqlardan iborat bo'lgan xatarlarga asoslangan ichki moliyaviy rejalashtirishni tashkil etish qoidalarini tahlil qiladi. va mas'ul shaxslar.

Kalit so'zlar: kichik biznes, xatarlar, xatarlarni boshqarish, moliyaviy rejalashtirish, ichki moliyaviy rejalashtirish tamoyillari, moliyaviy rejalashtirish samaradorligi.

Аннотация: Рассмотрен новый риск-ориентированный подход к внутрифирменному финансовому планированию, основанный на интеграции элементов управления рисками в процессе планирования деятельности субъектов малого бизнеса, изучены новые принципы, учитывающие риск-риск. На основе подхода к организации финансового планирования на предприятии, основанного на анализе и обобщении экономических определений категории «риск», выявлена информационная роль риска в процессе финансового планирования, в отличие от известного заключения, основанного на расширении информационной осведомленности о предприятии при реализации мероприятий по управлению рисками анализируется регламент организации основанного на рисках внутрифирменного финансового планирования, который состоит в различении этапов планирования и их содержания, задействованных подразделений и ответственных лиц.

Ключевые слова: предприятия малого бизнеса, риск, управление рисками, финансовое планирование, принципы внутреннего финансового планирования, эффективность финансового планирования.

Annotation: A new risk-oriented approach to internal financial planning, based on integration of risk management elements into the process of planned activity of small business entities, New principles have been explored that take into account a risk-oriented approach to financial planning in an enterprise, Based on the analysis and synthesis of economic definitions of the category "risk," the information role of risk in the financial planning process has been identified, Unlike the known one, which is to increase the information awareness of the enterprise when carrying out risk management activities, The rules of organization of risk-oriented internal financial planning are analyzed, which consists in allocation of planning stages and their content, involved departments and responsible persons.

Keywords: small business enterprises, risk, risk management, financial planning, principles of intra-corporate financial planning, efficiency of financial planning.

Introduction. Today, more than 90 percent of all economic entities are small businesses. The main goal of small business development is to expand the share of the private sector in the economy of the country, increase self-employment of the population, especially young people, as well as income from entrepreneurship up to 70% in the total income structure of the population. Also, in 2030 it is planned to increase by 2 times the turnover of small businesses in relation to 2018, primarily by

legalizing their activities, as well as increasing productivity in the sector by at least 7 per cent[1].

Financial planning in small enterprises is part of a financial management mechanism that minimizes market uncertainty and its negative impact. Properly organized financial planning helps the enterprise to develop, to gain new positions in the market, to draw up and implement concepts of production of new goods and services, to reduce entrepreneurial risk.

Compared to large enterprises, small businesses have both a number of advantages and a number of disadvantages. The first should be flexibility in the development of new activities, technologies, production of new types of goods, high turnover of assets, manageability. Disadvantages are poor stability due to small volume of own Capital, low profitability and, as a result, loss in competition with a general decline in prices. However, with a competent approach to the organization, small businesses can be quite profitable due to the small amount of overhead and high turnover of working assets [2, p. 15].

A characteristic feature of small businesses is that they are faced with the problems of generating financial resources both during the period of formation and during the period of development and growth. In this context, special attention should be paid to effective financial management, in particular financial planning.

The purpose of this scientific article is to develop theoretical and methodological aspects of financial management - organization of risk-oriented financial planning in small business enterprises. Realization of a goal demanded the solution of the following tasks which defined logic of a research: studying of theoretical bases of intra-corporate financial planning, its essence, contents; Analysis and classification of risks, assessment of their role in enterprises, and specification of risk management activities in the implementation of the financial planning procedure; Studying the specifics of activities of small, medium and large businesses, in general, and with regard to the organization of internal financial planning and risk management, in particular; Clarifying and supplementing the list of principles of financial planning in the context of the development of risk-oriented financial planning methodology in small businesses; Development of methodological provisions for the implementation of risk management tools in the financial planning process and justification of the need to implement risk-oriented financial planning in small businesses.

Literature review. Financial planning as a management function covers the whole range of activities for the formulation and implementation of planning targets. It should address a number of challenges, among which the vast majority of researchers [2; 5; 6; 7; 8] refer to the provision of the necessary financial resources for production, investment and financial activities; Identification of directions for efficient use of capital; Identification of intra-economic reserves to increase profits through rational use of economic resources; Establishment of rational financial relations with the state, counterparties, credit system; Respect for the interests of owners and investors; Specifying business development prospects in the form of a system of quantitative and qualitative indicators, ensuring their level control; Analysis of various scenarios of enterprise development and, accordingly, the volume of investments and ways of their financing.



Financial planning in a small enterprise allows to prevent erroneous actions, reduce the number of unused opportunities, ensure the development of a financial strategy that allows to achieve stable market position and high financial stability [9].

Research Methodology. The methodological base of a research is based on the economic theory, the theory financial and a risk management, including works of scientists on problems of intra-corporate financial planning. As tools can be mentioned methods: comparison, abstraction, analysis and synthesis, a method of climbing from abstract to concrete, groupings.

Analysis and results. The efficiency of any economic entity is in many ways predetermined by the peculiarities of the organization of the management system at the enterprise. The construction of a full management system implies the presence in the organization of all its components (management of production, sales, finance, personnel, risks, etc.) and ensuring their continuous interaction. However, the existence and procedure of interaction of management functions in the enterprise depends on many factors - economic, political, geographical, organizational. The scale of business plays a significant role in view of the fact that the financial and economic activities of large enterprises require the involvement in the management process of the largest number of management functions and their more complex organization. Management of small and medium-sized businesses has specific features, it is the basis of operation of enterprises, but in its organization it is less labour-intensive. The analysis of the organization of management functions such as financial planning and risk management in small businesses is presented in Table 1.



Table 1

Features of internal financial planning and risk management in small businesses *

Small Business Risk Management Features	Financial Planning Features in Small Businesses
Предприятия малого бизнеса, как правило, функционируют в какой-либо одной сфере, тогда как деятельность крупных предприятий часто дифференцирована и диверсифицирована, что увеличивает число возможных рисков.	The presence of significant branches and representative offices of large companies requires individual financial planning of subsidiaries with subsequent accumulation of financial information in the final financial plan of the holding.
The composition of small business assets is relatively small compared to those of large enterprises, so these enterprises have a significantly lower property risk.	Small business organizations have relatively lower and uniform management costs due to the absence of unnecessary bureaucracy, many of which are known to financial managers in advance. Thus, planning management costs in small businesses is less labor-intensive and more realistic than in large businesses.
Risk management activities used in small businesses are much easier and less costly than in large businesses because of the relatively small number of potential risks and the more adequate assessment (greater predictability) of their likelihood.	A large number of product distribution channels in large enterprises involve significant commercial costs, while indirect costs of small businesses may not include commercial costs at all, and the need for planning them is minimal.
Complex production and technological processes used mainly in large enterprises increase the probability of production and technological risks and the degree of their importance.	Large business enterprises have many more external factors that can influence their financial and economic activities, and therefore the financial plans of large enterprises are subject to constant adjustment and clarification.
Small enterprises focus mainly on the regional market, so they are better aware of the level of demand and the characteristics of local markets. This circumstance gives small businesses mobility in carrying out works related to the introduction of new technology, inventions, allows to significantly reduce financial and technological risks.	Current activities are the main and often the only ones in small businesses, while the activities of large enterprises are represented by current, financial and investment activities, requiring revenue and cost planning for all three activities to determine the final financial result and liquidity of the organization.
Identification, analysis and assessment of risks and measures to manage them in large enterprises are carried out by a group of employees and represent a rather labour-intensive process. In small businesses, staff do not normally provide for the creation of departments that are exclusively responsible for risk management issues, and risk analysis and management decisions are entrusted to company managers and financial managers.	In large enterprises, financial planning is carried out in the context of three main stages - perspective, current and operational; The list of planned documents is quite large due to the large amount of planned information. In small businesses, managers and financiers are limited to drawing up several of the most important planning documents, and forward financial planning does not involve making forecasts, but is limited to choosing financial strategy and financial policy in certain areas of activity.

*Author's development.

Of particular relevance and great practical importance is the disclosure of the relationship of risk-oriented financial planning with two elements of financial management - financial planning and risk management (Fig. 1).

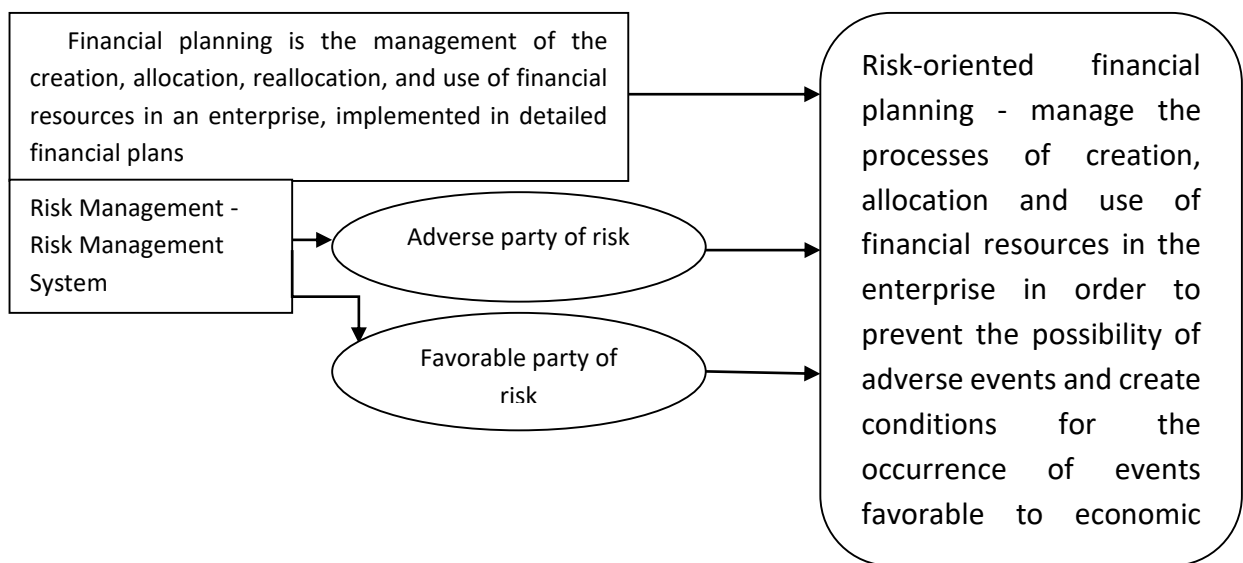


Fig. 1. Relationship of management functions: financial planning, risk management, risk-oriented financial planning *.

* Author's development.

A risk-oriented approach to financial planning should be reflected in the principles of internal financial planning (the principle of conformity, the principle of constant need for own working capital, the principle of excess cash, the principle of return on investment, the principle of balancing risks, the principle of adaptation to market needs, the principle of marginal profitability). In addition, on the basis of existing principles of management, internal planning and internal financial planning, we have proposed and justified new principles that take into account a risk-oriented approach to the organization of financial planning in the enterprise (table 2).

Table 2.

Principles of Risk-Oriented Financial Planning in the Organization Management System

Control system element	Principles	Source
Management	1) General principles of management (principle of scientific validity of yrule; The principle of a systematic approach to management tasks; principle of optimality of management; to the principle of a regulation; Principle of formalization). 2) Special principles of management: the principles concerning implementation of separate functions of management (the principles of planning, the organization, account, control, the principles of carrying out market researches of actions, etc.) and the administrative principles connected with the separate parties of management,	Majeva I. A., Fidelman G.N., Dedikov S.V., Adler Y.P.

	for example social, economic, organizational and technical etc. and also with levels of management (structural division, the organization, the industry, national economy).	
Intra-corporate planning	Principle of planning necessity, principle of plan unity, principle of plan continuity, principle of plan flexibility, principle of plan accuracy; The principle of complexity, the principle of efficiency, the principle of optimality, the principle of proportionality, the principle of science, the principle of detail, the principle of simplicity and clarity; Principle of participation, principle of holism.	Fayol A., Emerson G., Taylor F., Ford G., Akoff G.L., Cantor E. L., Makhovikova G.A., Drogomiretsky I. I., Egorov Yu.N., Varakuta S.A., Petrov A.N., Lyasko V.I. Matviyenko
Intra-corporate financial planning	The principle of conformity, the principle of constant need for own working capital, the principle of excess cash, the principle of return on investment, the principle of balance of risks, the principle of adaptation to market needs, the principle of maximum profitability.	Papov.A.A
<i>Risk-oriented internal financial planning</i>	Principle of hierarchy, principle of valuation of risk management measures, principle of optimal costs, principle of mutual communication, principle of structural integrity of management.	<i>Proposal of the author</i>

The list of risks typical of small businesses is extensive, but the business environment of a particular enterprise dictates its composition of potential risks. An important factor in determining the list of potential risks may be the scope of the enterprise. You can summarize small business risks specific to manufacturing and trading enterprises (Table 3.)

Table 3

Specific risks depending on the business area *

Field of activity	Characteristic risks
Trade	Risk of higher purchase prices for goods, risk of expiration of the shelf life of the goods, risk of violation of contractual conditions by suppliers, risk of delivery of goods of inadequate quality, risks of theft and damage of the goods, personnel risks related to incompetence and personal qualities of employees responsible for sale of the goods, etc.
Production	Risk of higher material prices, risk of reduced production capacity, risk of lost employee productivity, risks associated with providing workers with the means of production and normal working conditions, risk of industrial scrap, unprofessional workers, etc.

* It is made by the author.

It is important to note that the composition and structure of risks in a particular small business depends on a number of factors:

- Conditions of economic relations with counterparties (features of contractual conditions, preferential form of calculations, conditions of calculations, etc.);
- Sales area volumes;
- list of competitors;
- Territorial location of the enterprise;
- image of the enterprise;
- Sale of the product to the end-user or intermediary, etc.

Risk spectrum of the organization (tables) It is important to emphasize that risk-oriented internal financial planning should be based on the following principles [9]:

1. Principle of hierarchy. Means that all potential risks should be ranked according to their relevance to the enterprise, and the most significant risks identified at the risk identification, analysis and assessment stage should be considered in the financial planning process.

2. Principle of valuation of risk management activities. Risk quantification involves the financial expression of potential losses, but risk management activities must also be valued, that is, risk management methods must be provided with the necessary financial resources.

3. Principle of optimality of expenses. Means that risk management costs should be measured against the total costs of the enterprise and included in the financial plan only if they are financially effective. That is, the impact of risk management activities expressed in valuation should be higher than the costs required to carry out these activities.

4. Principle of an interconnection. Means that the financial management functions in question (financial planning and risk management) should not be carried out separately from each other. According to the types of financial planning (forward-looking, current, operational), appropriate risk management scenarios should be developed, with the definition of risk management policies, in general, and the specification of activities, in particular.

5. Principle of structural integrity of management. Means that the implementation of risk-oriented financial planning should be based not only on the analysis of external and internal factors of the organization's development, but also on the analysis of its risk field, and the results of planning should be evaluated not only from the point of view of identifying deviations of actual results from planned results, but also in the context of the impact of the risk management activities carried out.

On the basis of clarifying and supplementing the principles of risk-oriented financial planning, we have developed a methodology for risk-oriented financial planning in small businesses, the main elements of which are [11]:

1) Identification, analysis and risk assessment. This stage of risk-oriented planning, it is advisable to start with the allocation of risks according to the factors forming them). All risk factors should be grouped into external and internal factors. These include: level of management at all levels of the organization, type of market strategy, ability to develop, offer and promote new products, skills of personnel, quality of technologies, etc. The risk spectrum provides information on risks that are relevant to the enterprise and that are subject to further evaluation and analysis.

2) Identify priority measures to manage identified risks. The methods used by

risk managers for risk management can be conditionally divided into four main groups: risk avoidance, risk retention, risk transfer, risk reduction. The management methods chosen should be cost-effective and generally individual to each type of risk.

3) Financial estimation of costs of carrying out proposed activities. At this stage of risk-oriented financial planning, it is necessary to divide all risk management methods and activities into two categories: non-financial and financial (table 4).

Table 4

Methods and measures for risk management from the point of view of implementation of financial costs for their implementation *

Risk	Risk management methods and activities	
	Non-financial	Financial
Property	Risk reduction and avoidance: provision of acceptable conditions of property operation, timely repair of property, carrying out control measures, etc.	Risk transfer: property insurance, payment of security services; Risk reduction and avoidance: acquisition of security equipment, video surveillance cameras, etc.
Production	Reduction and avoidance of risk: strengthening of control over maintenance of production process, training of personnel by heads of departments, restructuring of production cycle, etc.	Reduction and avoidance of risk: payment of training courses, methodological literature, visual training tools, costs for renewal of production facilities, etc.
Trade	Transfer of risk: modification of contractual terms; Risk reduction and avoidance: logistics optimization, market demand and supply research, warehouse support organization, etc.	Reduction and avoidance of risk: remuneration of marketers, cost of services of marketing companies, advertising on television and mass media, cost of rental of warehouses, etc
Financial	Risk transfer: change of settlement conditions with counterparties; Reduction and avoidance of risk: regular assessment of financial stability of the enterprise, restructuring of expenses of the enterprise, revision of price policy, etc.	Risk transfer: cost of services of investment companies, remuneration of portfolio investment specialists, remuneration of factoring organizations, cost of debt servicing costs, etc.

* It is made by the author.

4) Cost estimation analysis of proposed activities. This step is aimed at systematizing the information received in order to compare the financial expression of damage due to risk and management costs. We suggest to systematize the obtained information on risk by means of scheduling of risks which for expediency of practical application has to contain the following sections: risk, possible losses in case of approach of risk, an action for prevention of risk, a financial evaluation of costs of holding actions, a financial evaluation of damage.

5) Preparation of risk-oriented financial plans. Risk-oriented form of planned documents will allow: take into account practically all possible costs of risk management activities; to determine the impact of risk measures on the formation of production and full cost, or to recognize the absence of this impact; monitor how carrying out risk measures affects the final financial results of the company; ensure interlink ages between internal financial planning and risk management; guarantee

comparability of reporting and planning data for analysis of deviations and factors that caused them, due to the fact that risk-oriented expenses change the form of planning documents only from the point of view of specifying certain objects of expenditure, detailing the structure of expenses, without changing their initial composition.

Conclusion. The analysis of the current state of small business enterprises of the Republic of Uzbekistan determines its territorial and structural imbalance, allows to determine the field of problems that create restrictions and prevent its balanced development. The main problems are:

1. Low competitiveness of small businesses of the Republic of Uzbekistan, limiting prospects for their development.

2. Inefficient interaction between the state, society and small businesses; Adopted legislative acts do not sufficiently stimulate the development of small businesses and increase their social responsibility.

3. Modern small business management does not fully use intellectual capital and innovative infrastructure, does not pay due attention to the development of corporate culture and formation of optimal organizational structure, effective management of intangible assets.

4. The impact of the current state of the world economy and trends in market relations on the results of economic activity of enterprises is not sufficiently taken into account.

5. In managerial decisions, the rate is made to generate income immediately rather than for the long term, resulting in a lack of investment in company innovation. Small business development is aimed at maximizing profits, and criteria for increasing the cost of equity as a prerequisite for sustainable development are ignored.

In order to improve financial planning in a small enterprise, it is proposed that: Review and approve Financial Planning Regulations at the enterprise; Implement a system of motivation of financial planning efficiency; To increase the efficiency of information support of the financial planning process, implement the automated system "1C: Financial Planning."

The economic impact of the proposed activities would be reflected in increased profits as a result of increased managerial productivity; Reducing losses due to reduced turnover due to improved working conditions; Reduction of fines for violation of the terms of payment of taxes and fees due to improvement of financial planning in the enterprise; Release of contingency funds due to financial planning deficiencies.

The result of risk-oriented financial planning in the enterprise is the identification of priority measures for managing the most significant risks, their economic justification and financial estimation of the costs of carrying out the necessary measures to be subsequently included in the financial plans of the enterprise.

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MODERN PROBLEMS OF TECHNICAL SCIENCES

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**ANALYSIS OF QUALITY INDICATORS OF YARN FROM COTTON YARN
OF MANUAL AND MACHINE DIALED**

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Annotasiya. Ushbu maqolada qo'lda va mashinada terilgan paxta tolasidan yigirilgan ip chizili zichligi 19.6 teks ($Ne=30$) karda iplari hamda ularning sifat ko'rsatkichlari tahlili keltirilgan. Xomaki mahsulotlar va yigirilgan iplarning sifat ko'rsatkichlari Jizzax viloyati "Jizzakh textile" MChJ xorijiy qushma korxonasiidagi mavjud lobaratoriya uskunalarida taxlillar o'tkazilib natijalar xalqaro me'yor qo'rsatkichlar bilan qiyosiy tahlil qilinganligi asoslangan.

Kalit so'zlar. Paxta, mashina terimi, qul terimi, namlik, ifloslik, shtapel uzunlik, nav, yigirish.

Аннотация. В данной статье представлен анализ карточных нитей линейной плотностью 19,6 текс ($Ne=30$) из хлопчатобумажного волокна ручной и машинной набивки, а также их качественных показателей. На имеющемся лабораторном оборудовании и по результатам сравнительного анализа с международными стандартами проанализированы показатели качества сырья и пряжи на зарубежном совместном предприятии ООО "Jizzakh textile" в Джизакской области.

Ключевые слова. Хлопок, машинный сбор, ручной сбор, влажность, сорность, штапельная длина, сорт, прядение.

Annotation. This article presents an analysis of card yarn with a linear density of 19.6 tex ($Ne=30$) made of cotton fiber of manual and machine dialed, as well as their

quality indicators. The quality indicators of raw products and yarn at the foreign joint venture “Jizzakh textile ” LLC in the Jizzakh region were analyzed on the available laboratory equipment and the results of a comparative analysis with international standards.

Keywords. Cotton, machine dialed, manual dialed, humidity, dirt, staple length, sort, spinning.

Introduction. Currently, according to the statistics of the “International Advisory Committee on Cotton” (ICAC), the production of cotton fiber in the world averages 23.0 million tons. The world's leading countries in the production of cotton fiber are India and China, which account for 24.8% of the volume of fiber produced. Our country has also grown 3 million tons of cotton and grown 1 million tons of raw cotton. about a ton of fiber was obtained. The high level of demand for natural fibers and finished textiles in the world makes it necessary to produce competitive high-quality textile products.

In recent years, comprehensive measures have been taken in the republic to develop the textile and light industries, expand the range and range of finished products, and fully support the investment and export activities of enterprises in the industry. Large-scale work is being carried out in the field to create cotton clusters, create and develop production complexes that include production stages ranging from cotton fiber, yarn and yarn, to knitwear and finished clothing products, produce a wide range of high-quality finished products and provide employment, increase the share of processing of cotton fiber grown in the country.

95% of the cotton grown in our republic is harvested by hand. The main link of technological progress in cotton harvesting is the mechanization of harvesting operations. In this regard, the Cabinet of Ministers adopted Resolution No. 21 of January 14, 2020. The decree states that in 2020-2026, the phased development and delivery of machines for the machine collection of raw cotton will be carried out in 2 stages. At the first stage (2020 — 2022), stage-by-stage delivery of harvesting machines to the Jizzakh, Kashkadarya, Syrdarya and Tashkent regions. At the second stage (2023-2026), it is planned to introduce mechanization of cotton harvesting in other regions of the republic. [1].

Table 1

Production and delivery to the regions of the republic of cotton harvesting machines by organizations of the system of JSC "Uzagrotekhsanoatholding" in 2020-2026

S/n	Name of regions	General need	2020 year						2021	2022	2023	2024	2025	2026
			Total	may	juni	july	august	september						
1.	Tashkent region	930	250	50	50	50	50	50	250	250	180			
2.	Syrdarya region	770	250	50	50	50	50	50	250	270				
3.	Jizzakh region	1 155	300	60	60	60	60	60	350	505				
4.	Kashkadarya region	1 481	200	40	40	40	40	40	350	475	456			
5.	Republic of Karakalpakstan	600									200	200	200	

6.	Andijanregion	800									200	300	300	
7.	Bukhararegion	1 100									300	400	300	100
8.	Navoiregion	392									100	100	100	92
9.	Namanganregion	800									100	300	300	100
10.	Samarkandregion	650									200	250	200	
11.	Surkhandaryaregion	777									150	250	300	77
12.	Ferganaregion	475									74	100	200	101
13.	Khorezmregion	340									40	100	100	100
	Total	10 270	1000	200	200	200	200	200	1200	1500	2000	2000	2000	570

The table also shows that the level of mechanization of the harvesting type increases from year to year. This negatively affects changes in the physical, mechanical and geometric properties of the fiber in cotton gins and spinning processes, that is, the processes of collecting cotton from the fields, harem, storing, drying, cleaning, ginning, cleaning the fiber, pressing, combing, peeling, re-combing, peeling and spinning. Therefore, the optimal conditions for each process are established at the cotton gin and spinning enterprises.

As you know, the quality of textile products is evaluated by several indicators. When evaluating them, the results of experimental tests are compared with the approved standard values. The use of statistical methods in conducting experiments and processing their results allows you to reduce the number of tests and the number of processed operations. These methods also allow you to link product quality indicators with changes in the technological process.

Analysis of the literature on the subject. At spinning mills, products go through several technological processes before being manufactured. These include combing, peeling, peeling, spinning, and rewinding. Each of these processes plays a very important role in spinning, the control of the parameters of technological processes and the quality of semi-finished products is of great importance [2-4].

Klein in his work identified different zones in the titration processes, namely from 1 to 5. The absence of important areas in the processes, determined by the machine sequence, leads to a greater deviation of the product. To reduce the variety of fiber Bundles, an important parameter controlled by purification and titration was developed to reduce the size and size of the bundle. In his work, Srivastav investigated the effect of the types of impurities present in the fibers on the yarn. Special attention is paid to the cleaning efficiency separately, when there are many kinds of impurities in the cotton fiber, the linear unevenness is shown with the cleaning efficiency, If the material is dirtier, the cleaning efficiency will also be higher. In the work of Plavat, it was proposed to adjust various speeds and intermediate parameters of comb machines to obtain a high-quality product from sliding. It is known from the literature that a quality product can be realized by choosing the sequence and speed of the machine of non-traditional cleaning machines, since it is claimed that excessive wetting of cotton and cleaning can also lead to a decrease in the quality of the yarn.

Based on the analysis of yarn quality indicators, samples were selected manually in the Syrdarya and Jizzakh regions, using the Case-2020 model machine and

harvesting machines produced by the American company Jondeere, and pilot testing was carried out.

Regardless of which spinning system is used to spin the yarn and in what way, the quality indicators are evaluated according to different criteria. Each of the quality indicators: linear density, quadratic unevenness, number of neps, breaking strength, number of turns breaking strength and other quality indicators are determined in the test laboratory equipment in accordance with the established requirements of the international standard.

Research methodology. Determination of the quality of cotton fiber is currently carried out by modern methods. The main indicators of the quality of cotton fiber are determined using the USTER HVI measuring system. This system is fast, and the resulting tables and charts are used all over the world. The equipment used in this system is USTER TESTER and USTER AFIS PRO 2 these laboratory equipment determines the quality indicators of cotton fiber and raw materials from it, as well as yarn. USTER AFIS PRO 2 The sample must be (10 ± 15) g to be measured in the system. The mass of the sample is controlled by a computer.

When determining the fiber content indicators, a sample is applied to the equipment, the indicators of which are displayed on the equipment screen. For example, measuring the length indicator. The length of cotton fabric is characterized by the definition of high, medium length. In its determination, only long fibers that make up half the mass of the measured sample are involved. All fibers in the sample are charged in relation to the average length to the upper average length with a percentage uniformity index over the length of the fiber.

The quality indicators of cotton and raw products made from it, as well as yarn obtained from fiber cleaners improved with the help of the above-mentioned laboratory equipment, were studied on the basis of experiments in the laboratory at the foreign joint venture "Jizzakh textile " LLC in the Jizzakh region [4-8].

Analysis and results. Tests pilot work on the USTER AFIS PRO 2 laborator equipment at the foreign joint venture "Jizzakh textile", fiber quality indicators (fiber length, ripeness, degree of impurity and neps) were determined in accordance with the ASTM measurement standard for machine and manual cotton fiber recruitment and summarized in Table 1.

Table 1

Fiber quality indicators

№	Indicators	Options	
		Manually dialed	Machene dialed
1	length L(n)	0,8	0,81
2	The number of nodes in the fiber(Cnt/g)	68	62
3	the amount of short fibers (SFCn)	23,2	21,4
4	linear density (Fineness)	168	169
5	amount of mature (ripe) fiber (Maturity)	0,9	0,9
6	amount of dead fiber (IFC)	7,0	6,3

In the table of indexes of quality cotton fibers hand and machine-type indicator of the length of the staple cotton fibers, manual type, length of cotton fiber machine type L(n) is a multiple of 0.01%. The number of knots in hand-dialed cotton fiber is 19.6% greater than the number of knots dialed by machine (Cnt/g). The number of short fibers of hand-dialed cotton fiber is 7.8% greater than the number of short fibers

of machine-dialed cotton fiber (SFCn). The linear density of hand-dialed cotton fiber is 0.5% less than the linear density (Fineness) of machine-dialed cotton fiber. The amount of ripe cotton fiber dialed by hand is equal to the amount (Fineness) dialed by machine. The amount of dead fiber in hand-dialed cotton fiber is greater than the amount of dead fiber in machine-dialed cotton fiber (IFC). In this case, we can see that improving the fiber cleaning systems installed in cotton gins and spinning plants to improve their quality characteristics in the machine and manual selection of cotton fibers can improve the quality level by introducing new energy-efficient methods and technologies into production[9-10].

Experimental work was studied on the existing laboratory equipment Uster Tester 5-S800 at the enterprise “Jizzakh Textile”. In accordance with the spinning plan, samples of snow threads with a linear density of 19.6 tex were selected, and their linear and quadratic irregularities and neps indicators were studied. The results are shown in table 2.

Table 2

Defects in the appearance of yarn

№	Indicators	Options		
		Manually dialed	Machene dialed	Uster Statistics 2018 5 % indicators
1	Linearasperity, U%	10,93	10,95	-
2	Quadraticasperity, CVm%	13,88	13,93	13,08
3	The quadratic asperityof a 10 meter long yarn , CVm 10 %	2,30	2,39	1,96
4	Thin areas (-50%), corresponding to 1 km	1,1	1,1	3
5	Thick areas (+50%), corresponding to 1 km	80,8	84,1	63
6	Nodes (нeпcлap +200%), corresponding to 1 km	230,0	222,6	119
7	Hairiness, H	6,98	7,01	5,3

Table 2 shows the indicators of the quality of the yarn, spun from hand and machine cotton fiber, and the results of their comparative analysis, and linear uneven yarn, hand spun from cotton fibers, compared with the standard values Uster Statistics 2018, where linear uneven yarn, spun from native cotton fiber, is less than 0.1%. It was found that the quadratic unevenness of spinning yarn from cotton fiber, typed by hand, is 0.3% greater than the square unevenness of spinning, typed by machine. From the results of the analysis, it can be seen that the decrease in the quality indicators of cotton yarn obtained from cotton yarn collected by hand and machine, compared with the difference in the quality indicators of spun yarn, indicates the need to improve the cleaning efficiency of cotton yarn collected in this way[11,12].

In conclusionThe quality indicators of raw products and yarn at the foreign joint venture “Jizzakh textile ” LLC in the Jizzakh region were analyzed and the results of a comparative analysis with international standards were obtained. The linear density of cotton yarn collected by hand and machine is 19.6 tex (Ne=30) from the analysis of cotton yarns and their quality indicators, it can be concluded that a smaller number of quality indicators of cotton yarn collected by machine indicates the need to further improve the cleaning efficiency in the process of cleaning cotton and spinning. This is an important task facing industry scientists.

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UDC: 621.01**JUSTIFICATION OF THE PARAMETERS OF NEW CONSTRUCTION OF THE SCREW CONVEYOR FOR THE TRANSPORT OF LOOSE MATERIALS**

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Annotasiya: To'liqsimon yuzali ikkikirimli vintli konveyerda mahsulotni tashishda aylanma harakatni amalga oshirib beruvchi mexanizmi shnek hisoblanib, uning takomillashtirilgan konstruksiyasini loyihalash ishlari amalga oshirilib, ilmiy tadqiqot ishlari olib borish natijasiga ko'ra, ishlab chiqarishga muhim bir yangilik sifatida tavsiya etiladi. To'liqsimon yuzali ikki kirimli vintli konveyerning ish unumdorligi, uning kirimlari soni va to'liqsimon yuzalarida harakat qiladigan material bilan konveyer koprusi orasidagi ishqalanish koeffisienti, dvigatel' tortish kuchlariga bog'liq va bu bilan odatdagi vintli konveyerga nisbatan o'rtacha 15-20% yuqori ish unumdorligiga ega.

Kalit so'zlar: ikki kirimli vint, to'liqsimon yuza, konveyer, shnek, ish unumi, mashina mexanizmlari, detal, konstruksiya, reserstejamkor, ishqalanish koeffisienti, ta'sir etuvchi kuchlar.

Аннотация: Двухзаходной винтовой конвейер с волновой поверхностью считается шнеком, механизмом, осуществляющим вращательное движение при транспортировке продукта, проводятся проектные работы по его усовершенствованной конструкции и, по результатам научно-исследовательских работ, рекомендован к производству как важное новшество. Производительность работы двухзаходного винтового конвейера с волновой поверхностью зависит от количества его входов и коэффициента трения между материалом, движущимся по волновой поверхности, и корпусом конвейера, тяговыми силами двигателя, и таким образом он имеет в среднем на 15-20% большую производительность работы, чем обычный винтовой конвейер.

Ключевые слова: двухзаходный винт, волновая поверхность, конвейер, шнек, рабочий узел, станок, деталь, конструкция, коэффициент трения, ударные силы, производительность работы.

Abstract: The two-beam screw conveyor with a waveform surface is considered a shnek, the mechanism that carries out the rotational motion in the transportation of the product, the design work of its improved construction is carried out and, according to the results of scientific research work, is recommended for production as an important innovation. The work productivity of a two-stroke screw conveyor with a waveform surface depends on the number of its inputs and the coefficient of friction between the material moving on the waveform surfaces and the coprus of the conveyer, the engine pulling forces, and in this way it has an average 15-20% higher work productivity than the usual screw conveyor.

Keywords: two-stroke screw, waveform surface, conveyer, cord, work unit, machine tool, detail, construction, reserstejamkor, friction coefficient, impact forces.

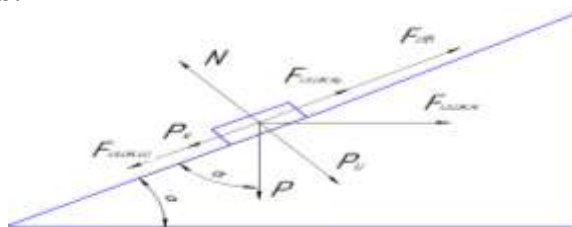
Introduction. Screw conveyors are widely used in all service and communal enterprises, food industry, agriculture, in many areas of industry, because of their simplicity in appearance and relatively inexpensive compared to other conveyors, they are widely used in their production, if necessary they are protected from environmental pollution, the possibility of transporting and lowering the trays, ensuring safe working conditions. Screw conveyors are an integral part of a set of equipment designed to perform certain technological processes. At the current stage of the development of the market economy, the requirements for the process of loading and unloading and storage operations are changing. In such circumstances, it is necessary to strive to reduce the cost of one ton of cargo transportation, unloading by each device, and this is achieved by reducing the cost of operation, increasing the simplicity, reliability, mobility of the equipment. [1,2] All these indicators have a direct impact on the design of the device, but today the design of screw conveyors is the same and differs in their parameters. Load-unloading work is carried out at all stages of the main production processes. For the processing of these operations, a variety of equipment is used for carrying, transporting and unloading [3].

Literature review. Screw conveyors are widely used in enterprises in the field of production and services for the reception and storage of raw materials, unloading of goods, transportation of raw materials within the enterprise, carrying out the work of waste collection. In addition to the simplicity of this device, its reliability is also valid. The main part is represented by a screw that moves the transported material along the cord. The screw-in cord has a certain shape and favorable conditions for the transportation of materials [4]. The conveyer body is a groove or semicircular groove, the lower part of which resembles a cylinder. The absence of edges protects the transported material from accumulation [5]. The advantage of screw conveyors is that there are options for transporting materials in hermetically sealed containers without the formation and loss of dust. Screw conveyors can also perform technological functions, for example, they serve to simultaneously spacing them with the movement of materials [6]. In addition, screws are also used as a feeder. The designs of screw conveyors differ in Variety, as well as in the fact that their basic geometrical and constructive parameters have different physico-mechanical properties. The materials to

be transported are so diverse that in interaction with the working bodies of screw conveyors, the mechanics and kinematics of the movement of different materials can be characterized by different theories. The material transported in many works is considered to be the only material point at which the helix of the screw moves along the spiral surface. This approach can be considered justified, since the transportation of large volumes of materials over a short distance, the loading process has not yet been sufficiently studied. Despite numerous publications on the transportation of materials through screw conveyors in the horizontal and inclined position, they practically did not consider the processes of transferring the load from the mounting device to the screw blade, but the processes occurring in this zone lead to a decrease in the working efficiency of the screw conveyor. If the design of the loading device fails, the rotating cord may not hold the material, even when it is held, it will throw it away, which will undoubtedly adversely affect the work efficiency and energy consumption of the material [2,7].

Research Methodology. It follows that it is necessary to solve the problem of loading a screw conveyor, moving the material in the loading zone with screws. At the same time, from the theoretical point of view, the impact of the screw on the force of pressing the material particle relative to the spiral, the critical frequency of the screw rotation, the connection of the material with the screw in the loading zone, the effect of the area of the load bunkers in the screw conveyor housing on its working. Due to the physical essence of the process of moving the material particle along the helix of the screw, the forces of resistance to the motion of the particle also increase with the increase in the angle of Rise of the spiral [8].

Analysis and results.



1-picture. Scheme of forces acting on the material particle along the spiral

From the diagram of the forces acting on the material particle along the Spiral (Figure 1), we can say that the force that helps the material particle to move along the spiral is the friction force against the housing of the particle, the friction force against the screw and the component of the force of the particle weight prevents the movement of the. The difference between the sum of the first power and the second is expressed as follows when moving the material particle upwards along the spiral.

$$F_{ob} = m \cdot [\omega_{uu}^2 \cdot R \cdot \cos \alpha \cdot f_k - g(\sin \alpha + \cos \alpha \cdot f_{uu})]^2 \quad (1)$$

Here ω_{uu} , R - angle speed and snek radiusi;

m -the mass of the transported cargo;

α -the slope angle of the spiral;

f_k, f_{uu} -the coefficient of friction of the material in relation to the casing and Shnek.

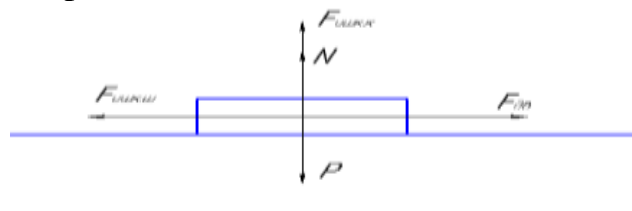
Analysis of the change in the driving force, depending on the angle of the Spiral ascent, shows that this parameter is a variable value, the lowest moving force occurs in the horizontal position of the spiral, the spiral increases in proportion to the driving

force, starting from a certain angle. When studying the effect of the slope angle of the spiral on the force of pressing the material particle into the housing, it was determined that its value depends on the centrifugal force, the force of gravity of the material particle and the friction force of the material particle on the screw. On the basis of the analysis of the scheme of forces acting on the material particle along the Spiral, a fastener was obtained for calculating the force of pressing the particle on the screw [9]:

$$F_{np} = (g(\sin \gamma - \cos \gamma \cdot f_{uw}) + \omega_{uw}^2 R(\cos \gamma + \sin \gamma \cdot f_{uw})) \cdot m \quad (2)$$

Here γ is the slope angle of the spiral relative to the core of the screw.

When studying the conditions for obtaining material with a shnek, which stands in an inclined position in the loading zone, in order to increase the efficiency of this process, the bottom of the Shnek should have a short tip and one with two blades. It was found that the working surface of the loading bunker in the screw conveyor casing is connected with its working productivity, the size of the material delivered from the lifting bunker to the cord depends on the number of knots and the spiral surface.



2-picture. Scheme of forces acting on the material particle along the horizontal spiral.

If the spiral is located in a horizontal position, the pulling force of the engine can be found as follows

$$F_{\partial s} = f_{uw}(mg - \omega_{uw}^2 R f_k) \quad (3)$$

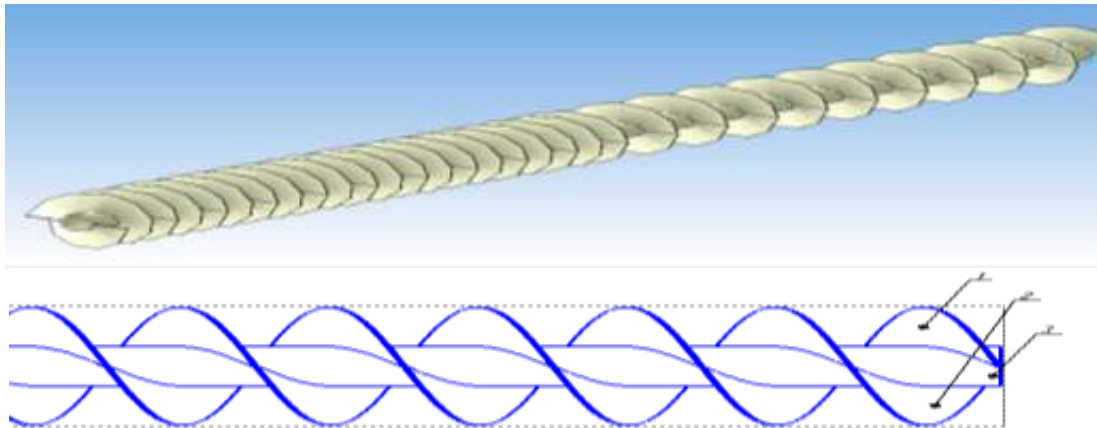
Here ω_{uw} , R - angle speed and snek radiusi;

m -the mass of the transported cargo;

f_{uw} , f_k -coefficient of friction of the material in relation to the casing and shnek.

In order to effectively load the screw conveyor, which is located in the inclined position with the transported material, it is necessary to choose a reasonable angle of inclination of the side walls of the load-bearing bunker. This angular value can be affected not only by the friction force of the material to the bunker, but also by the centrifugal force that affects the material when twisting the screw. The disadvantage of screw conveyors used today is that they are characterized by low working efficiency. Therefore, in contrast to the usual in production, screw conveyors with a two-beam waveguide surface were introduced with the proposal. The advantage of this is that the material to be transported or lowered leads to the movement of a double cube of cargo relative to the usual conveyor. The increase in the working probability and productivity of the screw conveyor is achieved by the use of two input waveguide-surface Shnek as a flexible working Housing, which ensures a significant increase in the working efficiency of the conveyor, the screw conveyor is characterized by a decrease in the probability of failure due to the bending hardness of the working Housing and the. Taking into account the influence of structural, technological and operational factors, the difference in the methods of fastening and the variability of the load over its length, the method of calculating the tension state of the spiral workpiece, the rational

geometrical parameters of the screw conveyor and the correct choice of construction lead to an increase in the working productivity of the conveyor. As a generalized indicator of the tension state of the Spiral workpiece, its various fastening schemes, constructive, technological parameters, consistency characteristics, taking into account the variability and length of the load, the deformation of the torsion of its tail part is taken into account. With the free arrow movement of the tail part, the correct choice of the design and technical parameters of the curved working spiral is the most optimal solution, since the maximum voltages of the bent working spiral from the arrow movement of the tail part are 2-3 times higher.



1-first waveform spiral Surface, 2-second waveform spiral surface,
3-wavy spiral fastening val.

3-picture. Screw spiral with two-beam waveform surface

The purpose of the work is to revise the working formula of the screw device and select the parts that reflect the exact parameters of the screw and are described in mathematical expressions; combining them in the expression of a new formula, which depends on the specified performance value. The main variable parameter is the outer diameter of the screw, through which it represents other screw dimensions by introducing dimensionless coefficients. The process of changing the expression of formulas is carried out taking into account the density parameters of the transported material (different for different materials). As is known, the working capacity of the screw conveyor is determined by the following formula, m^3 / s [11]:

$$Q = \frac{\pi(D^2 - d^2)}{4} \left(H - \frac{b}{\cos \alpha} \right) n K_{uu} \quad (4)$$

or

$$Q = \frac{\pi}{4} (D - d)(D + d) \frac{B}{\cos \alpha} n K_{uu} \quad (5)$$

here are the outer and inner diameters of D and d Shnek, m; n -Shnek step, m;

α -shnek slope, grad; b -the width of the right angled shnek, m; n - the speed of rotation of the shnekob/s; K_{uu} -the total coefficient of inclination; B -the distance between the turns of the screw, m;

The work productivity of a two-stroke screw conveyor with a waveform surface depends on the number of its inputs and the coefficient of friction between the material moving on the waveform surfaces and the corpus of the conveyor, the engine pulling forces, and in this way it has an average 15-20% higher work productivity than the usual screw conveyor.

Conclusion. At manufacturing enterprises, conveyors of all types are used. In particular, screw conveyors are widely used. In order to further increase the working productivity of ordinary screw conveyors, the design of its Shnek was modified based on scientific research and scientific research. As a result of the place of work and production capacity of screw conveyors, the working output of the screw conveyors decreased by 1.2 percent, and the electricity consumption decreased by 0.25 percent.

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PRESERVATION OF HEAVY MIXTURES IN THEIR NEW CONSTRUCTIONS AND THEIR REMOVAL.

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Аннотация. Ушбу мақолада пахтани тозалаш жароёнида қўлланиладиган тош тутгич ускунаси ишчи камерасидан оғир аралашмаларни узликсиз ташқарига чиқариб юбориш жараёни ўрганилган. Оғир аралашмаларни ташқарига чиқариб юборадиган мосламаларнинг конструкциялари ўрганилган ва уларнинг камчиликлари кўрсатилган. Келгусида тош тутгич ишчи камерасидан оғир аралашмаларни ташқарига чиқариб юборадиган мосламанинг самарадорлигини ошириш бўйича илмий изланишлар олиб бориш зарурлиги асосланган.

Калит сўзлар. Пахта, тош тутгич, оғир аралашма, намлик, ифлослик, штапел узунлик, нав, метод, йигириш.

Аннотация. В данной статье исследуется процесс непрерывного вывода тяжелых примесей из рабочей камеры камнеуловителя. Исследованы конструкции устройств, отводящих тяжелые примесей, и показаны их недостатки. В дальнейшем обоснованно проведение научных исследований по повышению эффективности устройства, удаляющего тяжелые примесей из рабочей камеры камнеуловителя.

Ключевые слова. Хлопок, каменный держатель, тяжелая смесь, влажность, загрязнение, длина скобы, сорт, метод, прядение.

Annotation. This article examines the process of spontaneous removal of heavy impurities from the working chamber of stone-cutting equipment used in the process of cleaning cotton wool. The constructions of devices that emit heavy impurities are studied and their disadvantages are shown. In the future, the need for scientific research to improve the efficiency of the device that can displace heavy impurities from the working chamber of the stone holder is justified.

Key words. Cotton, stone holder, heavy mixture, humidity, pollution, staple length, sort, method, spinning.

Introduction. In the process of harvesting cotton, preparing it for drying, loading, transportation, storage in natural field conditions, as well as transferring it for processing with violation of cotton hares, heavy objects of various sizes fall into the cotton. Such bodies, getting into the working chamber of machines, lead to a violation of the process of its operation, disabling, damaging the working organs, as a result of which the productivity of the machine decreases. At the same time, heavy objects are the main cause of fires in cotton gins. Therefore, the question of how to distinguish cotton from heavy objects is of paramount importance. Even with full compliance with the rules for collecting and storing cotton wool, the probability of such foreign bodies entering the cotton wool remains. Therefore, at present, the need to create new, sufficiently effective stoneholder devices in order to ensure the long-term operation of the working bodies of cotton processing machines has increased even more in recent years.

The experience of cotton mills shows that the existing stone holders cannot sufficiently solve the problem of separating heavy objects from cotton. That is why at the cotton gins and at the preparatory points, you can see all kinds of devices for catching heavy objects created by the workers and engineering and technical personnel of the enterprise. The performance of these devices is much lower, they mainly catch heavy objects of large sizes. And small items are transferred to the technological process. In addition, the existing stone holders have a high aerodynamic drag. This, in turn, leads to a sharp decrease in air pressure in the pneumatic transport pipelines, as well as to the fact that the pockets of stone holders are filled with cotton wool and drained into waste. In addition, the stone crushing plants used at the enterprises are not fully automated, the processes of cotton transportation, drying and cleaning are not established. Therefore, it is still necessary to create high-performance equipment for cleaning cotton from heavy objects and improving existing ones.

The experience of cotton factories shows that existing stone holders do not sufficiently solve the problem of separating heavy objects from cotton. Therefore, in ginning and cotton mills, you can see a variety of devices that can hold heavy objects created by workers and engineers of the plant. The performance of these devices is much lower and they mostly hold large, heavy objects. On the other hand, small bodies go through a technological process. In addition, existing stone catchers have high aerodynamic resistance. This, in turn, leads to a sharp drop in air pressure in the pipes of pneumatic transport, as well as to the fact that the pockets of the stone are filled with cotton wool and are put into waste. In addition, the cotton ginning equipment used in the factories is not fully automated, and the process of crushing and cleaning cotton is not well established. Therefore, the need to create and improve the existing highly efficient equipment for cleaning cotton from heavy objects remains relevant.

There are many types of stone holder devices that not only constantly separate the cotton wool from various impurities and improve its quality, but also prevent further processes, including during the galvanizing process, the destruction of the saw teeth as a result of the impact of stone or metal chips on the saw and the sparking between the saw and the metal chips. As we are well aware, cotton fiber is a highly

flammable element. If a few flares hit the surface, it will cause a large fire. This leads to the destruction of an entire enterprise due to a fire.

To solve the above problems, the stone holder during operation must constantly work and fully comply with all requirements.

Analysis of the literature on the subject. Despite the fact that the problem of improving the process of extracting heavy impurities from cotton is very urgent, to date, no equipment has been created that has sufficient efficiency. Therefore, in the technological chain of cotton processing several embedded devices with low trapping efficiency of heavy impurities that reduce productivity and the radius of the transport process, resulting in lower quality cotton.

The cotton separated from heavy mixtures continues to move in the air stream. This design is the result of efforts to create linear units of various designs. The horizontal line blocks were created by M.R. Hasanov [2].

In this case, the inlet and outlet pipes of the stone holder are located on the same axis. As a result, the aerodynamic drag of the stone holder becomes small. Its effectiveness in retaining heavy impurities is low. In the work, it was proposed to install a device in the construction of the stone holder, which will cool the cotton wool before entering the working chamber. This change, although it increases the efficiency of the stone holder, but negatively affects the quality of cotton.

In the research work of Professor R. Muradov, one of the main disadvantages of stone holders used in cotton gins is that a certain amount of cotton gets into their pockets during operation. This disadvantage can be seen when examining the three types of stone holders installed in the conveying device with the help of air in the process of processing cotton. The first stone holder is installed in front of the drying drum. The second one is installed in the cleaning shop, and the third one is installed between the Gin cleaning and linting shops.

The experiments were carried out on grade II cotton with an pollution of 13.5% and a humidity of 9.7%, collected on the AH-Y3-3 machine.

It is recommended to remove the stone holder together with heavy impurities manually and re-pump it into the pipe of the carrier device using the air that has entered the hopper. But in some cases, the cotton there is combined with various impurities exceeding its contamination, and it is not possible to separate it manually. Therefore, the above recommendation is ignored in many enterprises, and cotton is thrown into waste.

The waste that accumulates in the pockets of the stone holder contains significantly less cotton, 2 times less than the first one. In addition to heavy bodies, cotton stone, the hopper hopper contains other impurities (immature defects, etc.). It is known that the speed of movement of stones is higher than that of cotton, but the arrival of non-titanium sets is equated to the speed of movement of small stones when transporting cotton.

(Table 1).

Speeds of movement of cotton and heavy mixtures

Table 1

Cotton weight, gramm.	Motion speed, m/s	The size of the stones, mm	The speed of movement of stones, m/s
1	3,5	untill 5	12,8
10	6,7	from 5 untill 10	14,4
100	8,5	10 - 20	20,5
200	11,7	20 - 30	25

This device (Figure 1) consists of a vertical mine(1), three gates (2,3,4). The gate in the middle of them can be installed rod.

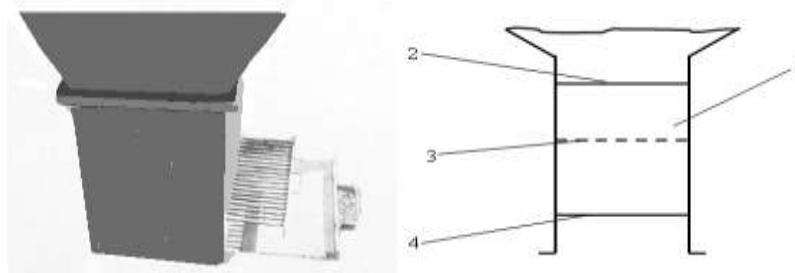


Figure 1. Device for removing heavy mixtures from the stone holder chamber
1-vertical mine; 2-top shiber; 3-medium rod shiber; 4-bottomshiber.

The device works as follows. Heavy mixtures pass through the stone holder pocket and fall to the top shiber surface - the mine, during which time pieces of cotton can also fall, after the top loading chamber is filled to the normal level, it moves.

The mass standing on the surface of the shiber falls on the surface of the medium shiber due to gravity. Then, within a certain time, the cotton is added to the main mass by means of an ejection stream formed as a result of the opening of the lower shiber (4) and exits through the outlet pipe. Heavy objects remain in the medium-rod shiber. Then the upper shiber is closed, resulting in the movement of the ejection stream stops. The medium-rod shiber is then opened and the heavy mixtures are expelled. The bottom, rod shiber are then closed in series and the device returns to its original position. The process of capturing heavy mixtures is then repeated in such a state.

In order to simplify the construction of the device, it can be used without a bottom shiber. However, this increases the absorption of atmospheric air through the trap. Therefore, it was considered appropriate to use the device as a three-shiber. Such a solution (Figure 2) is simple, but it requires serious attention.

The stone holder created by T.D. Mahamedov [3]. The principle of operation of the device is that the cotton transported in the air-carrying device enters the inlet pipe by air flow, due to the expansion of the cross-section of the pipe the speed of cotton decreases, it hits the conical divider surface. The resulting cotton is divided into pieces, distributed evenly along the surface of the short tube, and enters the separation chamber. The heavy compounds that hit the surface of the ladder reflector installed there change their direction of movement towards the pocket. In the separation chamber, large-sized compounds fall into the bottom pocket under the influence of their own weight. The main disadvantages of the above similar devices are the cleaning efficiency from heavy and coarse mixtures and low work efficiency.

Analysis and results. In the recommended stone-holding device, heavy mixtures of cotton are prepared in a working chamber in which the cutting surface consists of a right rectangle. In this case, the inlet and outlet pipes are placed parallel to each other in the horizontal plane. There is also a pocket for collecting heavy mixes located at the bottom of the working chamber and placed vertically relative to the mixing and outlet pipes. The pockets of the new stone holder are fitted with a rubber tool, which occupies a large part of the cut-out portion of the pocket. Its general appearance is shown in Figure 1.

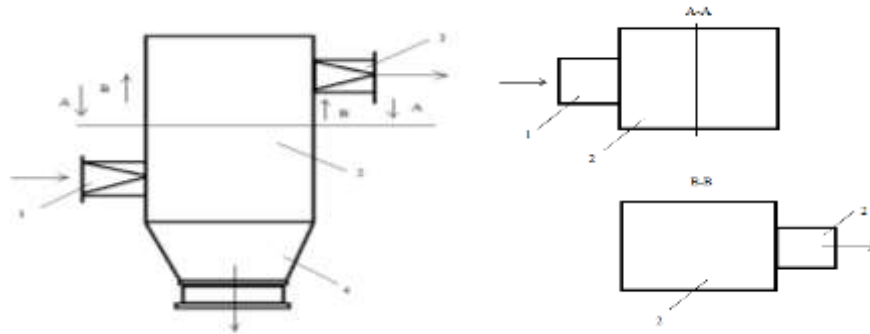


Figure 2. The proposed new construction stone holder

1-inlet pipe, 2-separation camera, 3-outlet pipe, 4- pocket for collecting heavy mixtures.

The proposed device works as follows: Cotton and its heavy mixtures transported by air in the pipes in the pneumatic transport system enter the separation chamber 2 through the inlet pipe 1, and hit the walls of the separation chamber at a reduced speed. As a result, heavy compounds in the cotton fall into the bottom pocket 4. The cotton separated from the heavy mixtures continues its direction by means of an air stream through the outlet pipe 3. The arrangement of the inlet and outlet pipes in a horizontal plane parallel to each other changes the trajectory of the air flow in the working chamber. This, in turn, allows the complete separation of heavy mixtures in the composition of cotton. In addition, the vertical position of the pocket, which collects heavy mixtures, relative to the inlet and outlet pipes allows for the effective separation of heavy mixtures. In order to simplify the construction of the device, it can be used without a bottom shiber. However, this increases the absorption of atmospheric air through the trap. Therefore, it was considered appropriate to use the device as a three-shiber. Such a solution is simple, but it requires serious attention.

This is caused by the fact that when the air-carrying device is operating, the stone holder pocket is filled with heavy impurities, which disrupts the process of timely opening of the shippers. As a result, heavy impurities pass through the separating device without separation.

The above shortcomings will be completely eliminated in the new device. There is no need for the shibers to be opened by the worker in series. This is because heavy compounds are automatically released during the movement of the device system. Workers also do not spend time separating heavy mixtures. As a result, it is possible to fully control other processes in the working system. The device does not consume electricity. The construction is very simple, no complex machine processes are required for preparation. To facilitate repair, many parts were made to be easily replaceable and standard materials were used. It does not require an additional cost to install in the

current production system. The moving parts of the device are designed to operate under the influence of many times changing loads.

The mode of operation of the device. Once the heavy objects in the system are collected in the stone holder and their weight reaches a certain amount, the heaviness load for that weight suddenly opens and as a result the upper valve is directed downwards.

The heaviness load of the lower valve is adapted to several cycles of the upper valve. When the weight of the waste in the bunker exceeds the weight of the waste, the valve overcomes the weight of the waste and goes down, and the waste is completely removed from the system. The tightness of the system is not compromised because the top cover closes during operation of the bottom valve. After the waste is completely drained, the valve return heaviness load returns the valve to its original position and the cycle ends.

Conclusion. Based on the results of the above research, we can conclude from the results of the analysis that, despite the improvement of the stone holder device in cotton processing plants, the stone holder device is not fully automated and the efficiency of stone retention is low. In the previous devices, the failure of the shiber to be opened by the workers in time caused the heavy mixtures to pass to the subsequent cleaning and ginning machines without separation. The proposed new construction design stone holder the above shortcomings in the autoclave, allowing the heavy mixtures accumulated in the pockets to be released in a timely manner without the involvement of workers. Therefore, it is necessary to conduct scientific research to improve the design of the device for continuous unloading of heavy mixtures of cotton.

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ANALYSIS OF QUALITATIVE INDICATORS OF MACHINE COTTON HARVESTING IN TECHNOLOGICAL PROCESSES OF PRIMARY COTTON PROCESSING

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Annotasiya. Ushbu maqolada mashina yordamida terilgan paxta va paxtani dastlabki ishlashdan ishlab chiqarilgan tolaning sifat ko'rsatkichlari tahlili haqida ma'lumotlar keltirilgan. Mashina yordamida terilgan paxta va paxtaga dastlabki ishlov berishdan ishlab chiqarilgan tolaning sifat ko'rsatkichi bo'yicha bir barabanli 1VPU rusumli tola tozalagichlarga ega bo'lgan Jizzax viloyatining Akmal Ikromov, Do'stlik paxta tozalash korxonalarida, ikki barabanli 2VPM rusumli tola tozalagichlarga ega bo'lgan Sirdaryo viloyatining Guliston paxta tozalash korxonasida, Toshkent viloyatining Bo'ka paxta tozalash korxonasida tajriba- tadqiqot ishlari olib borilgan tahlil natijalari keltirilgan. Tahlillar asosida tolaning sifat ko'rsatkichlarini yaxshilash bo'yicha ilmiy tadqiqot ishlari olib borish zarurligi asoslangan.

Kalit so'zlar. Paxta, tola, nav, bir barabanli, namlik, sinf, ikki barabanli, ifloslik.

Аннотация. В данной статье представлена информация об анализе качественных показателей волокна, получаемого от первичной обработки хлопка и хлопчатобумажной ткани машинным способом. По показателю качества

волокна, полученного от первичной обработки хлопка и хлопка, собранного с помощью машин, представлены результаты анализа, проведенного опытно-исследовательскими работами на хлопкоочистительных предприятиях Акмала Икромова, Дуслика Джизакской области, имеющих однобарабанные очистители волокна 1впу, на хлопкоочистительном предприятии Гулистан Сырдарьинской области, имеющем двухбарабанные очистители волокна 2впм, на буковом хлопкоочистительном предприятии Ташкентской области. На основе анализа обосновывается необходимость проведения научно-исследовательских работ по улучшению качественных показателей волокна.

Ключевые слова. Хлопок, волокно, сорт, один барабан, влажность, сорт, два барабана, сорность.

Annotation. This article provides information on the analysis of the quality indicators of the fiber obtained from the primary processing of cotton and cotton fabric by machine. In terms of the quality of the fibers obtained from the primary processing of cotton and cotton harvested by machines, presents the results of analysis conducted experimental research work in the cotton factories of the Akmal Ikromov, the Dustlik Jizzakh region having a single-drum cleaners fiber 1BIIY, at the cotton gin company Gulistan, Syrdarya region, having double-drum cleaners fiber 2BIIIM on beech cotton enterprise in Tashkent region. On the basis of the analysis, the necessity of carrying out research works to improve the quality indicators of fiber is justified.

Keywords. Cotton, fiber, sort, one drum, moisture, grade, two drums, dirt

Introduction. In terms of cotton production, the Republic of Uzbekistan is one of the leading countries in the world, occupying high positions in the world along with China, the United States, India and other countries. Cotton planting in Western Europe is also carried out in Albania, Bulgaria, Greece, Spain and Italy. In developed countries, cotton is an important branch of the national economy. In the above-mentioned foreign countries, cotton is mainly harvested by machines.

According to the decisions of the Cabinet of Ministers, the main task is to stimulate the machine harvesting of cotton. In recent years, the amount of cotton harvested by hand in our republic was 90-95%. In order to facilitate manual cotton production, reduce additional costs and introduce a cluster system in cotton production, large-scale work on the mechanization of cotton harvesting is being carried out by the government.

Due to the fact that today the government pays great attention to machine harvesting of cotton, the volume of machine harvesting of cotton in the Syrdarya, Jizzakh and Tashkent regions is expanding from year to year. A 5-year program has been developed for a phased transition to mechanization of the machine harvesting of raw cotton, and in accordance with this program, 35% of the grown cotton is planned to be harvested by machine until 2025 [1].

Analysis of the literature on the subject. Many theoretical and practical studies have been conducted on cotton and its quality indicators, both manual and machine-made. An important issue in the introduction of advanced technologies in the production of machine harvesting of cotton is, first of all, the study of the impact of cotton products on quality indicators[4,5]. While scientific researchers believed that in order to maintain the quality of the produced fiber and yarn, it is necessary to clean

cotton from large impurities up to 4 times, and from small impurities-up to 20 times, at cotton gins cotton is processed from small impurities up to 32 times [6]. However, the cleaning efficiency remains below the required level of 90-95%, and the amount of residual impurities in the fiber is not cleaned at the required level.

The complexity of the problem lies in the fact that at present, at cotton gins, the maximum amount of cleaning of cotton from small and large impurities is carried out on the cleaning equipment, which allows to increase the efficiency of its cleaning by installing additional cleaners, leading to a sharp increase in defective impurities in the fiber. Therefore, the effectiveness of cleaning cotton wool should be carried out without additional mechanical impact on it [7-9].

One of the indicators that determine the quality of cotton is the impurities of dirt in its composition. The degree of contamination of cotton-the percentage of pollutants in it.

The impurities contained in cotton, by origin, are divided into 2 types of organic and mineral mixtures.

And mineral mixtures include dust, soil, small pebbles, etc. The presence of mineral and organic impurities in the composition of cotton creates a number of difficulties in the process of processing cotton. Also, this situation has a negative impact on the natural quality indicators of cotton, even in the process of its storage in reception points.

In terms of viscosity, it is divided into active and passive mixtures. The active compounds are located inside the cotton fiber and are in a strong bond with the fiber, which makes it difficult to clean it. The passive impurities, however, are found on the surface of the cotton and are easily cleaned.

The process of fiber purification is one of the most important final processes of the technological process of cotton processing, the quality of the fiber largely depends on the efficiency of this process. In recent years, the re-introduction of machine-picked cotton in the cotton industry has led to a decrease in manual labor, increased the efficiency of the cotton industry, but at the same time has led to an increase in the pollution of cotton fabric, which in turn leads to an increase in impurities and defects in the fiber. One way to reduce the amount of impurities and defects in the fiber is to increase the cleaning efficiency. [2.3].

With this in mind, in terms of quality fiber research and development work in the cotton factories of the Akmal Ikromov, the Dustlik Jizzakh region having a single-drum cleaners fibers 1ВПУ, at the cotton gin company Gulistan, Syrdarya region, having double-drum cleaners fibers 2ВПМ on cotton beech enterprise Tashkent region.

Research methodology. Determination of the quality of cotton fiber is currently carried out by modern methods. The main indicators of the quality of cotton fiber are determined using the USTER HVI measuring system. This system is fast, and the resulting tables and charts are used all over the world. One of the equipment used in this system is the USTER AFIS PRO 2 equipment in this laboratory equipment, the quality indicators of cotton fiber are determined. The sample to be measured in the system must have a mass of (10±15)g. The mass of the sample is controlled by a computer.

The USTER AFIS PRO 2 is a standard neps measurement system recognized worldwide (according to the ASTM standard), and it is used from the cotton mill to the yarn production process. It determines parameters such as fiber length, impurity degree, ripeness, and neps. The general view of the equipment is shown in the figure.



Figure 1. AFIS PRO 2 testing laboratory of "USTER" company

The properties of the fibers contained in cotton fibers and semi-finished products are determined using the AFIS PRO 2 testing laboratory of the company "USTER". Laboratory analysis allows simultaneous determination of the values of length $L(n)$, angle (Neps/g), number of short fibers (SFC n , sfc w), linear density (Fineness), number of dry (ripe) fibers (Maturity), number of dead fibers (IFC), amount of dust (Duct Cnt), impurities (Trash Cnt), visible large impurities (VFM). The quality indicators of cotton obtained from existing and improved fiber cleaners with the help of the above-mentioned laboratory were studied as a result of experiments in the laboratory at the foreign joint venture "Jizzakh textile" LLC in the Jizzakh region.

Analysis and results. At cotton ginning company Dustlik found that the cleaning efficiency of the unit when cleaning cotton of I grade 2 grade II grade 2 grade YXK breeding C-6524 respectively 11.2% and 12.5% below the requirements of technological regulations, and in the purification of cotton I grade 2 grade II grade 2 selection of An-Bayavut-2 cleaning efficiency of the unit by grade is 13.0% and 11.4% lower. Mass fraction defective fibers and dirty impurities in the fiber derived from the processing of cotton C-6524 selection of I grade 2 grade II grade 2 class is 4.65% and 5.89% on grades, and the cleaning efficiency fiber cleaning in valiknaitusele brand 1BIY was 25.6% and 28.2%, which is 4.4% and 3.8%, below the requirements of technological regulations.

The cleaning efficiency of the purifier from defective fibers and impurities in the fiber derived from the cleaning of the cotton I grade 2 grade II grade 2 grade An-Bayavut-2, cleaning of fibers in single-drum cleaner fiber with a mass fraction of 4.65% and 5.89% on grades, 3.5% and 4.6% lower than the cleaning efficiency single-drum cleaner on technological regulations. Due to the low quality index of the produced fiber, the state standard UzDst632: 2016 "Cotton fiber" according to the "Technical conditions" corresponded to grades I and II "simple", respectively [10].

the gin tarn by grades was 2.2% and 2.4%, respectively, which is 0.7% and 0.9% higher than in the gin tarn according to the requirements of the technological regulations. Due to the high contamination of cotton obtained from gin, the mass fraction of defective fiber and impurity impurities in the fiber obtained from denim cotton was high and amounted to 4.4% and 6.2%, depending on the grade. When cleaning this fiber in the 1BIY technological fiber cleaner, the cleaning efficiency of the equipment by grade was 26.3% and 27.4%, respectively, which is 3.7% and 4.6%

lower than the cleaning efficiency required by the technological regulations. Due to the low cleaning efficiency, the quality of the produced fiber is low, and according to the state standard UzDst632: 2016 "Cotton fiber" "Technical conditions" Grade I corresponded to the "simple" class [7-9].

At cotton Ginning company Gulistan in the Syrdarya region, which has a double-drum palacehotel model 2BIM when cleaning the cotton breeding "Porloq-1" I grade 2 grade, second grade 2nd grade unit YXK YXK cleaning efficiency were, respectively, 76,8% and 78.4 per cent, which is 11.2% and 9.6% lower than the complexity of treatment required technological regulations 70-2017. The mass fraction defective fibers and impurities in the fiber derived from the cotton processing of I grade 2 grade II grade 2 class selection of Porloq-1 is of 4.28% and 6.4%, according to grades, and the cleaning efficiency of the fiber from double-drum cleaning in valiknaitusele brand 2BIM averages of 27.6% and 29.1%, on average, 7.4% and 6.1 A manufactured fiber in accordance with the state standard UzDst632:2016, "Cotton fiber" "Technical conditions" on the varieties correspond to I and II classes "simple". Experimental research works were carried out on the quality indicators of the fiber obtained from the primary processing of cotton and cotton harvested using machines at the cotton gins of Akmal Ikromov, Dustlik of the Jizzakh region, which have single - drum fiber cleaners of the 1BIY model, at the Gulistan cotton gin of the Syrdarya region, which has

o/n	Raw cotton									Fiber				Class, standard requirement	Cleaning efficiency, %		Waste
	Breeding and industrial variety, class	Humidity, %		Pollution, %						Before cleaning, %		After cleaning, %			Real	Requirement of technological	
		Primary	At Gin	YXK aggregate			At Gin			Humidity	Pollution	Humidity	Pollution				
				Primary	After the equipment	Cleaning efficiency	Real	Requirement of technological	Real								
3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
A. Ikromov cotton ginning enterprise																	
1	Sulton, 1/2	9,8	8,3	9,7	2,4	75,3	88,0	2,2	1,5	6,7	4,4	6,66	3,24	I-simple, 4,0	26,3	30	25,6
2	Sulton, 2/2	10,6	8,6	9,9	2,6	73,7	88,0	2,4	1,5	6,9	6,2	6,84	4,5	II-simple, 5,5	27,4	32	28,2
3	An-Bayavut-2, 1/2	10,2	8,5	10,8	2,9	73,4	88,0	2,5	1,5	6,5	4,6	6,5	3,31	I-simple, 4,0	28,0	30	23,8
Dustlik cotton ginning enterprise																	
4	C-6524, 1/2	10,3	8,6	9,5	2,2	76,8	88,0	1,9	1,5	6,3	4,65	6,27	3,46	I-simple, 4,0	25,6	30	24,2
5	C-6524, 2/2	10,8	8,9	10,2	2,5	75,5	88,0	2,1	1,5	6,8	5,89	6,62	4,23	II-simple, 5,5	28,2	32	29,7
6	An-Bayavut-2, 1/2	9,9	8,4	9,6	2,4	75,0	88,0	2,1	1,5	6,0	4,9	5,83	3,6	I-simple, 4,0	26,5	30	27,5
7	An-Bayavut-2, 2/2	10,4	8,5	10,7	2,5	76,6	88,0	2,16	1,5	6,7	6,34	6,6	4,6	II-simple, 5,5	27,4	32	28,9

double-drum fiber cleaners of the 2BIM model, at the beech cotton gin of the Tashkent region. The results are shown in Table 1.

Table 1

Results of initial processing of machine-dialed cotton

When processing cotton "Namangan-77" selection I grade 2 grade, II grade 2 grade at the Buka cotton ginning plant, the cleaning efficiency of the YXK was on average 11.5% and 9.4% lower than the cleaning efficiency required by the technological regulations. When cleaning the fiber obtained by cleaning cotton of this selection grade in a two-drum fiber cleaner using 2BIIM technology, the cleaning efficiency was 27.3% and 28.5%, respectively, which is on average 5.7% and 6.5% higher than at the purifier. cleaning efficiency according to technical characteristics was lower.

Conclusion. It can be said that, despite the scientific and practical research conducted by scientists and specialists to improve the efficiency of cleaning detergents, improve the quality of the fiber produced and achieve positive results, the results of the analysis show that the cleaning efficiency of cotton fiber collected manually and by machine is somewhat higher meets the requirements of the standard. Achieving high performance in the production of technologies that fully meet consumer demand for high-quality products is one of the most important tasks facing scientists in the industry.

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DEVELOPMENT OF IMPROVED CONSTRUCTION OF SCREW CONVEYOR COMPONENTS AND CALCULATION OF PARAMETERS

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Annotasiya. Vintli konveyerda mahsulotni tashishda aylanma harakatni amalga oshirib beruvchi mexanizmi shnek hisoblanib, uning takomillashtirilgan konstruksiyasini loyihalash ishlari amalga oshirilib, ilmiy tadqiqot ishlari olib borish natijasiga ko‘ra, ishlab chiqarishga muhim bir yangilik sifatida tavsiya etiladi. Ishning mazmuni shundan iboratki, gorizontol yoki qiya holatda joylashgan vintli konveyerlarda shnek o‘ramining to‘lqinsimon yuzalari aylanma harakat vaqtida tashiladigan mahsulotni bir joydan ikkinchi joyga kuchishida, tashiladigan mahsulotning shnek harakatiga teskari harakat qilmasligi uchun yordam beradi. Shnek o‘ramining turli xil konstruksiyasi bo‘lgan vintlarni ishlatganda, shnekning tashqi yuzasidagi to‘lqinsimonliklarni optimal burchagini aniqlash uchun analitik bog‘liqlik

oligan va tadqiqot natijalariga ko'ra gorizontali yoki qiya holatda joylashgan vintli konveyerning o'ziga xos yangi konstruksiyadagi ko'rinishi ishlab chiqilgan.

Kalit so'zlar: vint, konveyer, shnek, ikkikirimli shnek, to'lqinsimon yuza, mashinamexanizmlari, detal, konstruksiya, reserstejamkor, ishqalanish.

Аннотация. Винтовой конвейер совершает вращательное движение при транспортировке продукта по винтовому конвейеру, его усовершенствованная конструкция разрабатывается и по результатам научных исследований рекомендуется как важное новшество в производстве. Суть работы заключается в том, что на винтовых конвейерах в горизонтальном или наклонном положении гофрированные поверхности намотки шнека помогают перемещать транспортируемый продукт с одного места на другое во время вращательного движения, чтобы транспортируемый продукт не перемещался в противоположное направление. При использовании шнеков с разной конструкцией намотки шнека была получена аналитическая зависимость для определения оптимального угла волнистости на внешней поверхности шнека, и была разработана конкретная новая конструкция горизонтального или наклонного винтового конвейера.

Ключевые слова: шнек, конвейер, сдвоенный шнек, гофрированная поверхность, механизмы машины, деталь, конструкция, энергосбережение и сила трения.

Abstract. The screw conveyor performs a rotational movement when transporting the product along the screw conveyor, its improved design is being developed, and according to the results of scientific research, it is recommended as an important innovation in production. The essence of the work is that on screw conveyors in a horizontal or inclined position, the corrugated surfaces of the screw winding help to move the transported product from one place to another during the rotational movement, so that the transported product does not move in the opposite direction. When using augers with different screw winding designs, an analytical relationship was obtained to determine the optimal undulation angle on the outer surface of the auger, and a specific new design of a horizontal or inclined screw conveyor was developed.

Key words: auger, conveyor, dual auger, corrugated surface, the mechanisms of the machine, the part, the design, power-saving and friction force.

Introduction. One of the main issues of machine-building, which determines the development of the world economy, is the design and implementation of high-quality, competitive, reliable, modern, compact machines with high economic performance. The development of science and technology is closely connected with the design of new machines and circuits. The people of the Republic and the industry are required to use abundant, inexpensive, and high-quality improved equipment and new types of equipment efficiently. The contribution of the mining industry, agricultural industry, chemical industry, construction industry, and machine-building enterprises operating in our republic is great. In recent years, technical and technological updates and modern modernization work are carried out in all branches of Mechanical Engineering at a wide pace. In particular, numerous scientific researches are carried out on the development

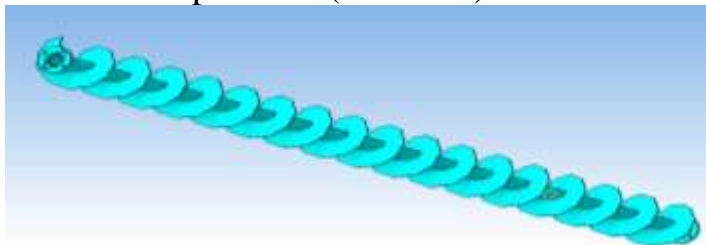
and improvement of efficient, energy-efficient structures of technological machinery and equipment of all industrial enterprises [1,2].

Literature review. Designed to meet the diverse needs of workers in manufacturing enterprises and service industries, for successful operation, modern technological equipment must be provided, including transportation, conveying machines, and devices. Screw conveyors are widely used in industrial enterprises and productions, and perform the function of transporting, loading, lowering powder, powder, crumbly and fine-grained materials. Screw conveyors are used with simplicity and relatively low cost, ensuring safe working conditions, without any contamination of the product and environmental pollution. Usually, the main construction of the screw conveyor consists of a screw with a blade, which is located on the Tarn. In screw conveyors, the product can be stretched horizontally, at an angle relative to the horizon, as well as vertically [3,4]. As a result of the rotational movement of the screw, the product in the groove begins to move in the specified direction. Using screw conveyors, the product can be extended to 40 meters in a horizontal direction, 30 meters in a vertical and inclined direction. Working productivity of screw conveyors can reach up to 100 t / hour. Screw conveyors are considered a machine that uses a screw moving motor to twist and push the material to achieve the purpose of transmission, it can be transported horizontally, curve or vertically. Their advantages the structure is simple, the operation and adjustment work is convenient. The propeller of screw conveyors, which stands in the horizontal and inclined position used today, is a one-stroke and smooth surface, moving on account of the weight of the material and the friction resistance of the screw conveyor relative to the material [5,6].

Research Methodology.

Characteristics of screw conveyors:

- the structure is relatively simple and the price
- reliable operation and corrective management work OS
- it is possible that the supply of hot and health-hazardous materials, reducing pollution of the environment, carry out transportation work that is convenient for workers to improve working conditions
- convenient to load and unload. Horizontal and inclined screw conveyors can be installed at any point of their transport line (Picture 1).

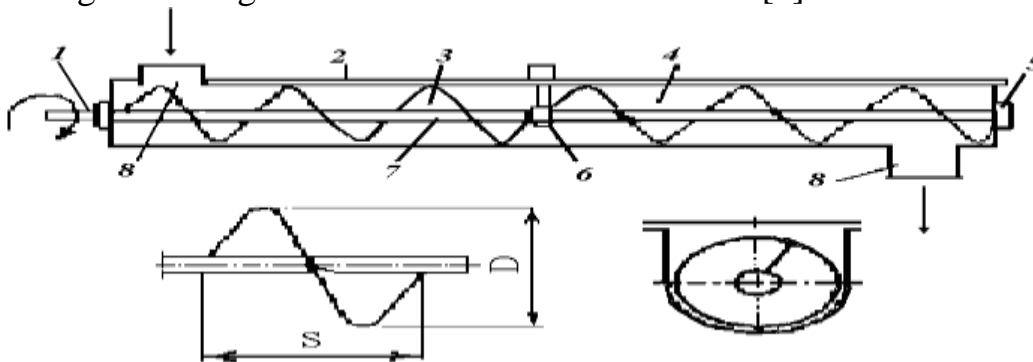


1-picture. Screw conveyor

Screw conveyor (Picture 2) consists of 1, removable cover 2, casing 3, fixed nut 4, swing bearings 5, Intermediate hanging bearings 6, bearing 7, and release tubes 8, the cord moves in its place Rotary. And the transported product is pushed along the fur with the help of cord clamps.

In screw conveyors, the cord is the most basic element. It consists of a steel pipe, with a thickness of 3-4 mm, the tin is welded into the groove by stamping or welding

in the form of steel screws. The diameter of the cord will be up to 100, 125, 160, 200, 250, 320, 400, 500, 630, 800 mm. The movement of the cord is carried out by an electrodrive through a reducer or chain transmission [7].



2-picture. Cord conveyor.

here 1-th Rule; 2 – Cover; 3 – Wrap; 4 – reel; 5 – bearings; 6 – Intermediate hanging base; 7 – Steel Groove; 8-the place where the product will come out.

It comes to the Assembly in the case when the plugs that are not too long are assembled. The plugs, which come to the assembly with separate parts, are assembled on the floor where the equipment is assembled. Before assembling, the condition of the parts of the cord and the graph of their customization are checked.

Depending on the type of product, for example, for cement, $\rho = 50 \div 60 \text{ kg/m}^3$; for crushed sand particles, it is equal to $\rho = 70 \div 80 \text{ kg/m}^3$

If the screw conveyor is mounted on the inclined, the filling of the Tarnov into the sand particles is reduced, so the working flour formula is multiplied by the C coefficient. The value of C is obtained as follows, depending on the horizontal slope angle β of the conveyor.

β	0^0	5^0	10^0	15^0	20^0
C	1,0	0,9	0,8	0,7	0,6

The electromotive force for moving the screw of the horizontal conveyor is calculated by the following formula (kWt):

$$N = \frac{Q_k \cdot L \cdot g \cdot W}{3,6 \cdot 10^3 \cdot \eta} \quad (1)$$

When the conveyer curvature is installed, the power is calculated by the following formula (kWt):

$$N_k = \frac{Q_k \cdot L \cdot g}{3,6 \cdot 10^3 \cdot \eta} (W + \sin\beta) \quad (2)$$

here: Q_k – conveyer working output, t/H;

L-conveyer length, m;

η - useful working coefficient of moving equipment, $\eta = 0,7 \div 0,8$;

g - free fall acceleration;

W – resistance of the transported product to push in the groove.

β -slope angle of the conveyer.

The working capacity of screw conveyors (working unit) is calculated by the formula:[8]

$$Q = 60 \frac{\pi \cdot D^2}{4} t \cdot n \cdot \tau \cdot \rho \cdot C^2 \quad (3)$$

here: D-screw diameter, mm;

t-screw stage, mm;

n-the frequency of rotation of the screw, ob/min;

ρ -density of the transported material, t/ m³;

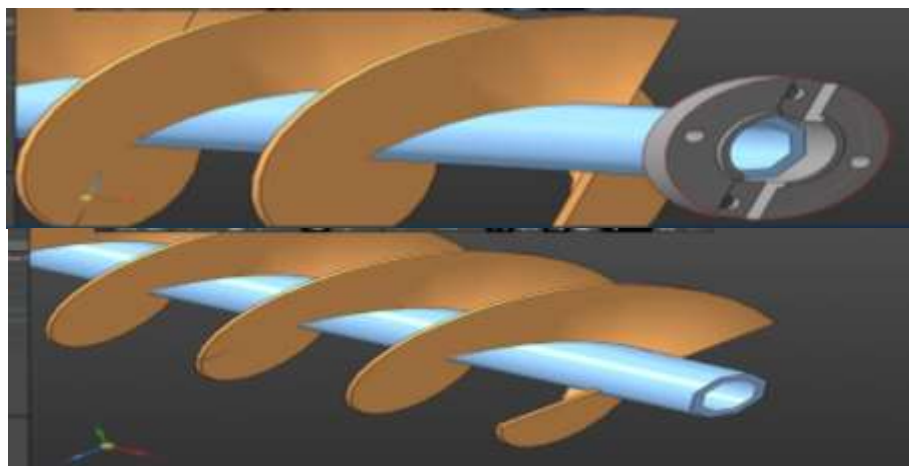
C-if the correction coefficient β , depending on the slope angle of the conveyer

$\beta = 0^\circ$, C=1 is accepted;

τ -screw cross section filling coefficient for abrasive materials;

The top edges of the screw conveyer in VK Russian screw conveyer have a shell with side bends, in which the screw is located correctly, which ends at the level of the horizontal axis, is made holistically with a cylindrical bottom.

The cord we offer is brand new construction, double penetration wave surface, with work efficiency high, resurstejamkor and good quality [9]. The essence of the work is that the wavy surfaces of the shnek die in screw conveyors located in a horizontal or inclined position contribute to the reverse movement of the transported product to the shnek movement, while strengthening the transported product from one place to another during the rotational motion. The difference between conventional conveyors with a screw-like waveform surface with two inputs located in a horizontal or inclined position is that because two inputs are two, the product is transported twice, and in conveyors located in a inclined position, the downward movement of the product is relatively low. The force of rotation of the screw is theoretically determined by the effect on the process of material transportation, if the cord is wavy, then the force of rotation will help the transported material to move along the cord. The wavy surface of the screw conveyer, which is located in the inclined position, helps to increase the driving force of the transported material on the cord [10,11,12]. When using screws with different construction of the auger mortise, analytical fastening was obtained to determine the optimal angle of oscillations on the outer surface of the auger, and according to the results of the research, the appearance of the screw conveyer in a specific new construction was developed, which is located in a horizontal or inclined position.



3-picture. New design double beam waveform surface screw conveyor augeri.

In most of these works, the material to be transported is considered in the form of material points moving along the helical surface of the screw .

Conclusion. At the enterprises of machine-building production, the conditions and features of operation of screw conveyors were considered, special requirements were made for the construction of their main components. The analysis of the parameters of the design details and parts of the screw conveyor systems on the basis of their designs and design was carried out.

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ACTUAL PROBLEMS OF HISTORY AND PHILOSOPHY**UDK: 378.091.322****SOME OPINIONS ABOUT HISTORY OF MNEMONICS**

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Annotatsiya: Ushbu maqolada nemis tilini o`qitishda mnemotexnikadan foydalanish va uning samaradorligini tahlil etish bo`yicha fikrlar keltirilgan. Mnemotexnikaning tarixi va taraqqiyoti tahlil qilingan. Mavzuga oid asosiy adabiyotlar o`rganilgan. Xotira texnikalarining o`rganish samaradorligiga ta'siri ochib berilgan.

Kalit so`zlar: mnemotexnika, mnemotexnika tarixi, rivojlanish, til o`rganish, til o`rganuvchi, grammatika, so`z boyligi.

Аннотация: В статье представлены взгляды на использование мнемоники в обучении немецкому языку и анализ ее эффективности. Анализируются история и развитие мнемоники. Изучена основная литература по данной теме. Описано влияние методов запоминания на эффективность обучения.

Ключевые слова: мнемоника, история мнемоники, развитие, изучение языка, изучающий язык, грамматика, словарный запас.

Abstract: This article presents the views on the use of mnemonics in the teaching of German and the analysis of its effectiveness. The history and development of mnemonics are analyzed. The main literature on the subject is studied. The effect of memory techniques on learning efficiency is described.

Key words: mnemonics, history of mnemonics, development, language learning, language learner, grammar, vocabulary

Introduction. In the development of world science, the issue of language learning has never lost its relevance. While the study of a foreign language contributes to the development of certain areas, there is a need for certain innovations in these processes. In today's fast-paced society, learning foreign languages has become one of the most important requirements of our time. It is well known that learning any foreign language is unimaginable without grammar and vocabulary. Every foreign language teacher is required to arouse the interest of language learners, to teach effective and easy ways of language learning. For this reason, it is important to use the most effective methods in learning and teaching foreign language grammar, increasing vocabulary.

In particular, the focus on the teaching of grammar and the use of mnemonics in increasing vocabulary is becoming one of the most important areas of research in the scientific research of world stylists. This research work is also relevant as it is one of the new cognitive directions entering the learning process. One of the most important tasks today is to train modern personnel who know several foreign languages in our country, to conduct research on foreign languages, to improve the methodology of language teaching.[11]

In the methodology of teaching world languages, new pedagogical practices have been introduced in this regard at different times. The new approaches are characterized by offering easy ways to achieve the goal in the field.

Literature review The word mnemonics is derived from the Greek words "mnémōē" (memory and recollection) and "téchnē" (art), which means to elevate memory to the level of art. The concept of mnemonics is derived from the name of the Greek memory goddess Mnemosine.

Mnemonics are tools for remembering and memorizing, helping to keep the information being studied or learned in memory for a long time and to remember them faster. Mnemonics is a technique of associating information that needs to be learned with information that is present in memory, converting it into simple words, pictures, and quick memorization using memory methods.[7]

The invention of the art of memory has a long history, the first information about it dates back to 556-468 BC. Information about the art of memory in this period appears in the views of the speaker Cicero and the lyric poet Simonides van Keos. In his work on mnemonics, Cicero describes this technique in terms of space and pictures. Simonides, on the other hand, demonstrates the memorization of objects and ideas as the basis of his technique by connecting them with the regions and places associated with them. There is even an anecdote about the "Loci" (space) method used by Simonides, in which he was invited to a festive dinner, but the feast ends tragically. On the night of the feast, the house collapses and overwhelms all the guests, only Simonides survives. Simonides then imagines the whereabouts of the dead and helps the deceased to be distinguished by their relatives. Because he would have remembered where everyone was sitting. After that, as a result of his views, the method of "Loci" appeared in mnemonics. The word "loci" is derived from the Latin word "locus", which means "place".

Sh. Rakhmonov and I. Sattibaev use it under the name of "space" technique. In our view, too, the concept of "space" can reveal the content of this technique and is consistent with the content.[8] This art of remembrance actually belonged to Roman oratory in the ancient period, when the art of oratory was highly developed in Rome. The speakers, on the other hand, were in dire need of strengthening their memories. This need led man to invent mnemonics, which is a cognitive way of remembering information.

Among the ancient scholars who turned to mnemonics after Simonides were Hippias [3] (5th century BC) and Aristotle [4] (384-322 BC). In Rome, the heyday of oratory is directly attributed to the heyday of mnemonics as well. Mnemonics has been compulsorily taught as one of the 5 main parts in public speaking classes and has often been used in court speeches. Later, as a result of the invention and introduction of other methods and techniques, mnemonics became increasingly forgotten.

By the twelfth century, mnemonics had almost been forgotten. A work by Ad Herennium, written by an unknown author, is of special importance in its rebirth. From this point on, mnemonics began to be taught again as part of speech. By the 15th century, mnemonics of antiquity had begun to develop again. Previously, the method of "loci" was used, but by this time it was supplemented by association-based aids,

methods of using the animal or human body. Methods of linking data with letters and numbers have emerged.

By the seventeenth century, the activity of mnemonics began to decline again. In the XVII - XIX centuries the range of their users was very narrow. It was not until the second half of the twentieth century that mnemonics re-emerged. By this time, its scope had expanded even further. Its potential has grown from an area of research into the psychology of learning and the structure of the brain to an even more interesting level. But even in this period the system of mnemonics was no different from that of antiquity.

From the second half of the twentieth century, mnemonics again became a favorite means of recollection and was shown in empirical studies of memory as a basic principle, precision, and interaction. Today, mnemonics has been used for more than 2,500 years; but despite its development over so many years, its basic principles have not changed. But it seems that at different times it received different levels of attention.

Today, mnemonics is used in various learning processes, often to remember large amounts of unrelated information and facts. In particular, their use as an auxiliary method in learning foreign languages is expanding. "The mnemonic style is very useful for students learning foreign languages. The biggest problems facing students today are that it is boring to memorize new words, that they have to memorize a large number of words in a short period of time, and that words that have already been memorized will not be remembered for a long time." [8]

But a survey of foreign language teachers found that very few of them use mnemonics. Today, the concept of the application of mnemonics is related to data coding and serves to create a better idea of the information being studied. This technique is especially recommended in cases where a lot of information needs to be memorized, including in the process of learning a foreign language.

The basic concept in lighting mnemonics is memory. German researcher H.Sperber cites various theories about mnemonics.[9] It explores the views of scholars ranging from Plato to modern memory researchers such as John Locke. He notes that John Locke describes memory as "the custodian of our ideas". H. Sperber, in his work "Mnemotechnik im Fremdsprachenerwerb" (1989), explored the use of mnemonics in the teaching of German as a foreign language. The scientist has conducted various studies on teaching the article using interactive memory images and, in turn, has achieved great success.

The research of German researchers Schiffrin and Atkinson emphasizes the importance of mnemonics in understanding the learning process. They note in their research that there are three types of memory:

- ultra short-term memory;
- short-term memory;
- long-term memory. [1]

In our view, mnemonics can be a key tool for effectively transferring data from short-term memory to long-term memory.

When studied using mnemonics, both hemispheres of the brain are activated, as concrete and abstract (verbal) information is linked to mnemonic "pictures". As a

result, associations are formed. Associations, on the other hand, provide quick access to previously learned information. There are different ways to create such associations.

H.Sperber writes, "... There are a variety of crucial features for successful encoding, binding, and retrieval of data. These are, first of all, the associations, visualization and verbalization created and pre-existing by concreteness, interdependence, vitality, antiquity, color, emotion, language learning." They can be specified as the main criteria of mnemonics.

Research methodology. The research based on descriptive and comparative methods of analysis. Firstly, information has been obtained through the research that has been done before. Then, appropriate information has been completed in the literature review.

Analysis and results. In the analyzes conducted, students are also accustomed to accepting German lessons as a lesson that usually consists of a set of rules. It was also found that students' perceptions of mnemonics, which are directly related to their professional activities, are not formed at all. It was noted that the teachers themselves did not have a sufficient understanding of mnemonics.

Interviews with teachers of German language at Fergana State University (with the participation of dr.M.M Kahhorova) were conducted and the following questions were asked:

1. What methods and techniques do you use in foreign language lessons? Count it.
2. The importance of the methods you use in teaching foreign languages can you explain?
3. Are you familiar with the concept of mnemonics? If yes, can you describe it? Why are they used?
4. Can you explain mnemonics and its importance in foreign language teaching?
5. What can the teaching of foreign languages with the help of mnemonics give to foreign language education?
6. In what way do your students like to increase their vocabulary?

Of the 22 teachers surveyed, 15 were able to list what modern methods they use in their lessons. The modern methods mentioned by 9 of them have in fact become old methods of foreign language teaching. They tried to explain the importance of the methods they used in teaching foreign languages, but only 2 of them gave a completely satisfactory answer. The answers of the rest were said only on the basis of general opinions.

The third question on the concept of mnemonics was answered by only 1 out of 22 teachers, while the rest began to comment by referring to internet data when the question was asked. However, it turned out that even one teacher who was able to answer the question did not use mnemonics in practice, in his class. As for the next parts of the question, there was no answer from them at all.

The next questions 4 and 5 also remained unanswered. But when it came to 6 questions, participants came alive and commented on their students' word memorization methods and their effectiveness. According to him, students are also unaware of modern word memorization methods. Only some students were told to use cards to memorize new words. But it also turned out that they did not have information about the relevance of the cards to the concept of mnemonics.

In summary, it was found that teachers have no idea at all about the role of mnemonics in foreign language teaching.

Conclusion/Recommendations. This is an important innovation that will help language learners learn German language more effectively and in an interesting way. Mnemonic learning strategy such as communicative method is a potentially effective learning method because it provides a novel and different way of learning components of German language.

As a result of the introduction of mnemonics into the process of learning a foreign language, it has become somewhat easier to remember infinite information, increasing the efficiency of the language learning process.

We will recommend teaching foreign languages through mnemonic materials for easing learning progress.

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ACTUAL PROBLEMS OF NATURAL SCIENCES**UDK 528.854.2/ 911.52****SELECTION OF DIGITAL ELEVATION MODEL FOR DETERMINING THE HEIGHT AND DEPTH OF LAKES AND PONDS OF THE KHOREZM REGION**

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Annotasiya. So‘nggi yillarda Xorazm viloyatida iqlim o‘zgarishi bilan bog‘liq salbiy holatlar ko‘lami kengaydi. Suv resurslarining tanqisligi oshdi, qurg‘oqchilik muammolari keskinlashdi. Natijada baliqchilik xo‘jaliklarida foydalaniladigan suv havzalari qurib, maydoni qisqarmoqda. Viloyatda iqlim o‘zgarishi ta‘sirini yumshatish va iqlimga moslashish muammolarini o‘rganish mahsadida ko‘l va xovuzlarning chuqurligi, dengiz satxidan balandligi, kollektor va drenaj tarmoqlariga nisbatan joylashuvini o‘rganish lozim. Ushbu tadqiqot ishida Olon ko‘lining dengiz satxidan balandligi bir nechta sun‘iy yo‘ldosh ma‘lumotlari asosida tahlil qilinadi va ko‘l hududida o‘tkazilgan o‘lchash ishlarida olingan natijalar bilan solishtiriladi.

Kalit so‘zlar: ASTER, SRTM, GTOPO30, ASF, ALOS DSM, ALOS-PALSAR, Google Earth, ArcGIS, raqamli balandlik modeli, ko‘l, xovuz.

Аннотация. В последние годы в Хорезмской области увеличился масштаб неблагоприятных событий, связанных с изменением климата. Обострилась нехватка воды и усугубились проблемы засухи. В результате вода в озерах и прудах, используемых в аквакультуре, иссякает, а площади сокращаются. Для смягчения последствий изменения климата в регионе и изучения проблем адаптации к климату необходимо изучить глубину озер и прудов, их высоту над уровнем моря, их расположение относительно коллекторной и дренажной сетей. В данном исследовании высота озера Олонколь над уровнем моря анализируется на основе нескольких спутниковых данных и сравнивается с результатами, полученными при измерениях, проведенных в районе озера.

Ключевые слова: ASTER, SRTM, GTOPO30, ALOS DSM, ASF, ALOS-PALSAR, Google Earth, ArcGIS, Цифровая модель рельефа, озера, пруд.

Abstract. The scale of adverse events related to climate change has increased in the Khorezm region recent years. Water scarcity has expanded, and drought problems

have worsened. As a result, the water of lakes and ponds used in aquaculture has drying up and the area has shrinking. In order to mitigate the effects of climate change in the region and to study the problems of climate adaptation, it is necessary to study the depth of lakes and ponds, their height above sea level, and their location relative to the collector and drainage networks. In this study, the altitude of Olonkul Lake was analyzed on the basis of several satellite data and compared with the results of measurements conducted in the lake area.

Key words: ASTER, SRTM, GTOPO30, ALOS DSM, ASF, ALOS-PALSAR, Google Earth, ArcGIS, DEM, lake, pond.

Introduction: Today, several research institutes offer global digital elevation models (DEMs) to do some research analysis via the internet for free. An appropriate satellite data were selected to determine the elevation of the Khorezm region's lakes above sea level. Digital elevation data obtained from various sources were analyzed by using a geographic information system. The results obtained were compared with field measurements carried out in the area of the lake in order to check the data quality and precision. DEM data, which show the same results as the actual data, will be used as a basis for use in subsequent studies in lakes and ponds in the region.

Literature review: One of the reasons for the stability of lakes is their location: low or high relative to collectors and drains [1]. Several sources provide global digital elevation models that allow researchers to determine the altitude of the surface. Since they are different from each other, it is necessary to identify how they match the real situation or how is their quality. Several researchers have worked to assess the accuracy of ASTER and SRTM data [2, 3, 4]. It says that the reliability level of ASTER GDEM data is 95% and the accuracy level is 17 meters [5]. ASTER is the only satellite that has received altitude data for 99% of the surface area [6]. ALOS (Advanced Land Observing Satellite) DSM is a free digital surface model with a horizontal resolution of 30 meters, which can be used in education, research [7, 8, 9]. Besides, ALOS DSM data is used in a variety of studies such as 3D digital map development, disaster management, damage forecasting, and water resources research [10]. ASF (Alaska Satellite Facility) processes, distributes, and archives satellite data in accordance with NASA's mission. ASF DAAC currently has over a dozen synthetic aperture radar data, choosing high precision for processing from a variety of digital surface models [11, 12]. The accuracy of the ALOS PALSAR DEM provided by ASF is 12.5 meters [13]. A field survey was conducted in the region to determine the accuracy of Google Earth, ASTER, ALOS PALSAR, and SRTM data. In this case, the SRTM data appeared to be more reliable [14]. In this research paper, the height of the lakes is analyzed from six source databases and compared with the field observations.

Study area. The Khorezm region is located between 41° and 42° northern latitudes, 60° and 61° eastern longitudes, in the central part of the Turan lowland, on the territory of the ancient Khorezm-Sarikamysh alluvial delta of the Amu Darya with an area of 6.3 thousand km^2 . The study area is Lake Olonkul with an area of 151.7 hectares, located between $41^{\circ} 39'26''$ - $41^{\circ} 40'39''$ north latitude and $60^{\circ} 08'18''$ - $60^{\circ} 10'11''$ east longitudes, on the territory of the Shavat region (1-figure).

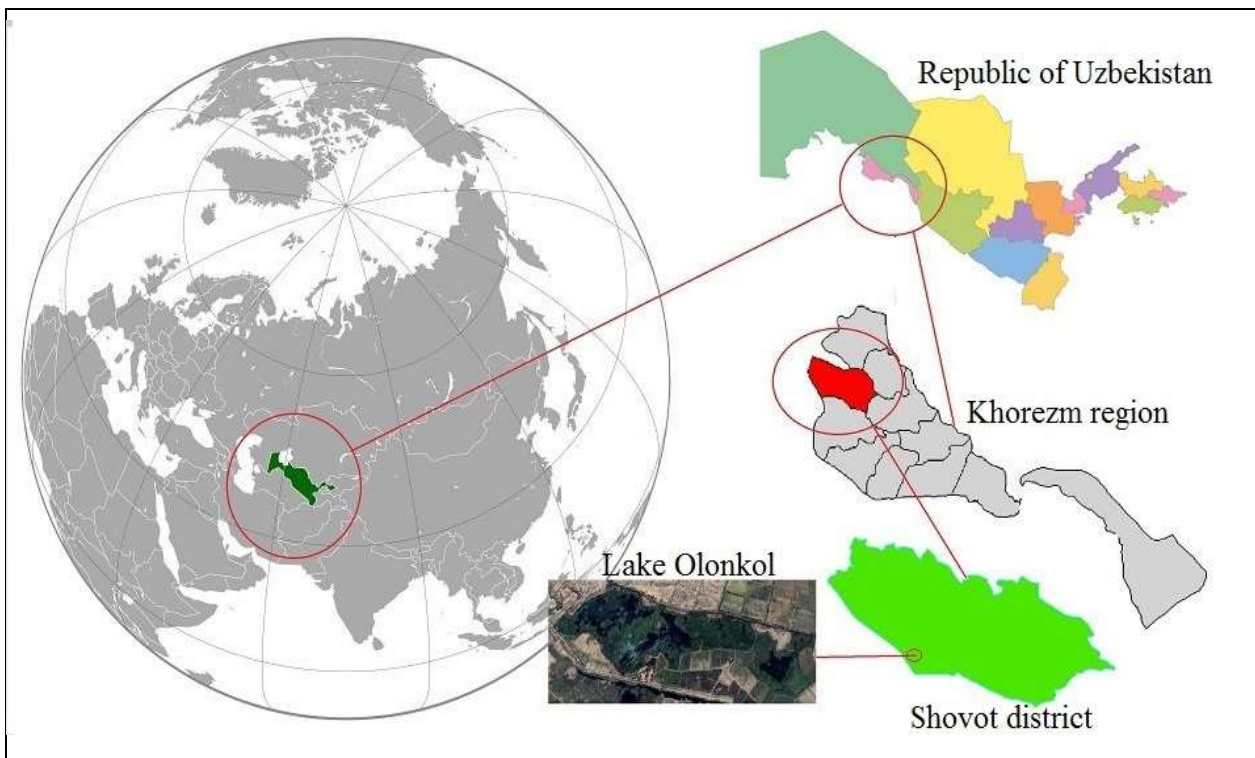


Figure-1. Study area - Lake Olonkul, Shovot district, Khorezm region, Uzbekistan.

Research data and methodology

The Google Earth platform was used to determine the elevation of Lake Olonkul above sea level. Using the TCX Converter and GPS Visualizer (Add elevation), the coordinates of each point on the lake and its elevation above sea level were determined. In this case, the difference between the highest and lowest points above sea level in the lake area was taken as the depth of the lake. Elevation values of the lake were later analyzed based on ArcGIS software through comparing DEM of GTOPO30, ALOS DSM, ALOS-PALSAR, ASTER, and SRTM. According to each data, a bathymetric map was created by determining the altitude of the lake above sea level. Elevation determined data based on each satellite data were compared with the field measurements made in the lake area (Figure 2). DEM data that were closest to on-site measurements are recommended for use in subsequent studies. These data will be used to assess the suitability of lakes and ponds in the region for aquaculture. Surface elevation data is an important indicator for some geography-related research works. Usually, the elevation data of a geographical object are being taken from geographical maps or scientific literature and considered as a simple indicator. And it serves to form a specific geographic imagination of the area where research is carried out. However, the issue of water scarcity highly influences the sustainability of lakes in the region. It means that it is important to determine the location of water bodies above sea level, their position relative to saturation sources, including self-altitude data.

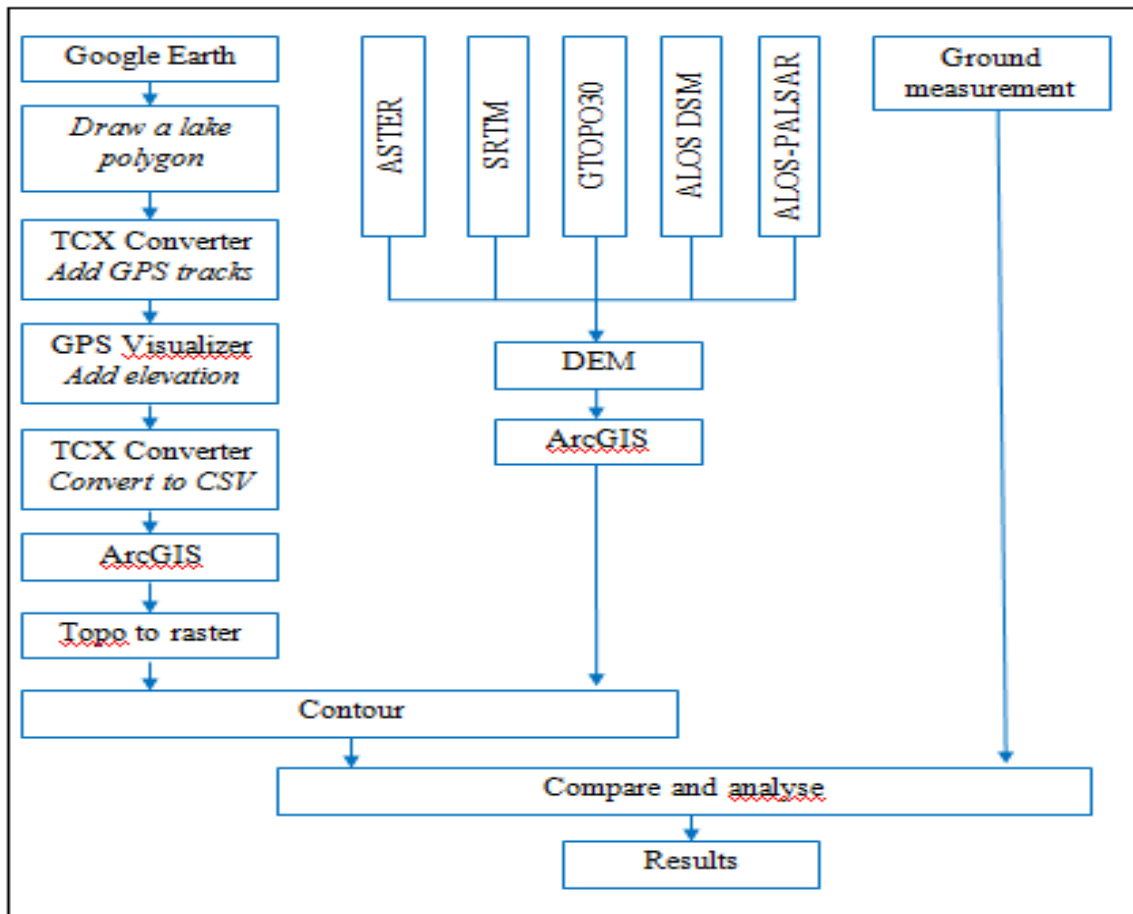


Figure-2. Flowchart of methodology.

Analysis and results

Modern GIS technologies allow rapid and continuous detection of surface elevation data. Free DEM data is one of the possibilities to carry out monitoring. Lake Olonkul, located in Shovot district, was selected to compare and check data precision and accuracy (Figure 3-A). Using Google Earth, the lake area and its surroundings were marked with a line to get elevation (Figure 3-B).





Figure 3. The object of research - Lake Olonkul.

The selected lake area is exported in KML and it was uploaded to TCX Converter. The geographical coordinates of each point marked in the lake area were determined and converted to CSV format. The CSV dimensional data shows the latitude and longitude of each point in the lake but does not provide information on the altitude of the points. Therefore, the data was uploaded to the online GPS Visualizer software and the elevation data of each point was determined. Since the data obtained was in GPX format, it was reloaded into TCX Converter and converted to CSV again. Using this method, geographic coordinates and elevation data are determined for 4211 points marked in and around the lake (Figure 4-A). CSV data was loaded into ArcGIS, and only points within the lake's shoreline were selected using the "Select by Location" command. Using the command "Topo to raster", the data on the height of the lake were converted to raster. Using the "Contour" command, a bathymetric map of the lake was created and the elevation values were displayed (Figure 4-B).

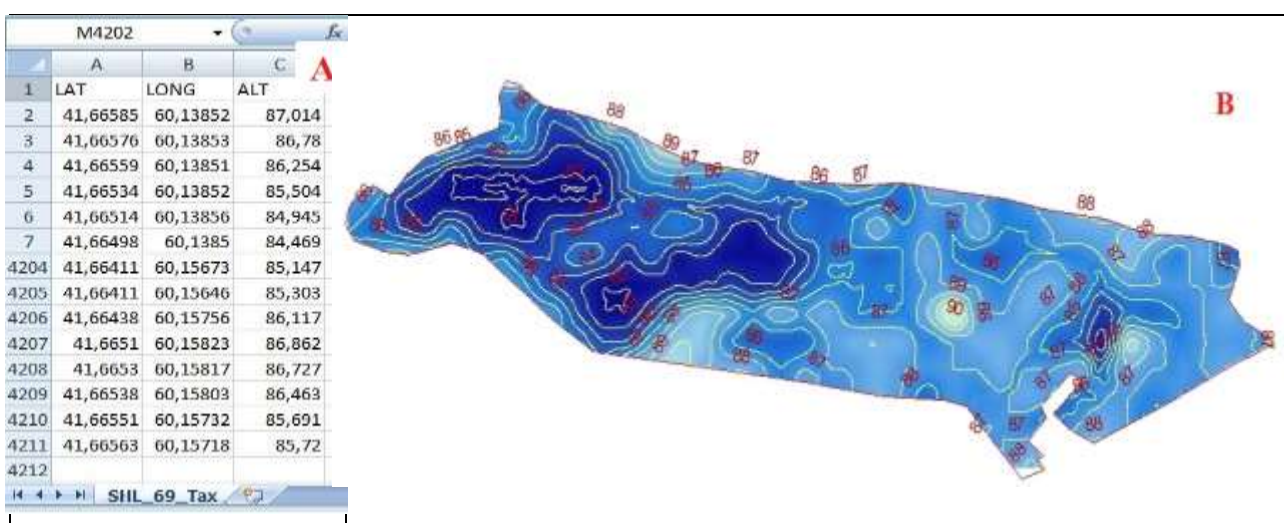


Figure 4. Elevation data of Lake Olonkul determined taken from Google Earth software.

It can be seen that the highest point of the lake was 90 meters above the sea level and the lowest point was 82 meters in the results. These were for Google Earth to determine the elevation data of the lake above sea level. Identifying elevation value by DEM is easier than using Google Earth. Different DEM data were used for this analysis. Firstly, the GTOPO30 data collected from the USGS databases. Then it was entered into ArcGIS. Using the Clip (Data Management) command, the area was cut the overlapping portion of the image with the area of the lakes (Figure 5). As it is clear from the figure, the data on heights were not reflected at all in two of the available lakes (A and C) in the analyzed area. The pixels of GTOPO30 did not fit with the other lakes (V, E, and D). In Olonkul Lake, which we have analyzed, the elevation data (F) is also partially reflected, with the height being 79 meters in all parts of the area. The reason was GTOPO30 data size is large, 30 seconds (approximately 1 km), and this data is not accurate enough to obtain the altitude measurements of small lakes.

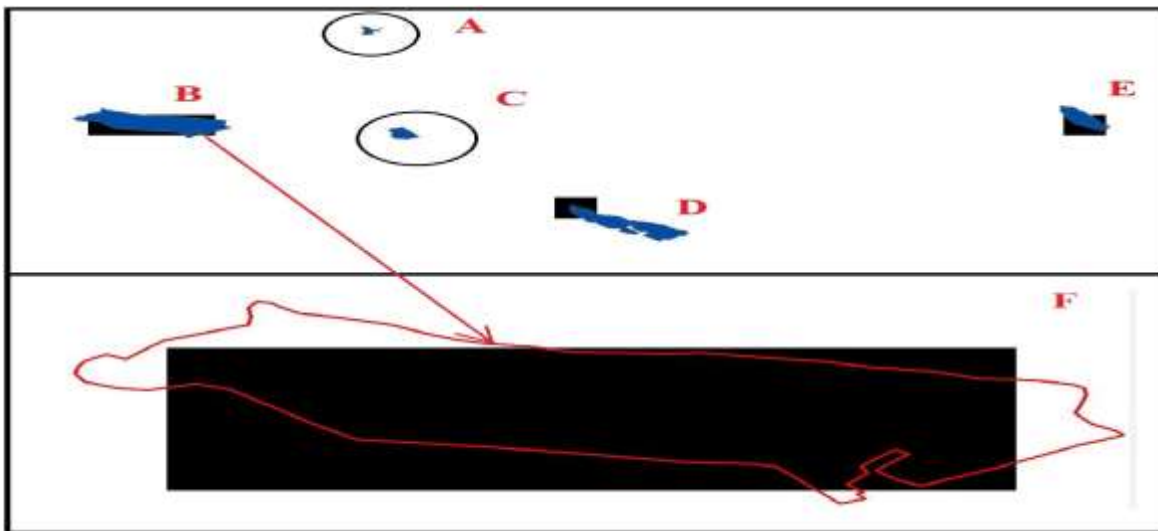


Figure 5. GTOPO30 data and overlapping situation in the lake area.

Generally, ASTER special accuracy is higher than the GTOPO30 data, and it is 30 meters worldwide. The same procedure was used for ASTER and SRTM. A bathymetric map of the lake was created, and altitude values were taken. According to ASTER data, the highest point of the lake was 94 meters above sea level and the lowest point was 82 meters (Figure 6-A). It is known that the accuracy of SRTM data is equal to 30 meters. When SRTM data were analyzed in the above method, the highest point of the lake was 89 meters above sea level and the lowest point was 82 meters (Figure 6-B). DEM data provided by the ALOS DSM were analyzed in the same way, the highest point of the lake was 91 meters above sea level and the lowest point was 84 meters (Figure 6-C). Finally, DEM data provided by ALOS-PALSAR were analyzed. The highest point of the lake was 64 meters above sea level and the lowest point was 54 meters (Figure 6-D).

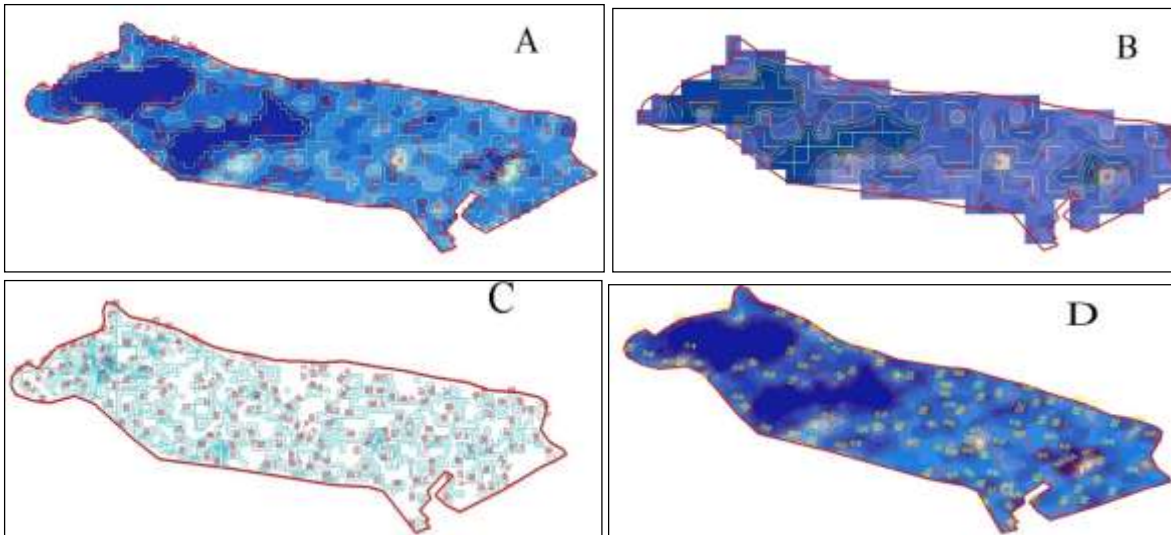


Figure 6. Bathymetric maps of Lake Olonkul, created using ArcGIS, based on ASTER, SRTM, ALOS DSM, ALOS-PALSAR data.

As the data obtained from the above analyzes differed from each other, and varied from the field measurements were carried out in the lake area. The actual height above sea level was measured using GPS at 22 points on the lake (Figure 7).



Figure 7. Field measurement at Olonkul Lake, and points measured by GPS.

The results of the field measurements taken at the lake were compared to get accuracy of DEM sources, and to recommend the suitable ones for further research. Linear correlation analysis was applied. As we know, the correlation analysis is a statistical method used to estimate the strength of a relationship between two quantitative variables. A high correlation means that two or more variables are strongly related to each other, while a weak correlation means that the variables are almost unrelated. Any score from +0.5 to +1 indicates a very strong positive correlation, which means that they both increase at the same time. Conversely, any score from -0.5 to -1 indicates a strong negative correlation, which means that as one variable increases, the other decreases proportionally. Also, a score of 0 indicates that there is no correlation, or relationship, between the two variables [15]. 22 points which measured using GPS in Lake Olonkul, and the corresponding points in 5 DEM data sources were compared (Figure 8).

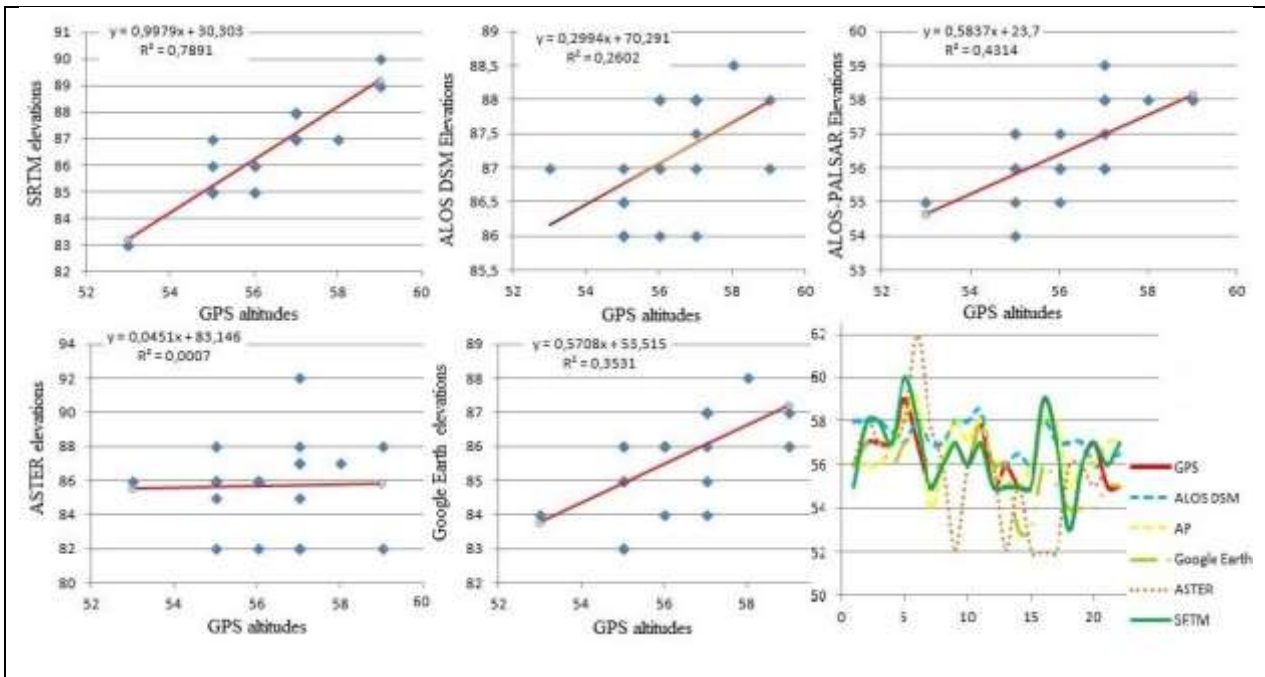


Figure 8. Results of correlation analysis.

As a result of the comparison, SRTM showed a strong positive correlation with $R^2 = 0.789$. The picture shows that the correlation of ALOS-PALSAR (0.43 points), Google Earth (0.3531 points), ALOS DSM (0.26 points), ASTER (0.007 points) data is low. Besides, the graph in Figure 8 shows that with SRTM data (green line), the actual height (red line) of the lake from the sea level measured using GPS closely overlaps.

Conclusion. Analysis based on data from ASTER, SRTM, GTOPO30, ASF, ALOS DSM, ALOS-PALSAR, Google Earth, and comparison with the results obtained in the field measurements in the lake area showed relatively high accuracy of SRTM data. Therefore, SRTM data have been recommended for further analysis to determine the height of lakes and ponds from the sea level in the Khorezm region.

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