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MANAGEMENT OF THE SYSTEM FOR TEACHING ELEMENTARY MATHEMATICS THROUGH AN ELECTRONIC PLATFORM BASED ON INTERACTIVE INTELLIGENCE



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ROMITAN DISTRICT PRIMARY EDUCATION

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Management of the system for teaching elementary mathematics through an electronic platform based on interactive intelligence

(Romitan district pre-school education institutions on the example)

SCIENTIFIC MONOGRAPHS

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KIRISH

A master's degree in his drives on the basis of the development and actual ministry. Modern preschool-aged children in the process of education in the fundamental of mathematical physics important in the formation of pedagogical imagination is one of the tasks. Enhancing the cognitive activity of children, their independent thinking abilities and highly effective in the short term in order to achieve the development of modern innovative technologies in the educational process on the basis of the needs of the organization has been on the rise. This view of point, interactive intelligence based electronic platform, the use of fundamental physics mathematics oqitish of the process effectiveness to increase the serve will.

Today's a day education system digitization process a rapid pace with the developing. Digital technology on the basis of created electronical oqitish system lessons on the effectiveness of the increase, educational materials, quick delivery and the education of the quality of sustainable management an opportunity to gives. Interactive intelligence elements - based platforms o'educational readers knowledge of the level, receive to rate and their error analysis making through the learning process of an individual on the basis of the manage to the opportunity it creates. This , while in children with mathematical concepts more effective formation to help will.

Preschool age children for education in the process, the interactive, visual images , and o'yin elements, an important role has. Modern digital environment o'sib coming children for animated and interactive elements to rich electronic platforms their lessons to the interest increases, mathematical concepts easier adopters service makes.

The country's education system, the modernization of to and pre-school education development state policy priority ito'of nalish one is. In particular, O'zbekistan uezbekistan Republic President Shavkat mirziyoev at 30 September 2017 is the year of the "pre-school education system in the management of radical improvement on" UP-5198-the number of the decree¹ on the basis of preschool

¹ O'zbekiston Respublikasi Prezidenti. Maktabgacha ta'lim tizimini boshqarishni tubdan takomillashtirish to'g'risida: O'zbekiston Respublikasi Prezidentining 2017-yil 30-sentabrdagi PF-5198-son Farmoni. – Toshkent, 2017.

education of the ministry established was and sector development on wide - ranging reforms made are being. Also, 2019-16 year-in December and taken to have been “pre-school education and training ‘tog’ri in” on the law² on pre-school education system, further improvement of the legal basis of the outline you gave.

That is in addition to, O‘of uzbekistan uzbekistan , republic of the development on Action strategy 4.4-handle in³ continuous education system of further improvement, quality education services expansion and modern requirements on the basis of highly qualified personnel training important task as defined. In this regard, the pre-school education in the process of fundamental of physics and mathematics oqitish in modern information and communication technologies to use, interactive intelligence based e - learning platforms create and them into practice current in the research, practical and pedagogical aspects of the pressing issues one is

The results of research facilities. The implementation of the educational process using a computer program multimedia for children of preschool age.

The results of the research subject. Pre-school education to children in the process of training in organizations through the use of multimedia computer software for education and training to give them the initial form of the small computer literacy in the content, pedagogical methods and tools for the identification of important priorities.

The purpose of the research results. The thought of children of preschool age using the computer program of the development of scientific and methodological basis of development of innovation approach on the basis of the fundamental forces of physics lessons in mathematics for caregivers mt in the organization of a computer program that is used to create. In addition, the intellectual development of children

² O‘zbekiston Respublikasi. Maktabgacha ta’lim va tarbiya to‘g‘risida: O‘zbekiston Respublikasining Qonuni, 2019-yil 16-dekabr. – Toshkent, 2019.

³ O‘zbekiston Respublikasi Prezidenti. O‘zbekiston Respublikasini yanada rivojlantirish bo‘yicha Harakatlar strategiyasi to‘g‘risida: O‘zbekiston Respublikasi Prezidentining 2017-yil 7-fevraldagi PF-4947-son Farmoni. – Toshkent, 2017.

of preschool age and their intellectual potential of digital technologies based on the world trend to the level of the level of development is provided.

The results of research to achieve the goal the following **functions** you need to solve:

- the thought of children of preschool age using the computer program of the development of the technique of improving a life of methodology of physics in the development of fundamental mathematical skills coverage of the content;

- using the computer program in pre-school education in the lessons of mathematics and physics fundamental of mathematical physics and methods of teaching fundamental skills in the creation of the system of existing state requirements, training programs and educational literature analysis;

- the research on the basis of worked out has been the methodological developments of the effectiveness of the experience-testing through to determine.

Scientific novelty of research results. Research as a result of the following news out was carried:

1. Preschool age children are thought of computer programs using the development of the methodical way to improve based on fundamental physics mathematics lesson of the ulot package computer program created;

2. Preschool age children the fundamental forces of physics mathematical ko'nikma of development and mathematical imagination activation on methodical recommendations, teaching assignments package work out;

3. "The first step" state o'educational program , and "State requirements" based on "pre-school education in mathematics lessons in reading is designed for practical application" and "Cheerful mathematics" called fundamental forces of physics mathematics lessons package of computer the program was the creation.

Assuming the main issues and research results. computer program use preschool age children the fundamental forces of physics mathematical ko'nikma the development of scientific and methodological basis for further improvement of the service will. Fundamental of physics mathematics lesson ulot of teaching for the created electronic methods of the system of children in mathematical skills in the

development of an important tool to serve the will. Also, computer programs on the basis of worked out has been fundamental forces of physics mathematics lesson of ulot pack of children's cognitive development support, their thought development help will. As a result, these methods from the use of children the knowledge to get the quality and o'medicine the effectiveness of the increase in the opportunity it creates.

Analysis of the literature on the topic of research. Pre-school education organizations in the creation and effective use of modern software tools in the process of didactic educator preparation on the problems of scientific studies have been conducted by many scientists in our republic and foreign countries. In particular, in pre-school education of mathematics and physics teaching the fundamental issues of the improvement of computer scientists of our republic Jumaev M., and b. G. Janpeisova hojimatov have been studied by in. Also, foreign scientists from L. Sh. Legenberg, M. I., Mopo, m. a. Pishkalo, take care of your union, i. m., and p. m. Erdnievlarning important scientific scientific studies and theoretical research in this direction also serve as the basis of methodology in the implementation of the issued and this was used as a source.

Research methods. In the process of research on the problem of political, philosophical, and pedagogical literature, the analysis of textbooks and study guides, study, survey, interview, observation and mathematical-statistical analysis to use methods such as led.

Research results of theoretical and practical importance. The results of the research pre-school age children the thought of a life of the development of the technique of using a computer program improvement, fundamental methods of mathematical physics to develop skills of scientific-methodological framework serves to enrich.

The research results of e'at the same time, neighboring countries were to. Dissertation topic on the toe of the'citizens COMMISSION tassarufigidagi foreign journals, including articles published in international journals and national journals, 2 patents was published.

The structure of the thesis and size. A master's dissertation introduction, three main chapters, conclusion and literature used a recent 'yxati consists of.

I CHAPTER. FUNDAMENTAL OF PHYSICS AND MATHEMATICS O'THE THEORETICAL BASIS OF SCIENTIFIC AND TECHNOLOGICAL INTELLIGENCE IN INTERACTIVE QITISH

1.1. Fundamental of physics and mathematics oqitish system of digital education in the context of development trends

XXI century ta'education process of all stages of the digitization of the process dynamic boost start'constipation education and preschool education in the system of even drastic changes they wreak. Digital technology, interactive platforms, multimedia tools, e - o'educational resources and distance education in the form of the development of fundamental physics mathematics teaching system new pedagogical model of formation of the ground is the creation of.⁴

Digital units'education in the context of fundamental physics mathematics oqitish process as before than flexible, interactive, individual - oriented and results directed for been has. This process has a number of development trends with characterized.

The interactive and multimedia on the basis of oqitish of the expansion. Digital platforms mathematical concepts in a visual, hearing , and kinestetik receive to for convenient , in a form provided is. Today's process:

- interactive o'are yin;
- animated models;
- multimedia instructions;

- virtual lessonulot of physics, mathematics teaching is an integral part has become. This while the child theme understand, mathematical imagination of the formation and to the lesson interests in increasing high efficiency it provides.⁵

Digital education technologies every one o'educational preparation level, development of the pace, the mistakes of a map and the activities of the results on the basis of individual training is the way to specify the opportunity to gives. Hence,

⁴ MIRZABOYEV Y. BOSHLANG'ICH SINF O'QITUVCHILARINING MATEMATIKA O'QITISH METODIKASI. O'RTA UMUMTA'LIM MAKTABLARIDA MATEMATIKA O'QITISHNING MAQSADI //ЭКОНОМИКА. – Б. 169-172.

⁵ Alixonov S. Matematika o'qitish metodikasi //Т.,«O'qituvchi. – 1992.- Б. 78-82.

the fundamental forces of physics mathematics oqitish in individual education trayektoriya of the difficulty level of personalized exercises, repetition or reinforcement blocks and reader activities depending on that change assignments through occurs. This , while every is a child o‘z the possibility of the level of development and growth, the possibility of creates. Additionally, digital tools using o‘those were the ones the activities of the full record of, the analysis is. Thus the assignments complete time, error type, subject of the toe‘citizens mastering level and development dynamics in big data in the form of collected. As a result, the fundamental forces of physics mathematics oqitish monitoring clear, objective and quick it is, the teacher , while the lessons in the process immediately the necessary changes to add capacity to have a will.

‘Songgi years, electronic textbooks, interactive exercises set, online tests and virtual laboratories such as digital educational resources fundamental forces of physics mathematics for teaching is widely used equal began. This means o‘qitish to the lesson, the process of new and effective way to organize to have the opportunity given he 's, children also the topic further more deep and interesting in the form mastering for favorable conditions it creates. Digital o‘educational resources increase and educational process in the active applied to be the lesson the effectiveness of the significant level is attracting. This with along, digital education in the process of o‘yinlashtirilgan to read, that gamifikatsiya elements also been widely introduced and is being. This rag‘bat points, different levels, the stage and the reward system of the readers of the topic more easily accept to make, their computer's motivation increase and learning in the process of active participation to service makes. Especially, fundamental of physics, mathematics oqitish in this approach has important significance has if, for young readers e‘tibor the store to stand in and them active learning activities are engaging in effective pedagogical tool as demonstrated will be.

Digital education tools for the development as a result of the educational process in distance and hybrid learning of the form of the increasingly wide methodology‘llanilmoqda. Today's day in math science oqitish the process not only

traditional lessons through, but also online lessons, independent digital assignments and video lessons using also effective up to be can. Distance education especially pandemiya from the period so'ng wide spread, primary and preschool education in the system of the also new pedagogical approaches to the formation of the ground is created. This education is of the form of the main advantages is that, it the time and space independent without education, you get the opportunity to creates, o'readers back independent work skills develop and lesson materials any time again see out and strengthen the opportunity it gives. As a result, o'educational process flexibility increases, training effectiveness will increase.

This with along, digital education system development o'andy digital kompetensiya of both significantly the level to increase required is. Modern education environment, teachers are not only the o'z science of the perfect know, but information and communication technologies for effective use of the skills also able to be need. Today's the day o'andy multimedia lessons , create, interactive platforms and e - education system the use, readers of the results of the statistical analysis to make and education process monitoring , making like skills that has an important role earned continues. That is in addition to, e - learning methods in the computer's methodology'to llab through the teachers the lesson of the process more interesting, interactive and effective up to a chance to have a will. Fundamental of physics and mathematics o'qitish methods new content with enriched, its quality in terms of updated and modern pedagogical requirements adaptation provides.⁶

Digital education in the context of education quality management in digital analysis and analytics tools methodology'to be llab important role earned continues. Modern education in the process of lessons of effective organization to and natijadorligini to increase in order data analysis (learning analytics), the results of forecasting and o'educational mission of the difficulty in advance to determine as opportunities for a wide used. Digital platforms through o'readers back activities, mastering level, the completed assignments of the quality and the error line on the

⁶ Hakimova M. H. Matematika o'qitish metodikasi //Toshkent-2020. – 2020.- B. 47.

information on a regular basis to accumulate, the analysis is. This information on the basis of o'be qitish learning process more effective planning exercise, the readers 'individual needs determine and necessary pedagogical measures be seen can. As a result, the fundamental forces of physics mathematics oqitish the process of systematically on the basis of the management, education, quality control to the training results to increase the opportunity will create.

Digital education in the context of fundamental physics mathematics oqitish system significantly at the level of an updated, interactive, multimedia tools, automated monitoring, individual approach, gamifikatsiya and distance education , such as modern pedagogical approaches with enriched has been. These factors learning process more effective up to, o'readers back in mathematical thinking development and education quality in increasing an important role earned is. This trend start'constipation in young readers mathematical thinking development, master index increase, education , quality of management and the lessons of the process optimization is an important factor is that the service is. Pre-school age children education into the system of information technology in current of the concept and its fundamental methodological foundation in 1964, scientists Seymour Peypert by earlier was pushed. This route is practical development as in 1990 in canada, multimedia options and are animated with spiced, the "heart" teaching system based first electronic book provided has been. This evolutionary process of modern pedagogy in the role on dwell, researchers s. v. Guryev computer technologies in the garden'cha in the age of a large children's intelligence development in the most effective and leading tools in one , as e'tirof will ⁷ .

Researchers in I.A. savin technique in opinion, school young educate many - dimensional spatial imagination of the occurrence bring and development of multimedia tools like opportunities provide will. This with along, Frolova n. z. this technology educational process implemented in school preparatory stage children (6-7 years of age) psixofiziologik and young characteristics considering to get the

⁷ Гурьев С.В. Использование компьютерных технологий в дошкольном образовании. – М.: Педагогика, 2005. – 120 с.

primary criteria is that a separate account is. V. p. Kustova while this area of practical solutions for the need, multimedia presentation style for kindergarten age children with when working with information and communication technologies for effective use of the most acceptable forms of one as it assesses⁸. M. v. Osmakova 5-7 at the age of nurturing for “Whose house is where?” called multimedia presentation prepared and o‘educational process applied was⁹.

Gertsen a. i. named after Russian state pedagogical university done “in education, multimedia technology using theoretical basis and methodology” called scientific-research work, mainly, the problem of the theoretical basis of the study has been. O. s. Saenko o‘zini his research work in multimedia software tools , using, small age school children to English language to teach accelerate that showed¹⁰.

Teaching personnel skills to increase the system in information and communication , and multimedia tools, the role of n. Ogolesovaniy master's research identified specifically studied to be, higher education in the context of this technology efficient to use the issues of n. m. Klimeshova by scientific basis for many given¹¹. N. m. Klimeshovaniy master's degree at multimedia tools in higher education in the effective use of the toe‘citizens of the recommendations given¹². This with along, s. p. Domonova, a. yu. Korkina, L. S. Novoseleva, n. f. Talyzina, p. p. Makarichev , and I. Yu. Servilina like scientists also the educational process of digitization on surveys take go, highly effective achieve. However, the Russian Federation dissertations analysis (1999-2009 years) that shows, multimedia direction protection made of 82 units in scientific work mainly in higher, secondary special and general secondary education issues to dedicated is, pre-school education system, this research framework from apart from the rest.

⁸ Кустова В.П. Компьютерные технологии в работе с детьми дошкольного возраста. – М.: Педагогическое общество России, 2006. – 126 с.

⁹ Осмакова М.В. Мультимедийные средства в обучении детей 5–7 лет. – М.: Детство-Пресс, 2011. – 104 с.

¹⁰ Саенко О.С. Использование мультимедийных средств в обучении иностранным языкам младших школьников. – Ростов н/Д: Феникс, 2009. – 156 с.

¹¹ Оголсова Н.Н. Информационно-коммуникационные технологии в повышении квалификации педагогов: дис. ... канд. пед. наук. – М., 2008. – 180 с.

¹² Климешова Н.М. Использование мультимедийных средств в высшем образовании: дис. ... канд. пед. наук. – М., 2007. – 165 с.

In this regard, the gap filling in terms of kazakhstan's scientists a. b. Ospanova, Sh.T. Taubayeva , and k. m. Jetibayevlar certain surveys take go, kindergarten , young children's education to information technology introduction to and industry specialists professional kompetensiya the development problems of the survey took. Local pedagogical into the history look if you remove, our republic, the educational institutions , computerization of the process of the past century, the 80s of the second half (1985-1990-supports.) on comes. This period of uzbekistan from leading scientists a. a. Abduqodirova higher education system in physics and mathematics direction on future teachers in the preparation of computer technology, the use of konseptual the basics of working out¹³.

G. A. Hayitov general o'central education in informatics and computing techniques basics to read the computerization of the problems on the research work to get let go. ¹⁴ Local pedagogical sciences in the educational process of computerization and its various methodological aspects of research to m. m. Aripov, t. r. Azlarova. i. in ashirov, U. Sh. Begimqulov, t. f. Bekmurotov, r. r. Boqiyev, m. f. Zokirova , and h. z. greatly years as scientists likely contribution were added to. This with along, preschool age in children with systemic concepts of the formation of the problem in the framework of e. g. Janpeisovanning technological approaches, as well as, O. kotilyva boltaboyev, H. Voters, N. Alimov, N. Bikbayeva, Umarova, T. and F. Dodirovalarning environmental and mathematical literacy into directed methodological developments in today's day and also kindergarten educational practice active support I have received has.

Pedagogy in the field of multimedia opportunities use the strategic importance of the state at the level of both e'tirof of, Uzbekistan , republic of the ministers of the cabinet 2006, June 7, number 110 in the decision on the basis of the people's education ministry under the "Multimedia general education program development center" of business out would put. This structure by the education system for a number of digital resources was the creation of. In particular, BIAN creative team

¹³ Абдуқодиров А.А. Компьютерные технологии в подготовке учителей. – Ташкент: Фан, 1991. – 140 с.

¹⁴ Хайитов А.Г. Компьютеризация обучения в средней школе. – Ташкент: Ўқитувчи, 1995. – 120 с.

by the child of the first picture to enrich serve which “Color and form to learn” in the category 8 type multimedia tool, as well as B. by boltaev A. Valikhonov, M. Mahamov and b. Dayitovlar muallifligida the mathematics lesson drives all among them.

However, in today's day to up out , carried research and practical developments of the majority mostly higher, secondary special and general secondary education stage directed that is, pre-school education system in multimedia technology application methodology is almost unexplored. Current period small at the age nurturing computer literacy basics of formation, training in the process of multimedia systems integration of pedagogical-psychological principles and self - specific criteria holistic academic in the system are not met when it comes. Also, the kindergarten in the context of computerized interactive training design and conduct methodology work out did not.

Available methods textbooks and innovative educational technologies of the analysis that shows, pre-school age of children with intellectual capacity to increase the designed multimedia products and systematic methodological approaches of a shortage condition remains. Digital tools for the creation of on research a lot of that is despite the fact, that their pre-school education is to segment the personalized options of sufficient level is not.

Exactly this methodological gaps, systematic surveys of the lack and pre-school education organizations for the modern digital methods into who is high social-pedagogical needs this thesis in the work of the subject “pre-school age (3-7 age) the children thought of computer programs using the development of the technique of life improvement” as to choose the main factor is the service make.

1.2. Interactive intelligence based electronic platform didactic opportunities and pedagogical advantages

Pre-school education pedagogy fundamental methodological foundation, and physical, mental, moral, labor , and aesthetic representatives of the movement as systemic directions in the formation of many researchers and industry practitioners for their konseptual vision previously, those who put forward. In particular, abu nasr Farobi, abu ali ibn sina, Alisher Navoi , and Al-Khwarizmi as the great Eastern thinkers of a perfect man, to education related critique and philosophical opportunities in today's day and also this area for the general methodology source function was.

Western pedagogy into the development look if you remove, Ya.A. Komenskiy, L. S. Vygotskiy, P. A. Usova, I. Ya. Lerner and m. n. Skatkin like scientists of the scientific heritage of the preschool age period education qonuniyat the opening at and his theory enrich in a special place holds. Small age of children psychology fundamental of qonuniyat and their age dynamics of l. f. Obuxovaniy systematic research detail on many given.

Local pedagogical school development process while P. Yusupova and r. f. Dodirolarning practical and theoretical developments of our republic, pre-school education system konseptual respects updated and in improving an important factor is the service make. It's of education for the purpose you specify, the children in every way to develop and then school education to prepare the service, the content, methods and organizational forms of work out referring keeps.

This qonuniyat the modern conditions, especially, kompyuterli and multimedia education in the process of an effective methodology to llab can. Live mushohada stage to children of various didactic tools, letters, numbers, pictures, drawings like ko'a rgazma material provided is. However, these tools are the effects of the level of their provide to shape the gardenliq is. For example, static form (qog'little or cardboard based on) given materials, the child is known in the levels of the effects etsy, multimedia technologies on the basis of dynamic, that animated

form presented was the material, more stronger psychological and cognitive effects shows.

In particular, numbers, shapes , or objects, animation, color, sound and movement through when given the child the attention ko‘proq attract will, their interest increases and knowing the process of activates. For example, a simple drawing on the image with the comparison, cartoon characters, with the participation of the created animated videos for children wider picture , the yield will and their thinking about the activity of the development of provide. As a result, children are ko‘the rga facilities about independent thinking doing started.

Preschool age children in the physics of fundamental mathematical concepts for the formation of the issues also ko‘plab methods in the research of its reflection has found. In particular, M. Jumaev and I. s. Vygotskiy thinking of the process of the development o‘using rga, mathematical understanding of the form of development to know the activities of an important stage as the average price. Researchers have small young children with mathematical concepts and logical thought occurrence bring to certain pedagogical environment and favorable conditions of modeling the necessity many will. In this regard, in I. s. Vygotskiyning the fundamental concept if I rely on, the child's imagine to ability and thinking of the framework of this systematic knowledge of active mastering and cognitive activity in the process of gradual form were, his konseptual development level rises. Knowledge while o‘z turn in the child's thinking is the activity of stimulating the main factor is. In this regard, the pre-school education “live tracking” methods use important is professional is. Multimedia tools through a given color, voice and harakatli information of children sensations on the body strong effects ko‘and rsat, their thought activates.

I. Kalmykova opinion, in children with mathematical understanding of the form level that determine the main criteria for their intellectual activity summarizing focus is. This while learning in the process of children's thinking ability of the development to particular e‘tibor to focus the need shows. This approach is

traditional education system specific to it, although modern computer-based education in the process both for their significance does not lose.

To know the process of the next stage abstract thought if, this child saw and observed the material on the basis of synthesis, analysis making and conclusions to take. 'Songgi stage while the obtained knowledge in practice applied from being is if, this process computer-based education in the environment, interactive exercises, games and assignments through out carried.

The present day multimedia computer technology in school education system newly wide current the reason, of them the pedagogical-psychological principles, didactic options of the effectiveness of deep organ to pressing scientific issues one is. In this regard, this technology scientific basis in the work to and practice applied to pre-school education quality in increasing an important factor to to become service makes.

Pedagogical features. Preschool education institutions, teaching activities, multimedia resources, integrate to the system of businesses between the relationship of e - learning format for conducting a completely new technological concept is. This digital environment, its own specific functional properties and methodological principles are there , if, in his fundamental foundation of technical hardware complex organization is. Education the effectiveness of the stability increase to the child's monitor interface through the materials of the individual mastering mechanisms, family environment, parents with the assistance of distance information to get ways and directly kindergarten lesson of caregivers methodological guidance under the new concepts of the formation methods of the computer's systemic work out required are.

Digital multimedia system of the educational process in the effective use of cognitive development with a number of trained initial computer literacy systemic forms. Traditional lesson in the model calculation technique simply assistant technical equipment of the function fulfilled if, interactive digital environment, it 's not fair level up rose, independent of education and source the status of gets. In this regard, the study across should be that didactic materials and assignments that are

complex computer software supply to the memory of pre - systemic placed. This electronic content, the essence of e'of tior with carers traditional course development and teaching methods of the plan innovative alternative.

Pre-school age during the period of the interactive monitor in front of him visual materials with working in the process of necessary digital skills proficient in children's later school primary unit in computer science, a course of assisting in the development, in the future , while academic lyceums, college and higher education stages in information technology, professional level, in use, to the problems you face, they do not come. That's in addition to the monitor on the basis of interactive lessons that educate logical and abstract thinking to the development, to know which is the computer's motivation - enhancing , and overall intellectual outlook of expansion in service as the leading factor.

Multimedia technology school education in the process used in a number of important psychological factors into account to take require will. First of all, the child's age, characteristics of, thinking of the level and o'educational materials in the memory storage options , considering to be taken need. This with along, the computer with working in the process of ko'for more than a century his toliqib that prevent get to, the children 's attention to stabilize, memory development , and educational materials for the interest to increase important psychological functions into a number of enter. Multimedia tools through provided are the materials the children in a positive feel-tuyg'em wake up, of them to know that is internal to the computer's motivation enhances and on the computer to work on skills to the formation serve will.

Psychological view point from when the child monitor on-screen images ko'browsing and sounds to hear in the process of the brain, both half of a bowl for a time at the business was doing. This while the information of a holistic image as take to the opportunity it gives. Especially, animated , ko'rinib the complexity of information, the impact is high if it is, they are the children of the attention attract to, interest increase and learning in the process of active involvement in an important role plays. This is the reason for multimedia educational ko'browsing and hearing

of analyzer through knowledge to get combining without effective pedagogical tool as e-tutor are. This condition of our people, “a hundred times he had heard when a time he preferred” to that saying which is in sync.

Psychological studies that show that, for a time at the visual and audio by channels through given the information children by more effectively assimilated. In particular, some scientific observation shows, only visual material on the basis of the material in the memory stored to 25-30% by increase in audio, video, and graphics at the combination of given material this figure 70-75 % up to deliver. This while multimedia technology of educational process of high efficiency confirms.

Also, psychologists, children of technical devices, transport tools, models and various of which the interest high that they had noted. This is in regard of educational materials, tales, cartoon characters or the game elements based on that provide to children the knowledge to take which is to the interest of further enhances, their imagination expand and thinking activity activates.

Pedagogical experiences that show that, multimedia tools, use the following didactic principles are based on: as programmed, ilmiylik, compatibility, rapidly, of purpose, mutual dependence, not fair, tizimlilik, understandable, activity and independence of the development, as well as, that develops and educational effects of the combination. That is in addition to, technical means of compact and versatility also important is professional is.

Pre-school education pedagogy pedagogical sciences of the important sectors of the to become, be it educational process, the age of the typical psychological and pedagogical characteristics learns. This is either a national scientists, teachers and practitioners have long annual scientific research as a result of occurs if, in today's day in the modern information technologies with the combination of the case, the case of the further improvement has been.

Pre-school education didaktika of general didaktika of the structural part of the to become, school, young children teaching theory cover will. His main function of education for the purpose you specify, the children in every way to

develop and then school education to prepare you to serve in which the content, methods and organizational forms of work out is.

Preschool age children o'qitish and nurturing the process of cognition in the theory of relies. In particular, "live from mushohada abstrakt thought, it is in practice o'teeth" of the law in this process, an important role plays. This principle of pre-school education institutions methodology'llanilayotgan computer technologies on the basis of the educational process is also effective implementation to be. For example, children demonstrate which will didactic materials, letters, paintings and drawings live mushohada tool toe'become service makes.

Such tools, the use of children psychology, representing different effects ko'rsat is. For example, simple qog'little or cardboard in described the "2" number of children to a certain level, the effects of etsy, multimedia technologies through animation in the form of shows of the same number, they are by more easy and interesting take is. Also, qog'while drawn fir the picture with , compared, animation and cartoon elements with spiced video material in children with stronger interest evoke and then wider psychological effects shows.

That in addition to multimedia computer technology, the consistency, the series and the age appropriate principles also out - carried. Preschool age children designed computer programs and multimedia products in the design of modern medical-hygenic requirements and sanitary me'to sweetheart of'iy follow to primary necessary is. In particular, three from the age of five under the age of who are children for visual materials and video roller continuously show the time ten minutes to ten to five minutes on the range exceed a must. Five from the age of seven under the age of who are trained for while this figure is ten to five minutes twenty minutes of defined pedagogical and physiological aspects of macroeconomic is.

Digital learning environment, cognitive activities of the organization to be certain a mode on the basis of that was yesterday. Children ten to five minutes for the information of the active reception now and then his body and see members from fatigue protect to order in a ten - minute mandatory break up is. That after, obtained the concepts of consolidation aimed at practical or interactive exercises performance

for another ten minutes to ten to five minutes until the time divide methodological aspects on is.

Nurturing primary digital skills and computer literacy basics of successful development then, multimedia tools, independent of the lesson is in the process of use, an opportunity to have a will. Such free cognitive process of the child's desire and personal pace according founded be because, every one educate individual intellectual capacity and personal growth dynamics of stimulating the internal motivation of the function was. However, the monitor in the face of a long time remain going to the children 's physical and mental development of the negative complications of operation show considering taking without, digital session of the duration of⁴iy control under to bring the obligation directly to parents and pre-school education institutions of caregivers, the responsibility is assigned.

1.3. Using elements of artificial intelligence o'scientific and methodological basis of the management of educational process

Modern development of the education sector in the republic in the stage of radical structural reforms aimed at modernization of the comprehensive strategic and transformative aspects are being implemented consistently. This updated systematic the most important component of the educational process in the field of digitization on the level of the international standards specified in the function appears. In particular, the system of secondary and higher education, implementation of software applications based on artificial intelligence technology to educate cognitive capabilities create new opportunities for the optimization and expansion of teachers ' professional activity. Such innovative solutions for every student individual learning trajectory and allows to eliminate the formation of the methodological problems existing in the area.

In the process defined the essence of artificial intelligence systems to achieve the targeted results konseptual optimal algorithms identify the most effective option and is characterized by the possibility to introduce them into practice and independent. Today, this technology is able to successfully fulfill complex logical tasks that are specific to human intelligence complex is a combination of software. Therefore, artificial intelligence and advanced computer programs to integrate into the learning environment of the modern social-pedagogical marks as necessary. While the perspective of pedagogical science and practice systematic digitization of the educational process is key to determining the vector of development.

Learn the advanced experience of the global scale and adapted them to local conditions has become a major mechanism to enter practice without guarantee the effectiveness of education. Therefore, in the practice of interactive methods in education, innovative approaches and opportunities to use information and communication technologies, the functionality of demand is steadily increasing. On the basis of criteria and measures for improvement to the content of the lessons the modern tizimlashti serves to lift the quality of education to a new level. This approach of the world as local education systemand world scientific achievements

of the integration with the space of intellectual development trends with the pace of disruption.

Artificial intelligence in the field of the most famous scientific sources of one — artificial intelligence: a modern approach to the work of the authors Stuart Russell and peter norvig , as noted, artificial intelligence, intelligent systems understanding and new intellectual systems to the creation directed. In their opinion, human - level or more high - level artificial mind to be able computers in the future of human life and society to the development of great influence , ko'rsat is. In today's day and also foreign experience o'to rga and them national education system to adapt on various projects worked out are being.

O'uzbekistan uzbekistan in the republic of the education system development on taken have been legal documents also this area of reforms is an important basis constitute a will. In particular, pre-school education system development aimed at decisions and decrees education system in improving an important o'rin keeps.

Artificial intelligence technologies based on innovative products, services and business models development for favorable environment to create today's the day of the pressing tasks is one. Because of this technology through high results achieve can. Modern in the world of computer and digital technology o'rni incredibly important is, they are all the area, in particular education system, the development of the solution of the factor is.

The education system of modern technologies, the introduction of the following important either'in nalish show up will. First of all, o'educational process in software tools for effective use in education , the quality of increases. O'educational-methodical complexes to build, computer technology and visual tools to integrate to through the educational process more effective the organization is. Such systems o'national educational information collection, storage and analysis make the opportunity of giving, of them creative and intellectual potential will develop.

Multimedia technologies in use also the learning process more interactive makes. Text, graphics, audio and video materials uyg'unlashuvi readers the

knowledge getting the process interesting and effective makes. This while training effectiveness is to increase the serve will.

Artificial intelligence on the basis of established was the education system has the following advantages it has. First of all, the person is either a national educational organization to the possibility it gives. Secondly, adaptive educational systems through knowledge of the level of the corresponding on the basis of educational process organization is. Thirdly, the artificial intelligence on the basis of the system a national educational constant help showing, their knowledge in getting the process of supports. The administrative work, automation through teacher of the work of the downloads is reduced.

That is in addition to, artificial intelligence using the ones who were results of analysis to make and in the future the success of the forecast to the possibility there is. This , while a national educational individual approach further enhances and their knowledge level increase to help will.

Third thousand years, the global digital transformative trends in social and economic life in all aspects, in particular, school and higher education system konseptual the foundation for a radically transform. In today's day and intellectual software systems , development of indicators for monitoring to automation, education to the person directed the principle on the basis of established was , and professors and teachers of the work of downloads in optimization of strategic importance in the profession continues. This problem is of relevance in the republic have carried out wide - scale reforms, in particular, “Digital Uzbekistan – 2030” strategy within the framework of the educational institutions of modern information technology implementation to the algorithm of opportunities for efficient use in the field of state policy with directly associated. This is the results of research the general purpose of the educational environment in the intellectual property system, the use of theoretical-methodological basics, advanced international experiences and

national education system in the conditions of available opportunities with a number they have come to systemic problems, a comprehensive analysis from is.

Teaching of view point, the intellectual , the calculation of the system about the pc platform , the man thought to be specific that data analysis to, experience on the basis of study and optimal decisions that take to be as complex cognitive functions modeling ability is understood to be. Academic process in this technology of the lessons the organization to automation, nurturing true knowledge of the level of objective determine and every a person for special educational trayektoriya of the formation of the possibility of returns. This approach modern didaktikada adaptive learning systems , creating prospects for expanded. This place is all a student information mastering speed and intellectual potential of a special algorithm by means of analysis and, her appropriate level assignments on a combination of provided are. This digital process directly of education and analysis (learning analytics) and flexible education (adaptive learning) the methodology of an institution is based on. The system of student cognitive activity constant track go through its interests, the strong aspects and typical mistakes that can identify and individual development of a map to work out.

Intellectual technology of using the pedagogical activity optimization also modern education reform priority areas is one. Algorithm the system of teachers' daily mechanical and repetitive system task their responsibility taking, the overall work effectiveness to increase the serve will. In particular, the control test is the formation, intermediate and final assessment of the work, conduct , and statistical analysis of the maintaining , such as administrative processes of full automation. As a result, teachers have their own main focus of the lesson, creative, methodical and educational aspects to the referral for additional time to resources that are able will be. Assessment of system raqamlashtirilishi student mastering the dynamics corresponding to the individual assignments of the creation with together, the human factor with associated entities lower, the process of impartial and skills for justice provides.

That is in addition to, innovative analytical software readers in the lesson activity in real time mode analysis to make the possibility gives. Nurturing assignments complete speed, the motivation , and the way the putting of error diagnostics and, to the teacher more statistical data on the tab provided are. This digital monitoring system of education quality of management new level up, to the person - oriented education model development and pedagogical decisions of the scientific basis accept to wide the way will open.

Of uzbekistan on education system in this technology wide implementation of the prospects are very high marks. In the future the intellectual platform on the basis of a new generation of textbooks, creation, automated rating system, the introduction to and every one educate personal growth map of the formation of the state importance has tasks into a number of enter. This is like the reforms of national education, the quality of radically to improve and its international scale of competitiveness to ensure that service will be. System modernization and educational process, advanced digital solutions integrate to the young generation in the global labor market requirements fit modern knowledge with armed single and most fertile strategic way.

I chapter toe'it drink conclusions

Multimedia systems design , and them teaching into activities that integrate to problems related to many fundamental research, take can all go despite the fact that, directly pre-school education system, its own specific characteristics focused on methodological developments sufficient level is not. This scientific and methodological gaps in the presence of this thesis research the subject “pre-school age children thought of computer programs using the development of the technique of life improvement” as to choose the main factor is the service make. Digital environment of educational materials for visualization of the principle of systematic data, computer software supply to the memory of add and o'rganiladigan didactic elements monitor to the interface out of the show to through in practice applied will be.

The monitor in the face of a long time remain going to the children physical development of the view of the members of the adverse complications of operation show considering taking without, session duration, strictly control the obligation of parents and pre-school education organization of caregivers, the responsibility is assigned. Already, the creation of innovative digital resources in any a sessions duration prescribed medical-pedagogical standards on the basis of programmed is, although the next course modules of the series and continual use of the process directly to the user the individual to approach related to remains.

Today's day interactive and multimedia products to create a designed action script, An Animator, crazy talk Animator, Adobe quite anima, Anima studio pro and Pivot Animator like many specialized software platforms there are. This despite the adobe flash technology for their functionality convenience, large - scale animated options and subscribers for a flexible environment of having due to the current period 's most popular multimedia tools one to be remains. Exactly this advantage, and technical ease of account taking without, this research work is practical and software part of the adobe flash software in the environment of successful work were out of and to life and applied has been.

CHAPTER II. INTERACTIVE INTELLIGENCE-BASED ELECTRONIC PLATFORM IN THE FUNDAMENTAL OF MATHEMATICS AND PHYSICS O'UZBEKISTAN SYSTEM DEVELOPMENT AND ORGANIZATION

2.1. Interactive electronic platform structure, functional modules , and user interface

Electronic platform for rapid development behind O'uzbekistan 2020 6-November "of uzbekistan, the new development during the period of education and science-science industry in the development of measures on"¹⁵ on UP-6108-the number of the resolution and the Uzbekistan Republic President 2020-year 6 November PP-4884-dated "education system further improvement on measures on"¹⁶on the decision according established.

O'uzbekistan , republic of the 2019 16-year - -December in "pre-school education and training on the funds-595-number of the law in article 53 of preschool education of the system of development of the important directions of the set given. In particular, the educational process ilg'or pedagogical approaches and modern information and communication technologies introduction to, pre-school education organizations for modern educational-methodical and didactic materials you create, as well as, this area of research is the work of expansion priority tasks as recognized are. This while pre-school education, innovation on the basis of organized the necessity of further enhances.

Local and foreign tadqiqotchilardan s. I. Novoselova, I. Yu. Pashiliti, Pet, p. g., Hunter, B. , and i. m. Jumaev pedagogical look education system in computer system integration to only methodological necessary is not, but educate cognitive development and personal kompetensiya of the formation and providing prime criteria as will be evaluated. Their studies that ko'tarish, multimedia tools through established was the education process of the child knowing that the activity increases, their interest enhances and independent thinking and learning skills that

¹⁵ O'zbekiston Respublikasi Prezidenti. Ta'lim-tarbiya tizimini yanada takomillashtirishga oid chora-tadbirlari to'g'risida: PQ-4884-son Qaror, 2020-yil 6-noyabr. – Toshkent, 2020.

¹⁶ O'zbekiston Respublikasi Prezidenti. O'zbekistonning yangi taraqqiyot davrida ta'lim-tarbiya va ilm-fan sohalarini rivojlantirish chora-tadbirlari to'g'risida: PF-6108-son Farmon, 2020-yil 6-noyabr. – Toshkent, 2020.

provide the development of. This aspect judging, multimedia technology in school education in the system of methods update effective a tool as show up toe‘are sought.

Today's the day O‘the time of uzbekistan in the republic of preschool education institutions, their activities are the “first step” of the state educational program on the basis of the taken are. This program for preschool age children development methodology‘the year that state the requirements in accordance with work out of the normative-legal acts , if, then the educational process, the main goals and objectives, methodology, approaches and priority directions defined given. Also, this program of children next educational stage to successful o‘teeth for essential which is basic kompetensiya of the formation to serve will.

Modern education system in interactive electronic platforms o‘educational process effective for the organization to, knowledge of visual and interactive in the form of delivery and the readers to know the activity in increasing an important tool is.

Interactive electronic platforms in a couple o‘zaro bound components from up finds. His general structure of the technical, didactic, interactive , and control and monitoring of the part consists toe‘ladi. The interactive part of the user with direct contact providing o‘the yin, tests and implementation of animated their into gets. Control and monitoring of the part while o‘educational readers knowledge of the level to determine, the results recorded were and analysis to make the possibility gives. These components o‘zaro combination of platform integrated and effective functioning ensures.

Interactive electronic platforms of a number of functional modules composed toe‘become, they are educational process various aspects of the cover will. O‘back module, animated videos, interactive lessons, graphic materials , and voice explanations placed. Interactive lessonon the ulot module of children's active participation to ensure, various games, question-answer exercises , and the physics of fundamental mathematical concepts adopters of the service the exercise of their into gets. Test and evaluation module by o‘educational readers knowledge of the level will determine, results in an automatic manner recorded are and individual

development in dynamics is observed. Multimedia module while audio, video and animated materials provide will. User management module through children, caregivers and parents for separate profiles to create individual settings out carried and access control provides. Analysis and monitoring module while o'educational process effectiveness evaluation, statistical data and reports preparation and teachers for recommendations on work out the opportunity it gives.

The user interface of the platform is the most important structural parts of the toe'become it, especially preschool age children for comfortable, simple and attractive in a way worked out should. The interface of the visual aspect from the simplicity, color-various ministry and understandable information with separated stand, remove excess from the text free toe'lish the need. Management controls are intuitive toe'become, buttons , and icons through easy to use the opportunity to give is necessary. Also, animated elements, interesting heroes and moving the object children of the attention attract will. Voice ko'are rsatma while children material for a better understanding and help will. The interface for different devices flexible toe'of lish, namely computer, tablet and mobile device on a different effective performance is important. This with together, the interface design of children's psychological characteristics, attention level, and the perception to options, of course, take into account to be taken should.

Interactive electronic platform structure, functional modules , and user interface o'zaro combination without work out when it pre-school education is the process of effective organization to service makes. Such platforms are the children of knowledge to take toe'present interest increases, their independent thinking provide the development and intellectual potential of the development will be. This aspect, interactive electronic platforms, the modern education system is an integral part as innovative approaches to practice the introduction in an important role earned is.

State o'educational program of the republic on the territory of all types of pre-school education institutions for compulsory is. It state and non - school education in organizations, "Mercy" houses in the structure of pre-school age children in a

group and this area of control, the control bodies of the activities in methodology‘is llab. This with along, this program variativ o‘educational programs, working out in the main base document of the function it performs.

Educational institutions of pre-school education of the ministry by approved variativ of the program to use with it together, state program on the basis of o‘zlar of worker training programs and work out the right also have. Such programs teachers by parents with work out, the established order was approved. This while learning the process flexibility and individual approach on the basis of established that ensures.

State o‘educational program, the main purpose of the child's individual needs into account taking without them each a fully harmonious development for favorable pedagogical conditions create is to. This with along, children o‘back-educational activities effective organization to, parents and society to children development with associated knowledge with provide you and the family and educational institutions between cooperation to strengthen the important tasks into a number of enter.

Pre-school education in the system kompetensiyaviy approach methodology‘llab be while growth of the growing person's life preparation, in which social and moral values of the formation, communication skills develop and the independent “” the concept of the formation to serve will. This approach children in real life situations independent decisions and take to and active participation to ko‘nikma of the development referring keeps. Pre-school education in the system of modern pedagogical and information technologies in methodology‘to llab, multimedia tools, effective use and kompetensiyaviy approach of the implementation of the child's intellectual, social and personal development in ensuring an important factor as show up will.

‘Songgi years in the world of education in the system are deep and systemic changes of the face has. Information and communication technology rapid development, digital tools on a wide scale is introduced to be and modern o‘the ones who were the students learning style, needs and interest significant changes in the education process, new approaches to demand continues. Especially, pandemiya ,

during the period, formed a distance education experience that vividly demonstrated, as has, only traditional oqitish methods with limited current on to require full answer you give can't. The same reason for electronic educational resources and interactive methods of use, the need for dramatically increases.

Electronic educational resources in today's day in education, the process of individuallashtirish, adapt and interactive in the form of up to the opportunity of allowing an important means to set up a will. Such resources to electronic textbooks, various online platforms, interactive simulyasiya are, videodarslar, test systems and other digital materials includes. They are o'a national educational knowledge freelance on the basis of mastering, it deepen and strengthen the opportunity to give, but despite the fact that remain, but also educational activities of planning, organization, to and control in also an effective tool as serve will. This aspect judging, electronic resources, not only the information source, but also educational process, significant structural element is.

Interactive methods while o'readers back education in the process of the activity to increase, independent and creative thinking development, partnership working and communication skills developing, aimed at modern pedagogical approach. Such methods, using o'the ones who were passive listeners are not, but active participants as the process involved are. "Mental attack", "Blits-so'rov", "Role access", "Debate" like methods lesson in the process revive, its effectiveness will increase, as well as, in the class of social-psychological environment positively to the formation serve will.¹⁷

That is in addition to, O'the republic of uzbekistan on education system in the example of digital technology use in the process available advances and topical issues by covering, in the future this direction further improvement for promising proposals and suggestions work out. Children of the total important kompetensiya of the following consists of:

¹⁷ Жумаев М. Мактабгача ёшдаги болalarda matematik tasavvurlarni shakllantirish metodikasi va nazariyasi. – T.: Fan va texnologiya, 2007. – 160 b.

Communicative kompetensiya – this person is different communicative situations of language tools to the purpose, according, 'tog'ri and effectively use the ability to represent. It not only grammatical aspect from the 'g'ri sentence structure to get, but the speech of a particular social, cultural and contextual conditions suitable without up is to know also their into gets.¹⁸

Communicative kompetensiya to the composition of a several important components it includes. First of all, linguistically kompetensiya – this language grammatical rules, lug'at wealth and pronunciation of the system is to know. Secondly, sotsiolingvistik kompetensiya – different social situations (for example, formal and informal communication) language of the unit corresponding to the basis chosen to get ko'nikma is. Thirdly, diskursiv kompetensiya – speech consistent, logical, and gardengreenhouses without the structure to know the ability. Also, strategic kompetensiya also important toe'become, be it communicating in the process they come challenges, with different strategies using eliminate to means (e.g., synonyms of use, explained, imo-gestures with explain).

Communicative kompetensiya o's back utilitarian skills with too closely associated, ifit the sentence of hidden meaning to understand, speech for the purpose of determining and to the interviewer suitable in a manner answer back to his into gets. Communicative kompetensiya – this language to know it is not, but it 's real life interact effectively use the ability to toe'become, it is the person of ijtimoiylashuv, professional activities and madaniyatlararo in communication an important role earned is.

O'yin kompetensiya of – this child's play activity in the process of existing knowledge, experience and skills of independent and creative in a way support get the ability to means. This kompetensiya not only o'the yin to play, but the game is up to, the development, in an active and take part to and the game through new knowledge to master the process of both the cover will.

¹⁸ Хантrep Б. My Students Use Computers: Learning Activities for Computer Literacy. – Reston, VA: Reston Publishing Company, 1984. – 278 p.

O‘yin kompetensiya of children, personal development , an important role plays. Because o‘yin in the process of the children, the environment of the study, the social role of a test, you see, contact the make and problems to solve , to learn. For example, the role o‘yin in children for adult life modeling, different situations and how the effort to make that meant. This is through his imagination, thought , and creative thinking ability develops. First of all, organizational ko‘nikma the children's game plan is able to be, the rules to understanding the character and others in the game involved is know. Secondly, ijodiylik – o‘is yin - action enrichment, new ideas and add and existing objects from the offbeat to use the ability. Thirdly, the social , ko‘nikma of – peers with collaborate , to, turn , waiting, to come and disputes settle the skills.

Also, o‘yin kompetensiya of the child's speech development, emotional status and independent thinking, and also positive effects for shows. O‘yin during the children have their own feel-feelings expresses, others to understand, learn , and their own behavior to manage it is used. O‘yin kompetensiya of – this child's play activities through learning, development and ijtimoiylashuv process , providing important pedagogical basis, beit teaching and educational process efficiency by increasing an important role plays.

Social kompetensiya – this person has different life situations with adults and peers, with effective communication to make to get to, in the community received has been ethic me‘sweetheart and the rules to follow to have without their conduct management to know the ability. This kompetensiya of man 's social environment adaptation, o‘z the location of find , and others with healthy relationships in the installation an important role earned is.

Social kompetensiya the child's daily activities, especially, the team in o‘zini how may keep through the manifested is. For example, it to the other respect with the relationship of toe‘lish, turn waiting, in their opinion, the cultured and the expression of, others' opinion, to listen and to figure out trying making like skills their into gets. This with along, various situations appropriate to conduct the choice

to get, problematic situations to compromise to come and disputes peacefully, heo'l with the solution to also social kompetensiya of important structural components.

First of all, moral consciousness and values – good-evil - separated get, moral me'sweetheart of understand and them follow is to. Secondly, communicative ko'are nikma – others with effective communication, establish, their mind is clear and correct delivery and the partner to understand the ability. Thirdly, emotional-intellectual development – o'z feel-feelings manage, others' sensitivities to understand and to them the corresponding relationship is to express.

Social kompetensiya in the formation of the family, pre-school education institutions and schools have an important role o'ynaydi. Especially, o'yin activities, team work and various social situations modeling through children in this kompetensiya the development of effective it is.

To know kompetensiya the person of environment conscious on the basis of the perception to, o'rga a guide to the knowledge, skills and qualification of practical activities in support to get and new knowledge freelance basis to take the ability. This kompetensiya of man 's intellectual development, of thought, and the o'back in business success, offering an important factor is.

To know of kompetensiya through the child being in the events and processes of the track, them analyze makes, compares and summarizes. This process, he not only ready knowledge o'was medicine, but for them to realize that will reach and different situations to apply learns. For example, children with simple observations by the caused effects in the garden that liq understands, questions give and the answers he was looking for. Hence his critical thinking and problems solving to ability develops.

Cognitive (knowing) processes – attention, memory, thought, and imagination, such as the mental activity of the elements o'z into gets. O'educational activities skills – information search, selection, re-work and tizimlashti to the ability. Practical methodology'to llab – acquired knowledge to real life situations to apply, issues to solve and problems solving is to. Also, to know kompetensiya the person is independent o'the rga ability with closely associated. That is, children new

information adopters interested in, looking for, and knowledge getting in the process of an active take part will. This while his o'z-self the development of ground creates.

Interactive multimedia environment of the school in the young to educate know, the game and communicative kompetensiya of systemic elevate the basic foundation of a function was. Pre-school education organization an integral normative document, which is the "first step" of the state educational program requirements in accordance with, three from the age of seven under the age of who are children of the fundamental forces of physics, the mathematical imagination of the formation sessions in their own age dynamics corresponding in certain concepts of complex mastering set. In particular, this didactic requirements within the facilities of the specific characteristics based classification and to the group allocation, geometric figura of distinction and them surrounding environment items from among you to identify the skills includes. Also, children suddenly twenty to the number of within the framework of direct and reverse in order to, soda arifmetik and logical steps to carry out, space and the environment with the correct reference point to the perfect learn should. These with a number, as well as large between the ratio to determine, time measurements, which is seasons, day parts, the week of days and hours the concept of essence to understand and this possessed theoretical knowledge in daily life situations free application for required that are practical skills of the formation of the state educational program the main purpose is.

Modern education system in information and communication technologies (ICT) are widely introduced being as a result of the education quality and effectiveness enhancing aimed at completely new approaches are the form of. Today's day in electronic educational resources and interactive methods, not only the knowledge of giving the process to simplify and optimize, but o'back independent thinking, a critical analysis to make and obtained knowledge in practice and the application is as important kompetensiya of the development also has an important role plays. In this aspect, this article e - education means the essence, interactive methods of practical methodology'llab be and their educational

efficiency, which indicates the effects more widely scientific and practical basis will be available.

Electronic educational resources (diagnosis) for the concept of under computer engineering, tablets, mobile devices and internet networks by used of the various o'educational materials, software tools and digital platforms of the complex by kept. These resources effectiveness, first of all, o'educational readers knowledge on the level of positive changes with will be evaluated. Scientific studies of the results of that ko'that rsat, visual, audio and interactive elements with enriched educational materials traditional to textbooks than knowledge of the deeper and barqarorroq mastering the opportunity to gives. For example, videodarslar, interactive simulyasiya are and test the instructions o'a national educational complex topics more accessible and interesting form to realize that help will.

That is in addition to, electronic learning resources distance education effective up to the opportunity of giving, o'readers back independent work skills too you will develop. O'the ones who were mastering the process of the individual at the speed get to go to, their time - independent planning and the desired material any time you contact to make a chance to have a will. This while learning the process more flexible and o'educational needs focused to brings. Electronic educational resources, a variety in the form of show up toe'ladi, including:

- electronic textbooks and o'educational manuals;
- online education platforms (Moodle, Google Classroom, at at <url> , and others);
- videodarslar and other visual content;
- interactive tests, exercises and are simulyasiya.

Learning process interactive, flexible, and the person ito'naltirib the way to organize to the possibility it creates. Especially, pandemiya, during the period of distance education introduction to and the continued development, as well as electronic learning resources, and the cost was incredibly high that the practice is a clear manifestation toe'ldi.

2.2. Artificial intelligence using the child of the individual oqitish trayektoriya of the formation of the algorithm

Modern education system to the person ito‘naltirib the approach of the priority directions of one as it looked. Each of a student's knowledge level, o‘medicine pace, interests and cognitive properties different from that reason, single standard teaching model all of it for a different level of effective results does not give. In this regard, individual oqitish trayektoriya of the formation of the problem in the actual scientific-practical issues have become. This process artificial intelligence (C) of technology, the use of the new opportunities opened has.

Artificial intelligence on the basis of systems of large amounts of data analysis to make, the children o‘educational activities monitor to and for them based on flexible decisions take you to the possibility it gives. Individual oqitish of trayektoriya about every one of the children to his knowledge level, development of speed and needs fit without formed educational way to be understood. Such trayektoriya o‘educational content, assignments, complexity, and present the form and the assessment of the method is the adaptation of its own into gets.

Artificial intelligence , using individual trayektoriya of the formation process usually a few from the stage is toe‘ladi. The first stage — the data itit‘work and diagnostic to make the stage is. In this process the students about the following information will collect:

- knowledge level (the test results by),
- learning speed,
- interest and motivation,
- errors statistics,
- activity log (in the platform of action).

The second stage — **analysis and model** stage - toe‘become, it mashinaviy learning algorithm with the help of the child's profile, is the creation of. This profile of the child's strong and weak sides of the identification, knowledge toe‘shliqlarni set and the future development directions for the forecast to the possibility it gives. For example, klasterlash (clustering) algorithm with the help o‘xshab to properties

having children groups is allocated, regressiya and classification models , while the results are more predictable in the making is used.

The third stage — **adapted o'educational content selection and recommendation of the** stage. This here recommended systems (recommender systems) important the role o'ynaydi. They are the child's previous activities based, it is likely to come to the course materials, exercises , and testing to recommend will. For example, a student of a particular subject in difficulty to face come, the system to her methodology'shimcha understand videos or simplified for exercise provide will.

'Tortinchi stage — **dynamic monitoring and punctuation marks** of the stage is, thus , the system of the child development constantly monitor will and necessary in cases trayektoriya the update will go. This process in real time mode out can be carried can. A child quickly o'zlashtirayotgan if, the system is more complex assignments offer a will, otherwise in the case while additional explanations and exercises gives.

The fifth stage — **evaluation and reverse communication** stage is. Artificial intelligence on the basis of systems of automatic evaluation, errors identify and individual recommendations give the opportunity it creates. This while oqitish have downloads reduction with along, education quality, to increase the serve will. This algorithm is an approach following key technologies relies:

- mashinaviy o'to rga (Machine Learning)
- natural language processing processing (NLP),
- big data (Big Data) analysis,
- recommended systems,
- adaptive learning platform.

Artificial intelligence on the basis of the formed individual oqitish trayektoriya of advantages in the following consists of:

- education is the process of individuallashtirish be;
- knowledge deeper mastering;
- academic motivation increase;

- time and resources for effective use;
- o'be qitish and children between the interactive escalation.

This with along, this approach in the current implementation , some problems are also there. In particular, data security, technical infrastructure, enough , not, o'andy digital kompetensiya of increasing need , and the algorithm effectiveness , ensuring the issues of pressing is.

Artificial intelligence on the basis of individual oqitish trayektoriya of the formation of modern education of promising areas one isit education quality significantly the level increase the opportunity to gives. In the future, such a system of improvement, the national education system to adapt and pedagogical and technological integration deepening of the important tasks of one toe'become and remain.

Modern education in the system of children's knowledge level, o'medicine pace, interests and cognitive features from each other significantly in level difference makes. The same reason why the traditional "a different program – all for all" approach o'z the effect of full does not give. Education is the process of effectively the organization of to an individual approach, that is, for every one student for a personalized oqitish trayektoriya of work to important it is. Exactly the same at some point artificial intelligence (C) technologies have great opportunities it creates. C using the child's knowledge level, error, o'rga to style and development dynamics analysis and, to him suitable educational way automatic manner shall be formed. As a result, o'educational process, personalized, flexible and effective manner takes.

Individual oqitish trayektoriya of the new year and form the main principles. Artificial intelligence on the basis of individual trayektoriya the creation of a few important didactic and technological principles on which it relies. First of all, the students start'constipation knowledge level to determine is necessary. This diagnostic tests, previous price , or on the platform, the activity results by out carried. In this stage the learner's where it started whether it should determine the will.

The next important phase – o'educational activities, continuous monitoring is. C the system of the students, every one answer, assignments complete time, error

line and the success of real - time mode recorded is the analysis makes. This information on the basis of the child's development dynamics will determine. That's so'ng personalized educational trayektoriya of working out. The algorithm of student individual characteristics depending on the topics of the sequence, assignments are complex and methodology'shimcha materials will choose. For example, a student of a certain topic, quickly and to'g'ri development if, the system is more complex tasks offer will; otherwise , in the case while additional explanations and a simplified workout for provide will.

Again, one important principles – feedback and adaptive is correct. the child's activity on the basis of the system to trayektoriya constant on the basis of updated are. This , while o'educational process static is not, but dynamic and flexible makes. Artificial intelligence , using individual oqitish of trayektoriya in the formation of various algorithm approach is used. Most simple and understandable method from the one – rule - based system (rule-based systems). Thus, the pre - defined conditions on the basis of the decision taken will be. For example, a student in the exam than 80% less results , ko'if rsat, the system to it an additional workout or re - study of the block, recommend will.

Also more complex approach – machine o'the rga algorithm (machine learning). This method is the system of large amounts of data analysis you do, the child's cognitive level and o'medicine properties will determine. The classification models using children's knowledge to the level of ko'ra group is allocated (high, medium, low), regressiya models , while their development dynamics of prediction makes.

Recommendations systems (recommendation systems) is also important the role o'ynaydi. In this system, the child's previous activities, interests , and o'the rga on the speed - based, it most likely educational materials, video lessons or interactive exercises advise will. This through o'educational process further was individuallashtirish. Also, the adaptive test algorithm of the wide methodology'is llab. Thus, the test questions, a student response depending dynamic in a way o'zgarib will. A child 'tog'ri answer if, the next question is more difficult is the wrong

answer is given when , while the system simpler question or explanation gives. This method the child's actual knowledge level accurately determine the opportunity it gives.

Scientific-methodical recommendations. Artificial intelligence on the basis of individual trayektoriya of effective implementation to for a number of methodological approaches apply to necessary. First of all, o‘educational process stage-by-stage monitoring of the system out put should. Each a module or topic at the end of the kids with the results of the analysis and, next to the stage o‘the teeth of the decision taken will be.

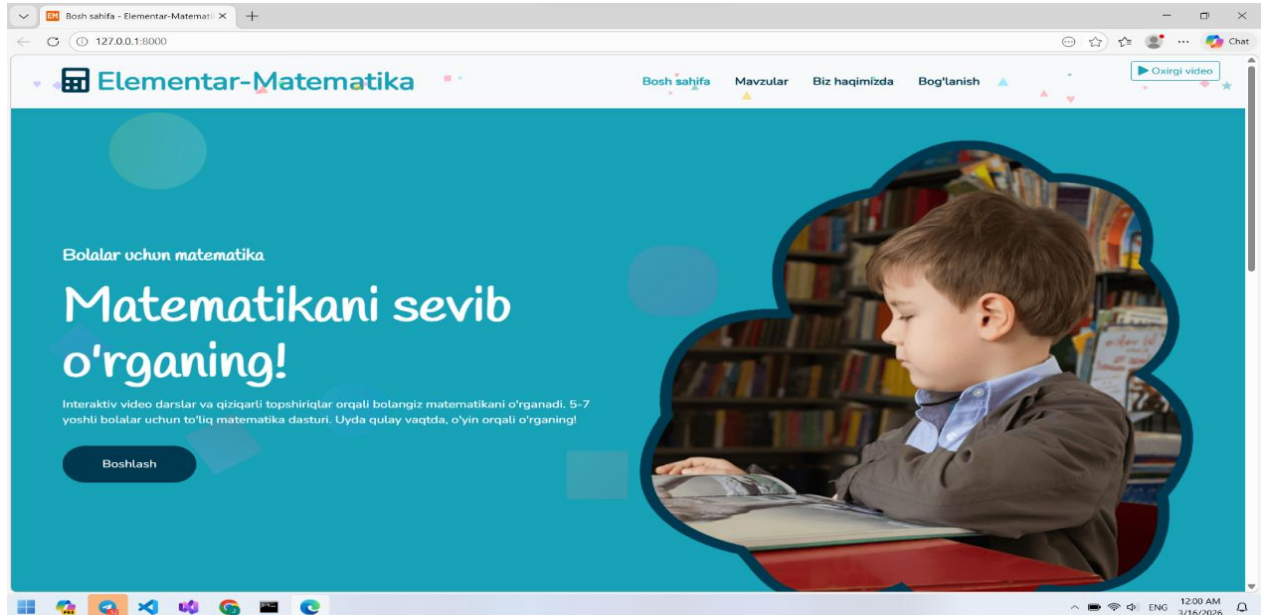
Vizualizatsiya of tools to use is also important. The graphics, diagrams and progress indicator through students development level, which in subject of difficulty , the presence of clearly ko‘rsat is. This while not only the oqitish be, but the child's self for also convenience creates. That in addition toC the system of e - textbooks, online tests and interactive platforms with integrate to needed. This o‘educational process of the unique ecosystem by turning, productivity increases. Most importantly, the system by which is given feedback personalized toe‘lish the need. That is, each a child for its strong and weak sides into account taking without individual recommendations to be given it should.

Artificial intelligence using formed individual oqitish trayektoriya of education in the process of radically new level of take out. Such an approach to the child's personal characteristics into account taking, his knowledge in getting the process of optimization. C algorithm through knowledge level will determine, o‘educational materials are placed adapted and teaching process is continuous on the basis of the improvement of the members is. As a result, education is the process of individualizatsiyalashgan, flexible and highly effective system to be converted.

The above quotes all of the thoughts o‘zida includes which of the fundamental forces of physics mathematics web platform was created. Fundamental of physics, mathematics web platform investigator copyright the idea on the basis of worked out. This web platform 3 toe‘education available is, every one of the chapter tests tests and videodarslar there are. Videodarslar voice

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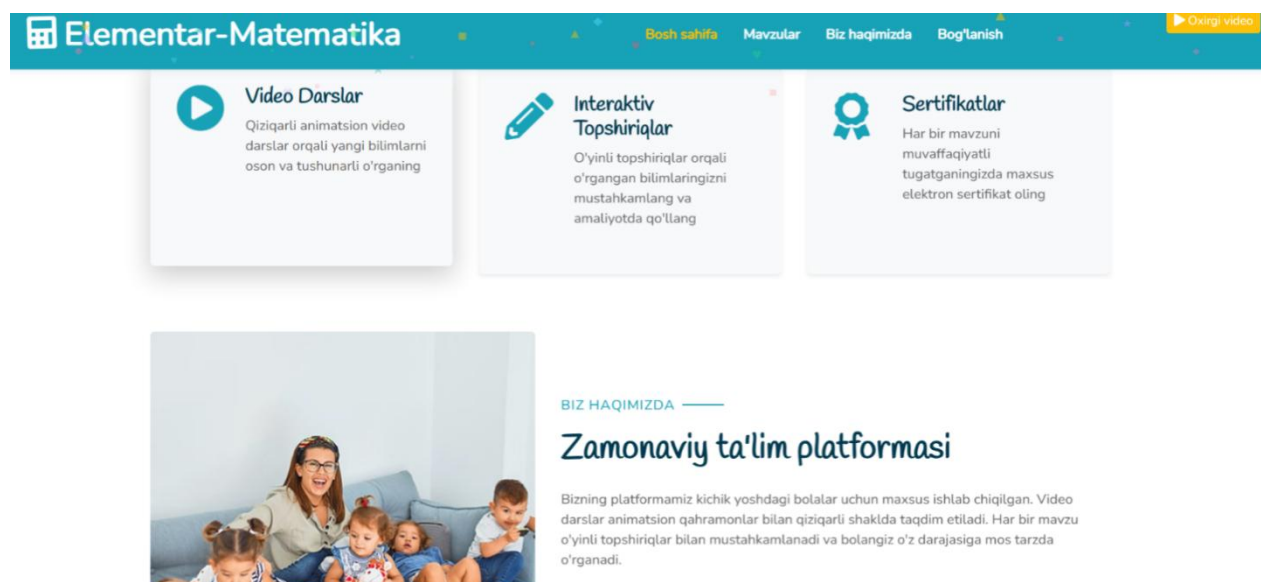
toe‘become, children learn that again , too simplifies. The test of the test is excellent in the level do certificate provided are.Fundamental of physics, mathematics web platform my program from the picture induced, o‘built in the us.(2.1-ram)



2.1-picture.Fundamental of physics, mathematics web platform program home page.¹⁹

Fundamental of physics, mathematics web platform of the program 2.1 -the picture of the start button is there. In the beginning the home page, themesus about, the gardens‘greenhouses to like menus there are.

¹⁹ Elementar matematika dasturidan olingan muallif ishlanmasi



2.2-picture.Fundamental of physics and mathematics , a web-platform of the main options (video lessons, interactive assignments, certificates)and the Us “about” toe‘of education interface.²⁰

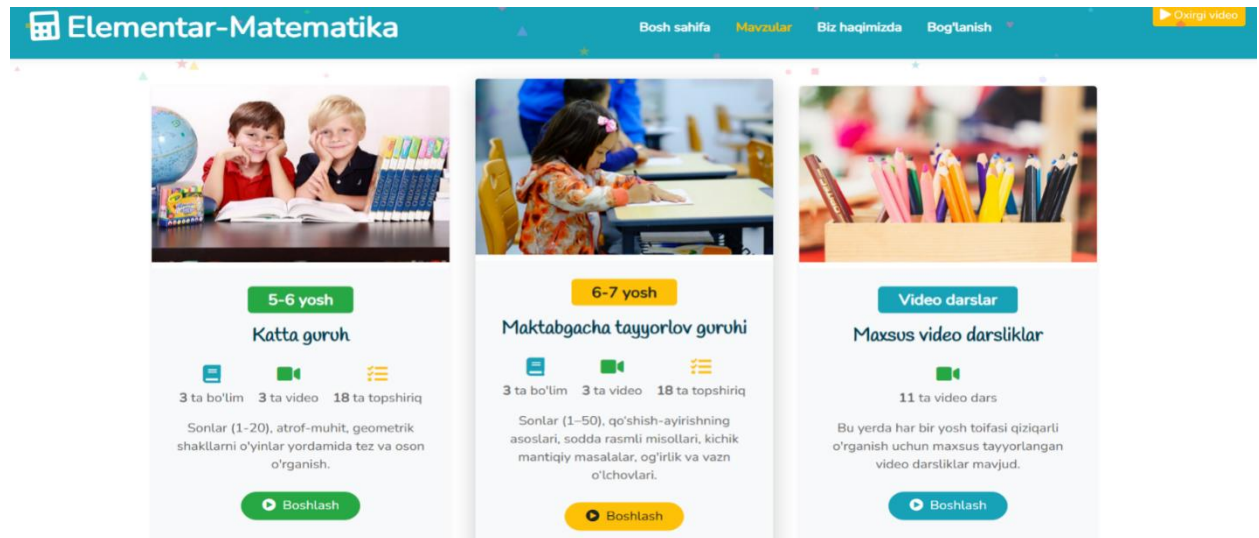
Fundamental of physics web platform of the program 2.2-in the picture, video lessons, interactive assignments, certificates toe‘of education are there.Fundamental of physics, mathematics web platform application in modern education platform about information said. 10 videolessons and assignments there are. These program main part is available.



²⁰ Elementar matematika dasturidan olingan muallif ishlanmasi

2.3-picture.Fundamental of physics, mathematics web-platform “Themes” interface.

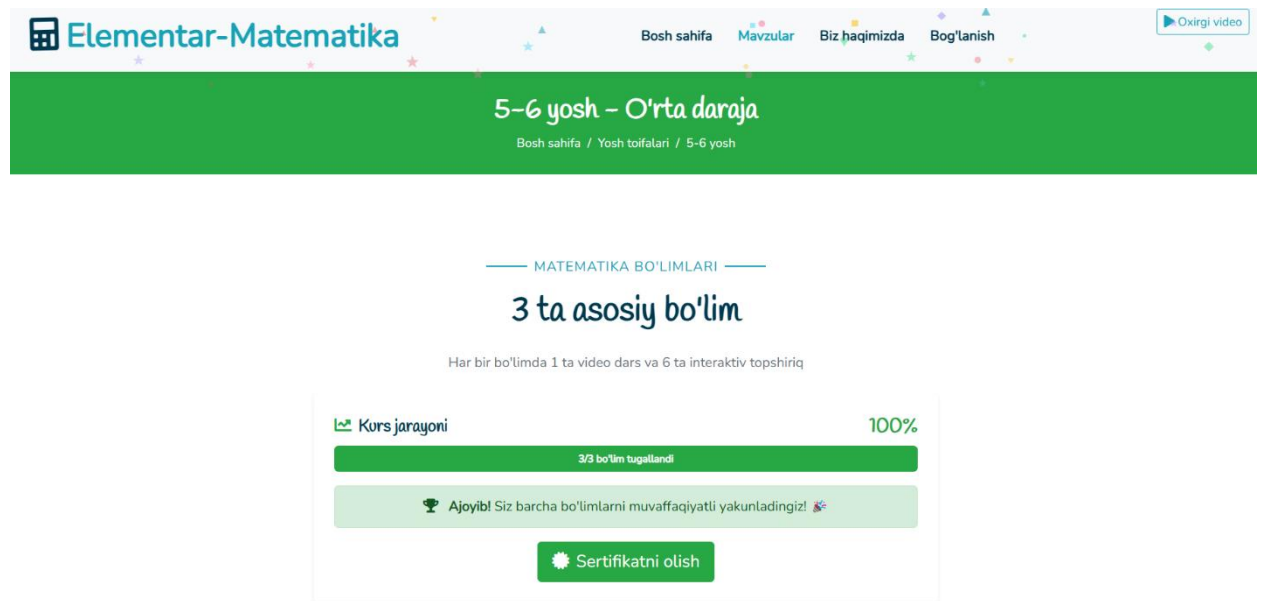
Themes toe‘education in the age of suitable education programs are there. These include: 5-6 age category, 6-7 years of age category, videodarslar toe‘of education are there.



2.4-picture.Fundamental of physics, mathematics web-platform age categories and video lessons toe‘of education interface.²¹

5-6 age categories of this large group. Thus, 3 toe‘education, 3 video, 18 ta assignments from it.

²¹ Elementar matematika dasturidan olingan muallif ishlanmasi



2.5-picture.Fundamental of physics, mathematics web-platform 5-6 age category, the o'back to the interface.

5-6 years of age - O'central level

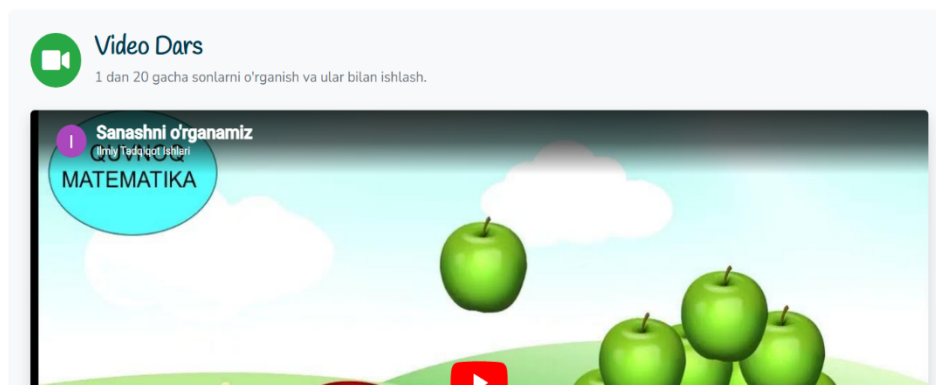
3 main toe'education are there.

Toe'education 1: Numbers (1-20), 20, from 1 to the number o'to rga. 1 video 6 assignments

Toe'education 2: Side to understand, the game through simple side to know to get. 1 video 6 assignments

Toe'education 3: Geometry basics. Various geometric shapes in 1 video 6 assignments

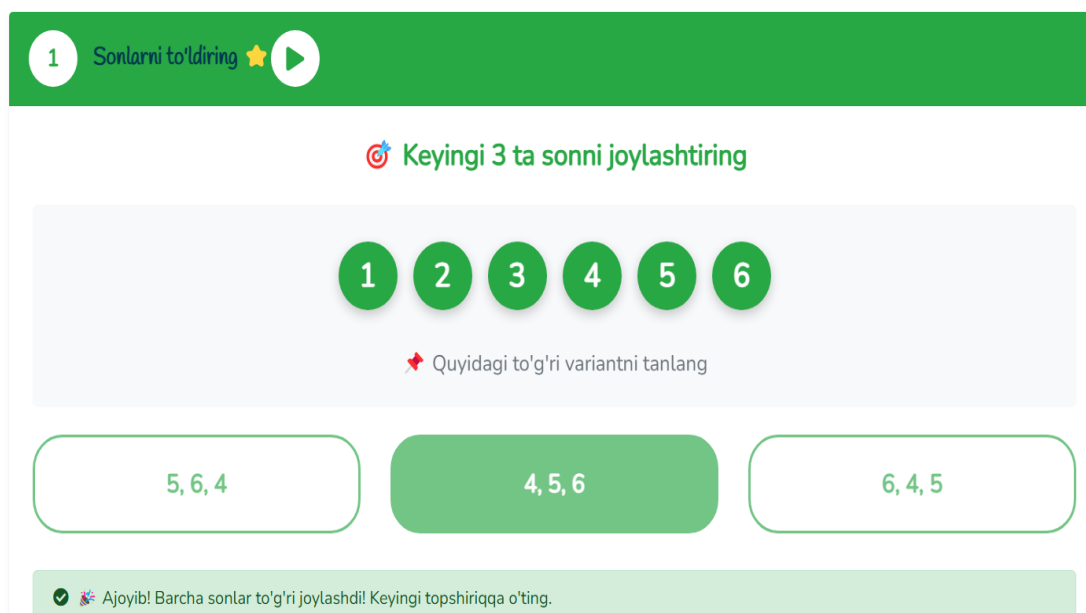
Each with a toe'in education 1 video lesson and 6 interactive assignments are there. 1 video 6 assignments. All assignments fulfilling toe'from the present, so'ngra a certificate will be given.



2.6-picture.Fundamental of physics, mathematics web-platform 5-6 years of age “Toe‘education 1: the number (1-20)” on the topic video lesson interface.*.²²

5-6 age category 1-toe‘in education , the number (1-20). 20 from 1 to the number o‘to rga

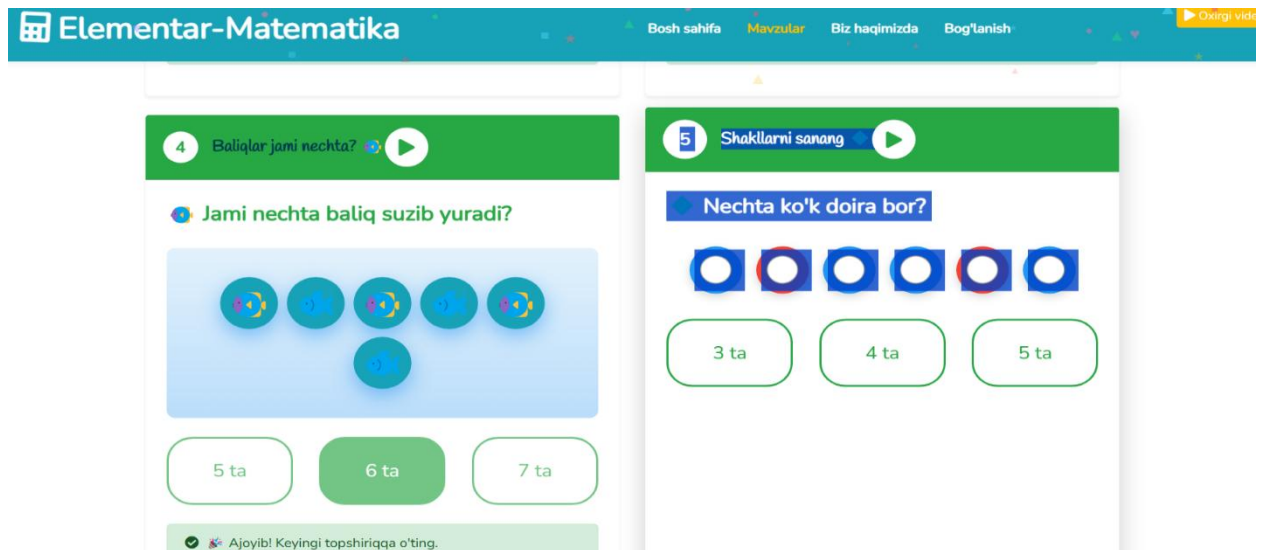
1 video 6 assignments there are.



2.7-picture.Fundamental of physics, mathematics web-platform interactive assignments interface.

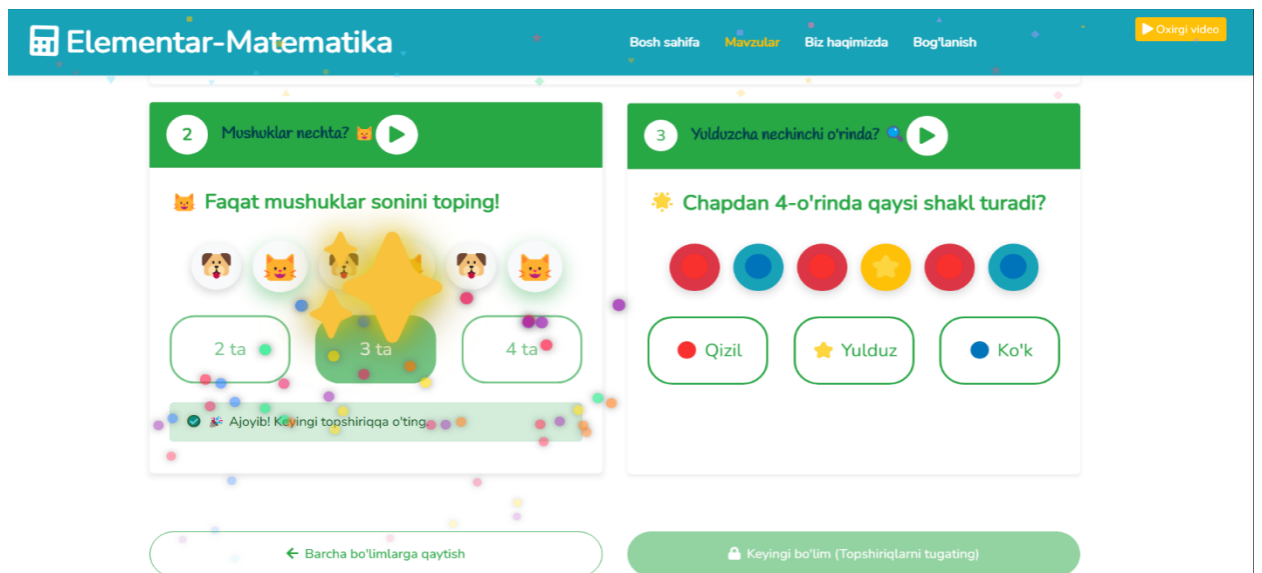
²² Elementar matematika dasturidan olingan muallif ishlanmasi

Ko'rsat was in the picture next 3 numbers in the finding of the question given. The question to 'g' settings answer if mark next to the question o'tadi.



2.8-picture. Fundamental of physics, mathematics web-platform interactive assignments interface.²³

1-toe'education 1 question. The question that is: Total few fish swimming walks. To 'g' settings answer 6.



2.9-picture. Fundamental of physics, mathematics web-platform interactive assignments interface.²⁴

²³ Elementar matematika dasturidan olingan muallif ishlanmasi

²⁴ Elementar matematika dasturidan olingan muallif ishlanmasi

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2-question.

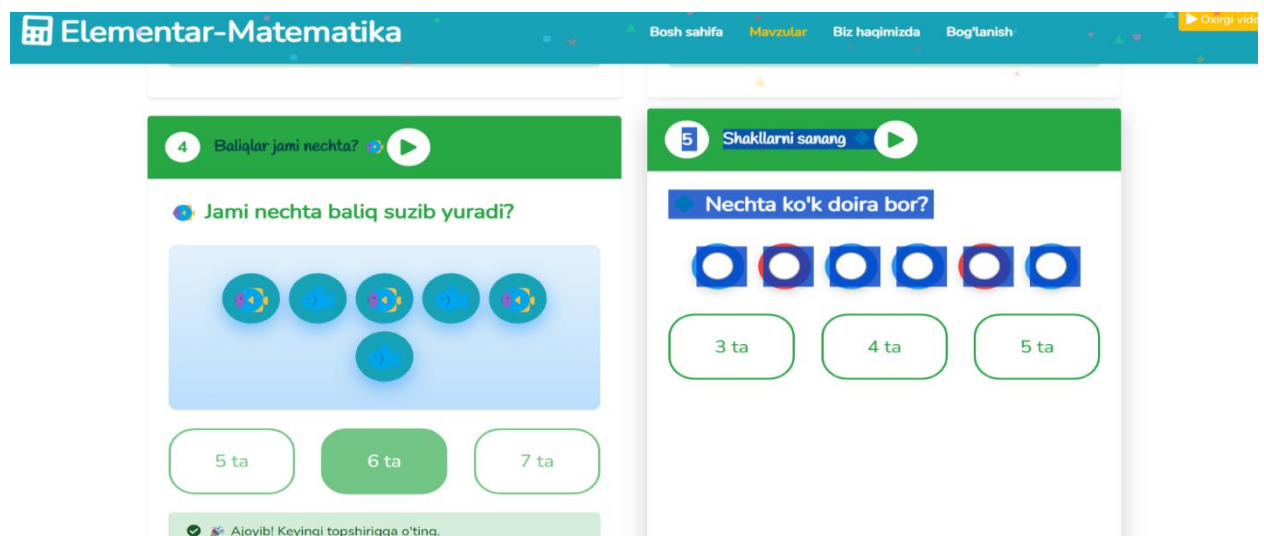
Cats are multiple?

Just cats number find!

The question to 'g'settings answer if mark next to the question o'tadi. Noto'g'settings if you sign the question to 'g'settings belgilamaganingizgacha next to the question o'the tma does not. Questions young from the circle came concluded. 3-question.Yulduzcha the first couple o'rin?

From the left 4-o'rin in which the form is.

To the question the correct answer if mark next to the question pass.



2.10-picture.Fundamental of physics, mathematics web-platform interactive assignments interface.²⁵

4-question.For the form to get listed.

Multiple ko'k within it.

Questions young circle from a point structured.

²⁵ . Elementar matematika dasturidan olingan muallif ishlanmasi

Elementar-Matematika
Bosh sahifa Mavzular Biz haqimizda Bog'lanish
 Oxirgi video



ISHLAB CHIQUVCHILARI —

Sayt yaratuvchilari haqida

Xalikova Umida Mirovna — 1987 yilda Buxoroda tug'ilgan. U pedagogika sohasida katta tajribaga ega bo'lib, Buxoro davlat universitetining "Amaliy matematika va informatika" yo'nalishini tamomlagan. Maktabgacha ta'lim tizimida bir necha yil pedagog sifatida faol ishlagan.

Faoliyati davomida elektron qo'llanmalar, multimedia materiallari va raqamli o'quv-uslubiy resurslar yaratgan. Kogon pedagogika kollejida o'qituvchilar uchun raqamli ta'lim bo'yicha amaliy ishlarni tayyorlagan.

Keyinchalik BuxDu magistraturasida tahsil olib, maktabgacha yoshdagi bolalar tafakkurini kompyuter dasturlari yordamida rivojlantirish bo'yicha tadqiqot olib bordi. 16 dan ortiq ilmiy maqola chop etilgan, elektron o'quv dasturi esa intellektual mulk sifatida ro'yxatdan o'tgan.

U yaratgan "Ilk qadam" dasturi 4 yoshli bolalar uchun yaratilgan bo'lib, elementar matematika bo'yicha interaktiv mashg'ulotlarni o'z ichiga oladi. Unda animatsion videolar va didaktik o'yinlar mavjud.

Dastur nafaqat tarbiyachilar, balki ota-onalar tomonidan ham bolalar bilan mustaqil mashg'ulot o'tkazishda qo'llanmoqda va amaliyotda samarali natija bermoqda.


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Elementar-Matematika

Bosh sahifa

Mavzular

Biz haqimizda

Bog'lanish

Xitoy video

Bog'lanish

Salom! Men To'xtamishova Gulnora Mels qizi, 25 yoshdaman. Buxoro davlat universiteti 2-bosqich magistrantaman. Ta'lim, ilm-fan va yoshlar rivoji bo'yicha loyihalarda faol ishtirok etaman.

Ilmiy faoliyatim davomida bir nechta yirik yutuqlarga erishdim. 2022–2023 yilda Beruniy davlat stipendiyasi, 2023–2024 yilda Prezident stipendiyasi sohibasi bo'ldim. 2024–2025 yilda esa Zulfiya davlat mukofoti laureati bo'ldim.

30 dan ortiq ilmiy maqola va 2 ta patent muallifiman. 500 dan ziyod xalqaro va respublika tanlovlarida ishtirok etib, turli diplom va sertifikatlar bilan taqdirlanganman.

Maqsadim — har bir bola o'z qobiliyatini ro'yobga chiqaradigan zamonaviy va xavfsiz ta'lim muhitini yaratish.

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Bog'lanish



2.11-picture.Fundamental of physics and mathematics , a web-platform of the authors about the information of the window.²⁶

Fundamental of physics, mathematics web platform of the authors about ma'lumot
quotes.

Common I say, that every one of the age within 3 toe'education, videodarslar from is. Each with a toe'in the education of young circle on questions there are. Questions tog'ri answer if mark next to the question pass.It's the good side of the question thoroughly, studied the next question skip you can. This is any of a child's knowledge in increasing most of the good one of the ways is.Young children how

²⁶ Elementar matematika dasturidan olingan muallif ishlanmasi

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mathematics and science have a good study, of thinking will expand. The remaining subjects thoroughly o'rga factors they do not afflicted. Gardenchaga go, that I want you to realize, the children of knowledge in the interests upgraded. Children of the future good o'qib, in its field, the most prominent of kad be reach tilakdosh I am.

2.3. “The first step” state o‘educational program on the basis of the fundamental forces of physics mathematics lessons digital platform integration methods

Scientific research and literature analysis and Mt mathematics lessonulot of processes to monitor, the child needs learned without the Uzbek language , voice, picture, animated video from is “Cheerful mathematics” called a program created. This program “First step” pre-school education institutions in the state o‘educational program , and “the uzbekistan republic's early and preschool age children the development of who put the state requirements,” on the basis of worked out has been fundamental forces of physics mathematics lessons to the set relied on without formed.

The program of the child, the age of characteristics, interests and perception to the level into account taking without work out toe‘become, it interactive assignments, animated images and voice instructions through the learning process interesting and effective for the organization of goal has been.

Of the software supply is the main part of the adobe flash player program based on was created (2.21-picture see). The animated video in the creation of Animator, camtasia studio Format Factory and diktofon of the program led to use. The computer o‘of yin and interactive exercises, the system of work in and out while the action script programming language to use led.

Program 's window creation in the process of action script programming the system on the basis of a special program codes were recorded (2.21-picture see). These codes using the user interface, buttons, navigation elements and interactive management system work out. As a result children for comfortable, accessible and interesting toe‘present digital learning environment has formed.

Today's day of education in the field of digital technologies methodology‘llab to education quality increase and readers individual develop the opportunity to gives. O‘uzbekistan uzbekistan Republic approved the “first step” of the state educational program for pre-school and primary education in the stage of mathematical kompetensiya of the formation is directed. This program is on the basis of the

fundamental forces of physics mathematics lesson of ulot digital platform integration through the learning process interactive and adaptive in a way that is organized to be can.²⁷

Digital integration is the goal. Digital platforms lesson ulot the integration of the main purposes of the following consists of:

1. O'educational process visual and interactive in the form established was.
2. Students knowledge level of real - time monitoring of making and individual approach provide.
3. Mathematical concepts (numbers, methodology's swelling, bumps, shapes and others) practical examples through strengthen.
4. Students o'zini assessment and training in the computer's motivation increase.

Integration methods. Fundamental of physics mathematics lesson ulot of digital platform for the integration of effective methods are the following:

1. Interactive textbooks and modules. Interactive textbooks using mathematical concepts not only text by, but also colorful graphics, animated, diagrams and interactive elements through explain can. Thus, o'the ones who were only hearers not, but active participants will become: it's on-screen objects with works, them moves, selects, and the result immediately will see. This is while, especially pre-school and start constipation at one stage abstrakt mathematical concepts konkret and understandable to a form to come help will. The interactive o'were the ones who's attention away from kept are and the knowledge will strengthen. For example, methodology'tumor of the practice to understand different colors of blocks or shapes used: red blocks of a number, blue blocks, the second number represents. O'the ones who were with them combining, the result of the visual in a way that it is easy to see (for example, 3 red blocks + 2 blue blocks = 5 total blocks). Multiplication process, while blocks out is removed and the remaining

²⁷ Obuxova L.F. Detskaya psixologiya. – M., 2008. – B. 51.

part ko'rsat is. Such a method by o'the ones which were mathematical practice not only remember remains, but it "see", "feel make it" understands. Also, the graphic images (e.g., fruits, o'yinchoqlar, animals) using the given examples to the children with more interesting to be, their computer's motivation increases and practical of thought provide the development.²⁸

2. Virtual exercises and tests. Digital platforms exercises and tests, with simple static ko'in rinib not, but the student's individual knowledge to the level of the corresponding in dynamic manner shall be formed. That is, a student assignments easily with the'g'ri accomplish if, the system is automatic on the basis of more complex examples offer will. On the contrary, if the student mistakes you make, the platform simpler, understand for exercise provide will. This approach every one o's back at your own pace at the development to be given, excessive difficulty or boredom prevention takes. As a result, o'educational process individualizatsiyalashadi and each of a student for the maximum efficiency it provides. Digital system assignments to carry out in the process of students answers immediately will check and result in a instant ko'rsat is. You answer noto'g'ri if, the platform simply "error" as defined is not put, but where and what is the reason for the mistakes that make the many comments it gives. For example, methodology'tumor in practice the error is, it is the number of how on , add the need for step-by-step will show or visual examples with explains. This , while o'educational financial mistakes, learn, their knowledge, independent on the basis of correct and strengthen the opportunity it gives. Also, quick feedback o's back to the computer's motivation increases and the teacher to both the students the status of effective monitoring to the possibility it creates.²⁹

3. Gamifikatsiya (o'yin elements). Mathematics lessonulot of the game elements with enrichment (gamifikatsiya) readers to the lesson , which is the interest of a significant level of carries. O'yin in the form of organized are assignments through students self compulsory reading not, but fun process involved makes it

²⁸ Mullan A.P. Children and Computers in the Classroom. – L., 2012. – B. 7.

²⁹ Novoselova S.L. Informatizatsiya doshkol'nogo obrazovaniya // 2005.- B. 102.

seem feel makes. For example, level (level) time with the gardenliq assignments, difficulty stages and competition elements of the reader's growing active to be motivate. Such approach is especially small age of children for effective toe'become, their attention long time storage, independent thinking and problem solving skills to develop to help will.

4. Gamifikatsiya in the process every one to'g'ri done apply to students points or yulduzcha (stars) of the meeting. For example, every one 'tog'ri add activities after 10 points be given, a certain amount of points when collecting while a new stage opening or virtual awards (medals, certificates, avatar strain) to be given can. This system o'educational leader more active the more you work to motivate and their results to improve the motivation it gives.

5. **Vizualizatsiya and animation.** Digital platforms are animated from the use of mathematical concepts live and harakatli way to express the opportunity to gives. For example, the geometric form (circle, square, triangular) yield toe'lish the process step-by-step animation by shown can be. Also, numbers with gardenliq actions — addition, multiplication, comparison — harakatli objects using are described: the object is added to, separated , or the place is changed. This method through o'the ones which were mathematical process just theoretical is not, but visual-harakatli form also meant. Are animated , especially the small age of children for effective toe'become, their e'tibor of engaging makes and learning process interesting makes. Mathematics ko'pinch abstrakt concept is based, that while small, the age of pupils for the challenges posed to be can. Animation and visual means , while this abstrakt concepts konkretlashtirish, i.e. ko'that rinib and understandable form brings. For example, "ko'to payib" concept of sorting objects of the group of the increase through the show caughtthe children it more quickly meant. Also, are animated by the caused effects in the gardenof liq also a clear manifestation of this is, that while readers of logical thinking development provide. As a result, o'the ones who were mathematical scary or complicated science as not, but understandable and interesting activity as taken are.

5. **Feedback and progress monitoring.** Digital platforms each of a lesson or lessonulot at the end of student activities automatic in a manner that will be evaluated. The system is completed assignments number, to 'g'ri and wrong answers, spent time and the total result is, certain indicators on the basis of assessed are. That is in addition to, the platform, each of a student for an individual report (progress report) forms.³⁰ This report describes the student's which topics have been good o'possessing medicine, which in areas to the challenges face that come and the overall development dynamics reflected was. This , while o'educational process more systematic and controlled, the condition will bring. Automatically itit'births of data on the basis of teachers in each of a student's knowledge level, development of the pace and problematic topics about more to analyze the able will be. This analytical data (analytics) oqitish to differential approach implementation to increase help will, that is, the strong students for the more difficult assignments, the ravages of to while additional explanation and exercises planning. Also, this information in the group general trends to identify, lessons, and teaching methods in the computer's improvement and efficiency increase for also important is professional is.³¹

6. **Integration with other modules.** Fundamental of physics mathematics lessonulot of other sciences with the integration of educational knowledge complex in a manner the formation help will. For example, tabiatshunoslik lesson o'of simlik or animals of the number to count, them to the group allocation through mathematical concepts will reinforce. O'winter course while the text the number of the data with you to work, simple mathematical issues, the story on the basis of charging readers not only to, but understand and analyze to the skills both of you will develop. Such integration through o'the ones who were of mathematics that particular fan as not, but in daily life, with associated, other knowledge areas with close collaboration of the process as taken are. As a result, in them logical thinking, problematic situations and solve to, text with work and kuzatuvchanlik like ko'p a

³⁰ Domonova S.R. Metody kompyuternogo obucheniya. – Rostov-na-Donu, 2009.- B. 87.

³¹ Mullan A.P. Children and Computers in the Classroom. – L., 2012. – B. 57.

fan of kompetensiya form. This , while o‘educational process, the efficiency increases and knowledge of practical value enhances.

Scientific–methodical recommendations. Module and block toe‘lish approach on the basis , each a subject of small, logical end portion is allocated, that while the student's knowledge of the gradual and systematic basis utilized the opportunity it creates. This with along, digital platforms methodology‘llab used adaptive algorithm, the student's response depending workout complex automatic in a way adapted, are brought together, as a result, the educational process of the individual characteristics adapted. Interactive reverse communication mechanism while every one to answer toe‘citizens a detailed explanation giving, the students mistakes to realize and them again to work, to help you will. That is in addition to, visual and sound methodology‘llan — that color images, they are animated and voice comments — number, geometric shapes and mathematical steps understand effectively being applied, especially small age students for the knowledge more understandable and interesting makes.³²

“The first step” state o‘educational program on the basis of the fundamental forces of physics mathematics lessons digital platform integration learning process interactive, individual and motivational makes. This method of using students mathematical concepts o‘z at a pace learns, practical exercises, through knowledge , strengthen and self assess an opportunity to have a will. Digital integration through o‘educational process is not only effective, but also fun and innovative form organized are.

Chapter ii toe‘citizens summary

Today's day in education, the process of effectively organize to , and the students individual development in ensuring interactive electronic platforms and artificial intelligence (C) of technology and the important role it has.

³² Makarychov P.P., Sarvilena I.Yu. Kompyuter o‘qitish modeli. – Penza, 2014.- B. 95.

1. Interactive electronic platform structure, functional modules and user interface to students knowledge o'z pace to learn the opportunity it creates. Platform module structure (lesson module, test modules, visual and audio resources) o'educational process interactive and adaptive makes, user interface , while simple, intuitive and convenient to be through readers the computer's motivation increases. This with along, the platform oqitish educational process real - time monitoring to do, the results can analyze to and the individual approach to planning with the possibility of returns.

2. Artificial intelligence using students individual oqitish trayektoriya of formation algorithm for readers with initial knowledge level, determine, their strong and weak sides of the analysis to and adaptive learning ways to work out on the opportunity it gives. Rule-based systems, machine o'the rga algorithm and the recommendations of the system of students individual needs of adapted learning process that provides, educational process effective and result oriented makes.

3. "The first step" state o'educational program on the basis of the fundamental forces of physics mathematics lessons digital platform integration methods in the educational process of the interactive, visual , and gamifikatsiya elements with enriched. This method , through students mathematical concepts with practical exercises through strengthening, knowledge of an independent assessment provides and o'zini development of interest increases. Digital integration o'educational process is not only effective, but also interesting and innovative makes.

Interactive electronic platforms and artificial intelligence algorithm with the help of students, the individual oqitish of trayektoriya shall be formed. This approach o'educational readers of their individual abilities and interests taking without knowledge to get the process of optimizing and education quality significantly the level increases.

CHAPTER III. THE ELECTRONIC PLATFORM OF PEDAGOGICAL EXPERIENCE IN TESTING METHODOLOGY, LAB ANALYSIS AND ITS EFFECTIVENESS

3.1. Experience-test work up to, stages and criteria

Pedagogical experience-testing the main purpose of research earlier in the history of scientific assuming that's how it - based and 'tog'ri that practical in ways he sees the check is to is. This process is conditional on the basis of the following stage to divide , you can:

1. Tauuorlov stage (2024-2025-itillar): This period rid of it the ida work out was carried:

- the results of research in basic ito'of nalish detected;
- the problem of theoretical and practical condition o'led rga;
- o'back tome'yoriy documents analysis is;
- pre-school education organizations caregivers with the so called'rovnomalar held;
- caregivers for electronic educational resources, the use of toe'citizens seminars and trainings organized were;
- experience-testing works o' - check-in passengers for base Mt and "Preschool education" specialty on colleges will choose;
- the necessary material-technical, scientific-methodical conditions o'led rga;
- experience-the test for the materials prepared;
- caregivers and oqitish ones experience-testing to work prepared;

- the initial experience-test works o‘- check-in of passengers.

2. The second stage (2025-2026-o‘ones were the year): This stage is the following work out was carried:

- the plan on the basis of experience-testing work to continue was held;
- Mt electronic program on the basis of the mathematics lessonof ulot out to go to and the results of regular analysis is;
- if necessary, ko‘ra methods and materials modifications have been made;
- the results of the quantitative and qualitative aspects analyzed has been;
- animated videos and didactic o‘the yin through mastering level will determine;
- in college, “the child of the fundamental forces of physics , the mathematical imagination of the formation” the fan o‘in qitish electronic resources for the use of the effectiveness was studied;
- scientific evidence itit‘ildi and have been received;
- results for toe‘citizens reports prepared, discussed were;
- scientific conclusions were out of and the results are assuming with the compatible is clarification;
- students and carers views o‘led rga;
- so‘rovnomalar and conversations held;
- statistical analysis through the results of the reliability is proven.

Experience-testing works a. a. Kiverlyag by offered was the control and experimental groups allocation methodology on the basis of out did not go. Control group of education traditional method in the get go toe‘lsa, experimental group e - learning platform was used.

Results of regular analysis and, the group o‘zaro is compared and appropriate practical conclusions issued. Necessary in cases oqitish his methods , changes have been made. Children 's cognitive, ko‘nikma and skills of the following criteria based on evaluated:

- fundamental of physics and mathematical concepts to understand level;
- logical problems solving ability;

- material independent mastering;
- knowledge will tizimlilik and practical methodology will be.

In the evaluation the students the results of the mt caregivers of the act and the reference to led use. Experience-testing works Romitan district get the flowers' small 3-the number of mt, Romitan district Saidova the rams MT Madina and Romitan district 8-the number of the mt at the base of you out did not go. Experience in the process of "Cheerful mathematics" called electronic platform based on the lesson the ulot established has been and its effectiveness previous year with compared rated.

Control group in the traditional method, methodology will be if, of experience in the group electronic program on the basis of training out was carried. The results of the experiment at the beginning and at the end of the analysis , and, o'zaro was compared. Electronic platform using the effectiveness of the theoretical and practical aspects has been proven.

In the evaluation of structural diagnosis , analysis, knowledge to the sod, stability, efficiency and compact ministry such as criteria into account were taken.

Mathematical-statistical methods on the basis of the results re - used, o'educational readers knowledge of the level of "satisfactory", "good" and "excellent" , such as indicators on the basis of were assessed. In so doing, the experience-test work results of the e - education platform from the use o'educational process efficiency significantly in the level of the increase scientific aspects on many gave.

3.2. Interactive intelligence on the basis of oqitish the system effectiveness of evaluation results

Interactive intelligence (IA) on the basis of worked out o'qitish system effectiveness evaluation of the process of a few criteria on carried out were: students' knowledge of the level, to the lesson of interest, independent thinking and the issues of charging speed. In the evaluation of theoretical knowledge test, practical exercises to complete and interactive tests led to use. The analysis of the results of that ko'rsat demonstrates:

- 1. Knowledge level:** IA system through o'qitilgan readers of the average score of the traditional methods with all those who read than 15-20% higher than it is. This o'educational process individual features adaptation and interactive exercises through knowledge and strengthen with is explained.
- 2. To the lesson of interest:** So'rovnomalar results according, readers up to 85% of the ia system using the taught lessons interesting and motivational that price. Interactive content and quick thoughts-review system, the lessons learned process monoton from the extract, the active part has carried.
- 3. Independent thinking and problem solving:** IA on the basis of the system o'readers back to the logical thinking ability of increasing also effective is. Practical exercises and tasks of different levels of difficulty with give through o'the ones who were the problem independently solve the skills developed.

Quick evaluation and reverse communication: IA system o'readers back knowledge to the level of real - time you determine, to the teacher's individual recommendations give you an opportunity to create. As a result, the lesson the effectiveness of the significant level of increased , and o'educational process errors quickly detect the possibility of the appearance of is. Interactive intelligence on the basis of oqitish system traditional methods compared the effectiveness of significant level has.

Artificial intelligence (C) technology o'educational materials visual content quality in increasing an important role plays. Education in the process of valuation , ko'pinch images, the diagram and the table analysis to make require will. The image

re - processing algorithm with the help of visual material clarity, accuracy , and overall quality will improve. This , while o‘be qitish and students to quality and accessible educational materials for effective use and the possibility of creates.

Also, C on the basis of speech recognition to get the technology of writing and the og‘zaki exam evaluation process considerably will simplify. From voice to text and from text to speech o‘- check-in passengers options through students their thoughts on different forms expressed is takes. Especially write disabled to the difficulty of toe‘present students for this technology that own their knowledge displaying in favorable conditions it creates.

C technology is another one of the intellectual content creation toe‘becomeit, readers individual needs and learning style appropriate educational materials for the production in the production is used. O‘readers back activity and behavior analysis based on the system of their interests and needs, identify, appropriate and effective educational materials recommend will.

That in addition toC on the basis of who work as virtual assistants, students, planning, assignments, manage , and notes giving by help ko‘rsat is. They are students of the time ‘tog'ri distribution to help maintain and educational process of orderly organization to service makes. For example, such systems to the question of a quick answer to give through o‘educational process supports.

Automated transkripsiya and translation technologies also two opportunities , one of toe‘become, they lectures and educational materials text versions see come to and different language translation , making is used. This is especially hearing the problem toe‘did it or other languages as the representatives of the students to an important role has. This is through education more inclusive and comfortable toe‘ladi. Education management systems (TB) using oqitish ones educational materials to create, the assignments provide to and assessment of the process of effective management the opportunity to have a will. Such platforms o‘those were the ones the activities of the monitor and the results of the analysis in both hand in hand comes.

Also, automated essay evaluation the system of written work quickly and objective evaluation of the possibility of returns. This system oqitish coming time to save, to students quick feedback to give provides. O'to rga analysis tools through readers activities, development level and the results of a deep analysis is. This information on the basis of oqitish ones problematic readers identify, their knowledge level, enhancing aimed at the decisions to accept they can.

Kompyuterli test of the platform while various different online price up to, the results of quick detection and feedback give an opportunity to creates. This evaluation process more effective and comfortable makes. O'a yin approach tools readers to the lesson the interest in increasing an important role to have. O'yin elements through readers actively participate to encourage , and their computer's motivation to enhance your can.

Virtual and augmented reality technologies , while the o'back here in real life to close, interactive experience that gives. This while their knowledge is deeper o'care medicine help will. Formativ assessment tools through o'readers back knowledge to the level of real - time mode is determined and necessary in cases of learning to the process changes are introduced. Also, online voice to give tools using oqitish ones readers thoughts quickly and easily be collected can. This while the lesson process more interactive and effective will make.

Interactive device on modern education in the process the important tools one is. They oqitish digital content not only provide to, but also it explained, enrichment and real - time mode to change the opportunity to gives. Such technology using the students the lessons in the process of active involvement to, them with interactive communication ornatish and together work to the opportunity will expand. For example, Google Jamboard, Promethean ActivPanel and smart board such as tools in today's day in the wide methodology'llab being, lessons more effective and interesting organization to service it promotes.

Video conference tools while distance education organization in the important o'rin keeps. Them through o'ones qitish virtual classes to create, lessons online in the form of be held and geographical aspects away located students with both

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effective communication established can be. Especially Google me asset team at microsoft and Zoom such as platforms o'zini its convenience and functionality options with a wide spread.

Digital portfolio system to students o'z works the collection, storage , and show to the possibility it gives. This through they o'z learning process, analyze to, development dynamics to monitor and teachers and from kursdosh feedback get an opportunity to have a will. Google sites, Seesaw and WordPress like platforms in this regard in the wide opportunities it creates.

Data visualization tools oqitish students activities and results about clear picture form in the help it provides. The graphics, diagrams and the infographic through complex information simple and understandable form is characterized. This google data Studio Infogram and Table like means effective it is. Social networks also education in the process of an active methodology' llanilmoqda. Them through oqitish ones students with quick communication set up, educational materials will distribute and their activity to increase the serve will. Facebook, Instagram and Twitter - like platforms, this process is wide methodology'is llab. Artificial intelligence based plagiat the detection system of students of the work in order to check important is professional is. Such programs text analysis make, o' comparisons xshab level will determine and academic honest, and ensure help will. Copyscape, Grammar and Type like tools in this regard in wide methodology'is llab.

In class the answer to give systems while oqitish lessons in the process students the idea of the real time mode, determine the opportunity it gives. Electronic devices through to the question, the answer give o'readers back to the activity increases and the lesson interactive will make. iClickerPoll Everywhere and a top hat , such as the system of this example toe'la takes.

Digital assessment tools using while students knowledge of various forms of test, short answer or essay ko'in rinib assess can. These instruments valuation process accelerates and the results clearly ko'rsat is. Edulastic, household debt problems: towards and the google form this type of instruments number to enter.

That, too, noted that it should be, the education system in digital platforms and o‘zaro associated system use the expanding go , unless, of information security , ensuring the pressing issues is becoming. For this reason, educational institutions, cybersecurity measures, strengthen, data protect to and the system stable operation ensure required.

3.3. Obtained results of analysis and practical recommendations

Evaluation of five of the points system based on get to go to.

The experimental group participated who the mt children and college students the number of have been listed in the following table.

3.1-table.

Romitan district “take the flowers‘small” 3-garden‘cha organization children the number of treward groups

MT name is	Experience group	indicator Mastering	quality indicator, i
Romitan district “Gulg'uncha” 3-20 organization kindergarten number24-2025 of the school year,	a small group of 24 children Mak5*24=120 4*12+3*3+5*9=102 102/120=85% Mak5*24=120 4*12+5*9=93 93/120=77%	85%	77%
Romitan district “Gulg'uncha” 3- kindergarten organization	O‘the central and larger in the group of 46 children	2-20, 4-20 86%	2-20,4-20 79%

number 2025-2026 academic year	$Nac\ 46*5=230$ $6*3+8*4+30*5=200$ $181/230=86\%$ $8*4+30*5=142$ $182/230=79\%$		
A total of	70 children,	the level of 85.5%	78%

3.2-table.

**Romitan district “take the flowers‘small” 3-garden‘cha organization
children the number of ngroups azorat**

MT name	Control group	indicator Mastering	quality indicator, i
Romitan district “Gulg'uncha” 3-20 organization kindergarten number24-2025 of the school year,	a small group of 26 children $Nac\ 26*5=130$ $3*9+4*12+4*5=95$ $94/130=72\%$ $4*12+4*5=68$ $68/130=52\%$	 3-18 72%	 3-18 52%
Romitan district “Gulg'uncha” 3- kindergarten organization number 2025-2026 of the academic year	a big group of 28 children $Nac\ 28*5=140$ $10*3+12*4+6*5=108$ $108/140=77\%$	 3-20 77%	 3-20 55%

	$12 \times 4 + 6 \times 5 = 78$ $68 / 140 = 55\%$		
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3.3-table.

Romitan district “Gulg'uncha” 3-kindergarten organization 2024-2025 and 2025-2026 academic year, the group in control of the experience comparing with the groupsting

N	the period of	3-4 age, small groups of	4-5 age group middle	age 5-6 a large group of	6-7 years of age, the preparator y group
	the number of children in	21	25	22	23
1	2024-2025 supports	76%	76%	78%	76%
2	2025-2026 supports	85%	86%	86%	88%

Madina saidova ne'matov romitan district as seen from the table above, to the rams in the fundamental of mathematics and physics at the mt 2024-2025 the years of experience of electronic educational resources, lessons, mastering is carried out on the basis of the average quality indicators of children when compared to the previous year and 12.5% had increased were observed.

3.4-table.

Romitan districti 8-Dmt year of the experience of children in the mastering and quality indicators

N	the period of	3-4 age, small groups of	4-5 age group middle	age 5-6 a large group of	6-7 years of age, the preparator
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					y group
	the number of children in	22	21	26	23
1	2024-2025 supports	78%	80%	81%	86%
2	2025-2026 supports	86%	88%	90%	91%

3.5-table.

Romitan district 8-Dmt year of children in mastering the control and quality indicators

N	the period of	3-4 age, small groups of	4-5 age group middle	age 5-6 a large group of	6-7 years of age, the preparator y group
	the number of children in	21	25	22	23
1	2024-2025 supports	65%	70%	71%	72%

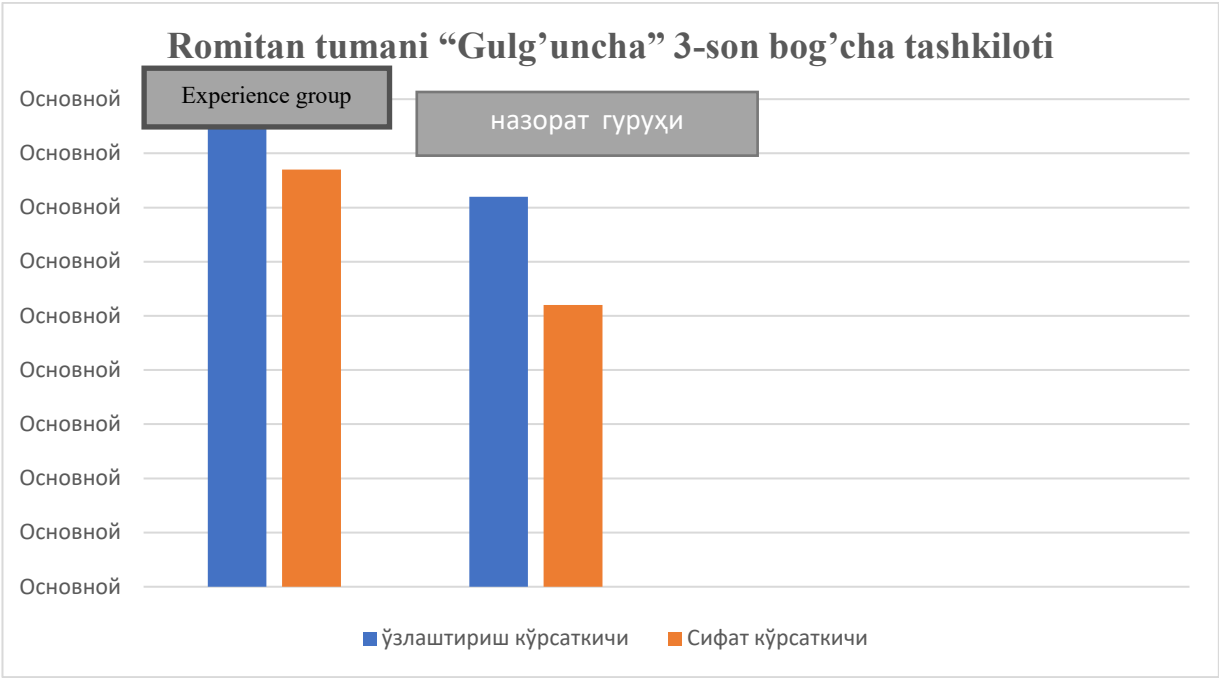
3.6-table.

Romitan district 8-year experience at the quality compared to the previous year DM in the index change

N	the period of	3-4 age, small groups of	4-5 age group middle	age 5-6 a large group of	6-7 years of age, the preparator y group
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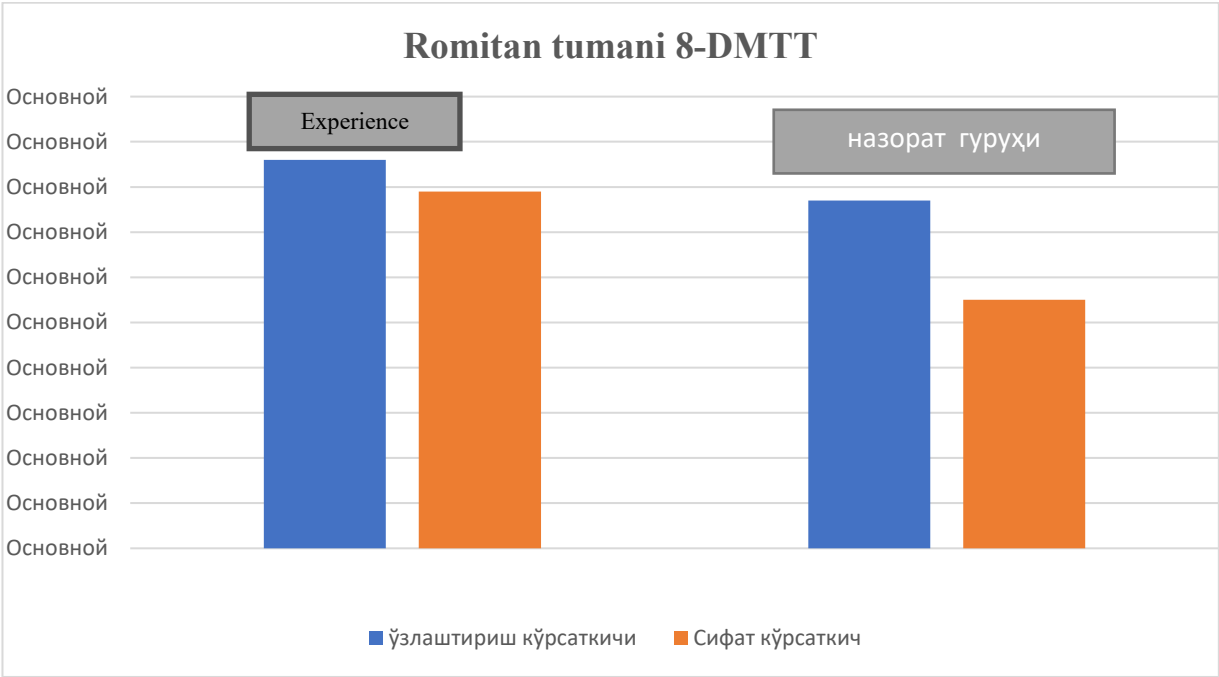
the number of children in		21	25	22	23
1	2024-2025 supports	78%	80%	81%	86%
2	2025-2026 supports	86%	88%	90%	91%
	2024-2025 supports compared to 2020 to 25-2026 quality indicators supports	78% - 65% = 13% and increased	to 80% - 70% = 10% to increased	81% - 71% = 10% to increased	86% - 72% = 14% to increased
	2024-2025 supports compared to 2025-2026 quality indicators supports	86% - 78% = 8% increased	88% - 80% = 8% by increased	90% - 81% = 9% by increased	91% - 86% = 5% to increased

Romitan district as seen from the above table 8-DM the fundamental lessons of mathematics and physics at 2025-2026 the years of experience in the electronic educational resources of children when the mastering is carried out on the basis of indicators of the quality of the previous year to average compared 11,8% increase that had been observed.



3.1-diagram

Romitan district “Gulg'uncha” 3-number kindergarten organization of 2024-2025 academic yearsat pedagogik of experience of general statistical analysis diagram ³³

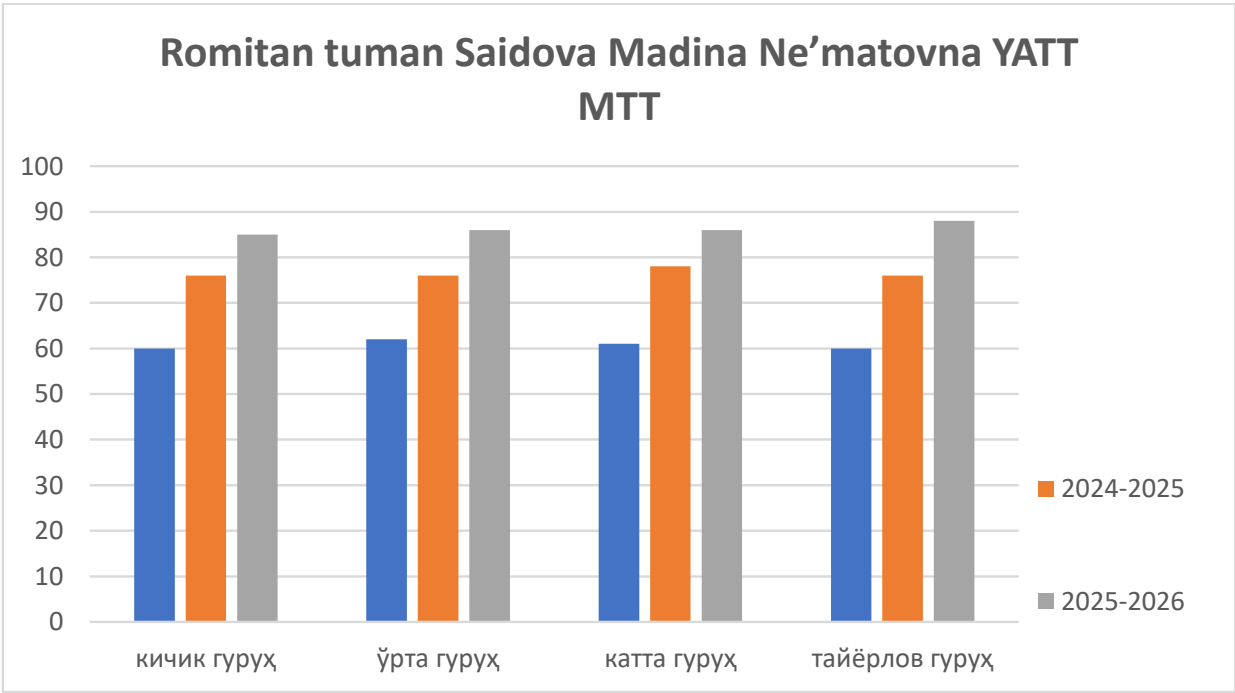


3.2-diagram

Romitan district 8-DM's

³³ Muallif ishlanmasi

2024-2025 academic year, the teaching experience in the overall statistical analysis diagram ³⁴



3.3-diagram

Romitan district Saidova Madina ne'matov to the rams in the mt 's 2024-2025 academic year, the teaching experience in statistical analysis of the overall diagram. ³⁵

Treward in the group carried out research works effectively. 1,12 times as compared to the control group using statistical methods it has been proven that the average efficiency is high.

³⁴ Muallif ishlanmasi

³⁵ Muallif ishlanmasi

Chapter iii summary

In this chapter the electronic platform pedagogical experience-covering issues of analysis and its effectiveness in the process of applying the test. Experience-test analysis the results of the work developed electronic platform pre-school education and will serve as an effective tool in the process of pedagogical preparation. Especially, “Cheerful mathematics called” the use of electronic platforms compared to the traditional method of the educational process more interesting and appealing interactive has helped the organization in the form of results.

Experience-testing the gradual organization of the work and preparation, practical application, consistent monitoring and analysis of the final work was done. The results of the comparative analysis of experimental and control groups electronic platform established on the basis of the level of mastering the educational process of children to the fundamental concepts of mathematical physics, logical thinking, did significantly increase the capacity to apply knowledge and practice skills of independent work showed. Mathematical-statistical analysis also confirmed that the indicators in the experimental group is higher mastering.

Interactive intelligence on the basis of oqitish system of the effectiveness of the evaluation the results of this approach on a number advantage of the opening gave. In particular, o‘educational readers knowledge of the level increased, the lesson to the interest, strengthen, independent thinking , and problem solving - making skills in the development. System efficiency assess and reverse touch to give you options , while oqitish to each of a student's individual characteristics into account taking to work, education, adapt and errors their , at the time of eliminate to possibility to create.

Also, in the chapter on artificial intelligence technology in education practical options, a detailed analysis was. Visual content quality to improve, the speech recognition to get, the text to voice and voice to text convert, intellectual , educational materials , create, virtual assistant, automated transkripsiya and translation, education management systems, digital assessment tools, kompyuterli test of the platform, the game approach and toolsvirtual and augmented reality,

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interactive device, video conference tools, digital portfolio and data visualization technologies for all educational effectiveness to increase the serve which are important factors as they show up , will.

SUMMARY

This master's dissertation pre-school education in the system of digital technologies introduction to, especially artificial intelligence elements of the basis of oqitish the process individuallashtirish and the effectiveness increasing of the issue of scientific-theoretical and practical aspects of research to was paid. The research results are based on the following scientific-practical recommendations work out:

1. Preschool education institutions in physics, mathematics lessonulot of the organization in interactive electronic platforms in wide use recommended is. This o‘educational process interesting and effective makes.

2. Artificial intelligence on the basis of adaptive oqitish system implementation to through it all a child an individual approach to ensure necessary.

3. “The first step” state o‘educational program corresponding digital educational resources create and them to practice widely applied to should be.

4. Pre-school education of caregivers digital kompetensiya of increase in order special training and skills enhancement courses arrange to recommended are.

5. E - education platform gamifikatsiya elements (points, levels, rewards) methodology‘to llab through children 's motivation for the computer to increase necessary.

6. Education in the process of o‘educational mission and activities of monitoring to the analysis make to learning analytics (education analytics) of the system is the introduction to recommended are.

The research results that ko‘rsat demonstrates, modern education system in information and communication technology wide implementation be education process radically changed, it is more flexible, interactive , and person - oriented form to wreak. Especially, preschool age children-in physics, the mathematical idea of the formation in the process of electronic educational resources and interactive methods of use , high productivity and ensures.

The results of research the first chapter in physics, mathematics oqitish system of digital education in the conditions of development of the trends of the analysis

was. Digital learning environment of the interactive, multimedia tools, gamifikatsiya, individual approach and automated monitoring , such as modern pedagogical approaches to fundamental physics mathematics oqitish of quality in the new a level elevates service have scientific basis was. Also, pre-school education in multimedia technologies and the use of pedagogical and psychological aspects of the analysis and, their children, thought, attention, memory , and interest to positive effects on many were.

The second chapter within the framework of interactive intelligence based electronic platform structure, functional modules , and user interface work out. Research as a result of “Cheerful mathematics” called electronic platform was created, then animated videos, interactive assignments, o‘yin elements and voice instructions on the basis of the teaching system has formed. The platform's modular structure o‘educational process step-by-step up to, students in the activities of the monitor to and individual approach provide the opportunity to gave.

Also, this chapter in artificial intelligence using individual oqitish trayektoriya of the formation of the algorithm working out. Algorithm on the basis o‘readers back knowledge level, development of the pace, the error statistics and activity analysis , and, them personalized training assignments automatic manner provided be basing was given. Adaptive oqitish model through the educational process to be individuallashtirish, education effective increase and readers of motivation, the escalation will determine. “The first step” state o‘educational program on the basis of the fundamental forces of physics mathematics lessons digital platform integration methods worked out. This integration through math concepts in a visual, interactive and o‘yin on the basis of be taught as a result of the children's knowledge mastering level significantly in the level , an increase scientific aspects has been on.

Research results of the third chapter of the electronic platform, the pedagogical experience-testing process methodology to llab and its effectiveness analyze to works out, was carried. Experience-test work results that ko‘rsat demonstrates, interactive intelligence based electronic platform from the use of traditional teaching methods, we compared a number superior to has. In particular,

the experience-test in participated in the experimental group following the positive results were observed:

1) o'readers back knowledge to the level of average by 15-20% increase noted it was. This ko'rsatkich control groups with compared , a significant difference was established has and the e - platform and interactive methods to students of the material deeper adopters of the service that confirms it. Especially, mathematical concepts of perception, to, count, comparison , and simple logical steps that complete toe'citizens, the results improves;

2) the lesson to toe'present interest level significantly the level increases. Interactive assignments, animated materials , and o'the yin element in children 's positive emotional environment in the form of, them the lessons in the process are actively involved was. As a result, the children the lessonin ulot participation to they were committed and the lesson during attention away from kept were;

3) independent thinking and problem solving to ko'nikma of the development. Electronic platform for adaptive assignments children independent decisions, take to, various options to compare and to'g'ri a solution to seek motivated. This while their logical thinking development service doing and o'z opinion basing to give ability rather the form of;

4) o'educational process actively and internal motivation increased. Children's assignments in carrying out the initiative , ko'and rsat, freelance on the basis of new exercises and to fulfill they strive. Gamifikatsiya elements (points, awards, degrees) while their rag'bat strengthened, the educational process in a positive relationship , rather the form of;

5) methodology'shimcha on the basis, of children's attention to the collection, remember to stay and quick thinking in the figure also positive shifts were observed. Multimedia tools through the given information in their memory away, stored, re - recovery process to facilitate;

6) caregivers by out go and observations as a result of o'readers back social activity, into dialogue to enter an ability and team working skills and also the development of prosperity will determine.

Interactive intelligence based electronic platform of pre-school education in the process of methodology will be not only knowledge of the quality increase, but also of the child's cognitive, emotional and social development also complex effects show point vividly show will.

Mathematical-statistical analysis of the results of reliability confirm, electronic platform of effectiveness and scientific basis proved. The research results that research demonstrates, interactive intelligence based electronic platform for pre-school education in the system of fundamental physics mathematics teaching of the process of modernization in an important tool to serve the will. They not only education, the quality of increases, but also of the child's individual abilities and the development of, them independent thinking and knowledge of the practical application redirecting the possibility of returns.

The research results of interactive intelligence technology school of education system, the introduction of scientific-methodical basics, work out, physics, mathematics o'itish the effectiveness of the increase and the education process digital transformative to make serve will.

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APPLICATIONS

1-app

Experience-testing works o' - check-in passengers after the subscriber on references.

МАЪЛУМОТНОМА

Бухоро давлат университети Физика-математика ва Ахборот-технологиялари факультети “Ахборот тизимлари ва Рақамли технологиялар кафедраси.” кафедраси магистранти Тўхтамишова Гулнора Мелс қизи “ИНТЕРФАОЛ ИНТЕЛЛЕКТГА АСОСЛАНГАН ЭЛЕКТРОН ПЛАТФОРМА ОРҚАЛИ ЭЛЕМЕНТАР МАТЕМАТИКА ЎҚИТИШ ТИЗИМИНИ БОШҚАРИШ” деб номланган магистрлик диссертацияси юзасидан Ромитан Туманидаги Саидова Мадина Неъматовна ятт ОМТТ ўзбек тилида таълим шакли олиб борилаётган кичик гуруҳ, ўрта гуруҳ, катта гуруҳ, тайёрлов гуруҳ болалари иштирокида 2025-2026 йиллар давомида тажриба-синов ишларини ўтказди.

Маълумотнома сўралган жойга тақдим этилади.

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Маълумотнома сўралган жойга тақдим этилади.

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Avezova Lola Obidovna

references.

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