



ISSN: 3060-4613



MAKTABGACHA
VA MAKTAB
TA'LIMI VAZIRLIGI



O'zbekiston
Milliy Pedagogika
Universiteti



№6(6)

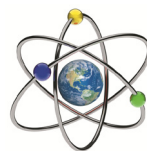
2026

- 13.00.00 Pedagogika fanlari
- 13.00.01 Pedagogika nazariyasi. Pedagogik ta'limotlar tarixi
- 13.00.02 Ta'lim va tarbiya nazariyasi va metodikasi (sohalar bo'yicha)
- 13.00.03 Maxsus pedagogika
- 13.00.04 Jismoniy tarbiya va sport mashg'ulotlari nazariyasi va metodikasi
- 13.00.05 Kasb-hunar ta'limi nazariyasi va metodikasi
- 13.00.06 Elektron ta'lim nazariyasi va metodikasi (ta'lim sohaları va bosqichlari bo'yicha)
- 13.00.07 Ta'limda menejment
- 13.00.08 Maktabgacha ta'lim va tarbiya nazariyasi va metodikasi
- 13.00.09 Ijtimoiy pedagogika
- 07.00.00 Tarix fanlari
- 19.00.00 Psixologiya fanlari
- 01.00.00 Fizika-matematika fanlari
- 02.00.00 Kimyo fanlari
- 03.00.00 Biologiya fanlari
- 09.00.00 Falsafa fanlari
- 10.00.00 Filologiya fanlari
- 11.00.00 Geografiya fanlari

M

AKTABGACHA VA AKTAB TA'LIMI

Pedagogika, psixologiya fanlariga ixtisoslashgan ilmiy jurnal



MAKTABGACHA VA MAKTAB TA'LIMI



Elektron nashr. 374 sahifa,
22-iyun, 2026-yil.

BOSH MUHARRIR:

Karimova E'zoza Gapijanovna – O'zbekiston Respublikasi Maktabgacha va maktab ta'limi vaziri

BOSH MUHARRIR O'RINBOSARI:

Ibragimova Gulsanam Ne'matovna – Pedagogika fanlari doktori, professor

TAHRIRIYAT KENGASHI A'ZOLARI

Ibragimov X.I. – pedagogika fanlari doktori, akademik
Shoumarov G'.B. – psixologiya fanlari doktori, akademik
Qirg'izboyev A.K. – Tarix fanlari doktori, professor
Jamoldinova O.R. – pedagogika fanlari doktori, professor
Sharipov Sh.S. – pedagogika fanlari doktori, professor
Shermuhhammadov B.Sh. – pedagogika fanlari doktori, professor
Ma'murov B.B. – pedagogika fanlari doktori, professor
Madraximova F.R. – pedagogika fanlari doktori, professor
Kalonov M.B. – iqtisodiyot fanlari doktori, professor
Nabiyev D.X. – iqtisodiyot fanlari doktori, professor
Qo'ldoshev Q. M. – iqtisodiyot fanlari doktori, professor
Ikramxanova F.I. – filologiya fanlari doktori, professor
Ismagilova F.S. – psixologiya fanlari doktori, professor (Rossiya)
Stoyuxina N.Yu. – psixologiya fanlari nomzodi, dotsent (Rossiya)
Magauova A.S. – pedagogika fanlari doktori, professor (Qozog'iston)
Rejep O'zyurek – psixologiya fanlari doktori, professor (Turkiya)
Woosyu Cha – Koreya milliy ta'lim universiteti rektori (Koreya)
Polonnikov A.A. – psixologiya fanlari nomzodi, dotsent (Belarus)
Mizayeva F. O. – Pedagogika fanlari doktori, dotsent
Baybayeva M.X. – pedagogika fanlari doktori, professor
Muxsiyeva A.T. – pedagogika fanlari doktori, professor
Aliyev B. – falsafa fanlari doktori, professor
Abdullayeva N. Sh. – Pedagogika fanlari doktori (DSc), professor
Doniyorov S. M. – “Yangi O'zbekiston” va “Pravda Vostoka” gazetalari tahririyati DM bosh muharriri, O'zbekiston Respublikasida xizmat ko'rsatgan jurnalist, filologiya fanlari bo'yicha falsafa doktori (PhD), dotsent
G'afurov D. O. – falsafa fanlari doktori (Phd)
Shomurodov R.T. – iqtisodiyot fanlari nomzodi (PhD), dotsent
Mirzayeva F. O. – pedagogika fanlari doktori (DSc), dotsent
Jalilova S.X. – psixologiya fanlari nomzodi (PhD), dotsent
Bafayev M.M. – psixologiya fanlari bo'yicha falsafa doktori (PhD), dotsent
Usmonova D.I. – Samarqand iqtisodiyot va servis institute dotsenti
Saifnazarov I. – falsafa fanlari doktori, professor
Nematov Sh.E. – pedagogika fanlari nomzodi (PhD)
Tillashayxova X.A. – psixologiya fanlari nomzodi (PhD), dotsent
Yuldasheva F.I. – pedagogika fanlari bo'yicha falsafa doktori (PhD), dotsent
Yuldasheva D.B. – filologiya fanlari bo'yicha falsafa (PhD) doktori, dotsent
Tangriyev A. T. – Toshkent davlat iqtisodiyot universiteti kafedra professori
Ashurov R. R. – psixologiya fanlari bo'yicha falsafa doktori (PhD), dotsent
Panjiyev M. A. – Qashqadaryo viloyati Maktabgacha va maktab ta'limi boshqarmasi boshlig'ining birinchi o'rinbosari
Xudayberganov N. A. – Xorazm Ma'mun akademiyasi Tabiiy fanlar bo'limining katta ilmiy xodimi, biologiya fanlari bo'yicha falsafa doktori (PhD)
Vaxobov Anvar Abdusattor o'g'li – Pedagogika fanlari bo'yicha falsafa doktori, dotsent

Muassis: “Tadbirkor va ishbilarmon” MChJ

Hamkorlarimiz: O'zbekiston Respublikasi Maktabgacha va maktab ta'limi vazirligi, O'zbekiston milliy pedagogika universiteti

EDITOR-IN-CHIEF:

Karimova E'zoza Gapirzhanovna – Minister of Perschool and School Education of the Republic of Uzbekistan

DEPUTY EDITOR-IN-CHIEF:

Ibragimova Gulsanam Ne'matovna – Doctor of Pedagogical Sciences, Professor

EDITORIAL BOARD MEMBERS:

Ibragimov X.I. – Doctor of Pedagogical Sciences, Academician

Shoumarov G. B. – Doctor of Psychological Sciences, Academician

Qirg'izboyev A. K. – Doctor of Historical Sciences, Professor

Jamoldinova O.R. – Doctor of Pedagogical Sciences, Professor

Sharipov Sh.S. – Doctor of Pedagogical Sciences, Professor

Shermuhhammadov B.Sh. – Doctor of Pedagogical Sciences, Professor

Ma'murov B.B. – Doctor of Pedagogical Sciences, Professor

Madraximova F.R. – Doctor of Pedagogical Sciences, Professor

Kalonov M.B. – Doctor of Economic Sciences, Professor

Nabiyev D.X. – Doctor of Economic Sciences, Professor

Koldoshev K. M. – Doctor of Economic Sciences, Professor

Ikramxanova F.I. – Doctor of Philological Sciences, Professor

Ismagilova F.S. – Doctor of Psychological Sciences, Professor (Russia)

Stoyuxina N.Yu. – Candidate of Psychological Sciences (PhD), Associate Professor (Russia)

Magauova A.S. – Doctor of Pedagogical Sciences, Professor (Kazakhstan)

Rejep O'zyurek – Doctor of Psychological Sciences, Professor (Turkey)

Wookyu Cha – President of the National University of Education, Korea (South Korea)

Polonnikov A.A. – Candidate of Psychological Sciences (PhD), Associate Professor (Belarus)

Mizayeva F. O. – Doctor of Pedagogical Sciences, Professor

Baybayeva M.X. – Doctor of Pedagogical Sciences, Professor

Muxsiyeva A.T. – Doctor of Pedagogical Sciences, Professor

Aliyev B. – Doctor of philosophy, professor

Abdullayeva N. Sh. – Doctor of Pedagogical Sciences (DSc), Professor

Doniyorov S. M. – Editor-in-Chief of the DM Editorial Office of the newspapers “Yangi O'zbekiston” and “Pravda Vostoka”, Honored Journalist of the Republic of Uzbekistan, Doctor of Philosophy (PhD) in Philology, Associate Professor

Gafurov D. O. – Doctor of Philosophy (PhD)

Shomurodov R.T. – Candidate of Economic Sciences (PhD), Associate Professor

Mirzayeva F. O. – Doctor of Pedagogical Sciences (DSc), Associate Professor

Jalilova S.X. – Candidate of Psychological Sciences (PhD), Associate Professor

Bafayev M.M. – Doctor of Philosophy in Psychological Sciences (PhD), Associate Professor

Usmonova D.I. – Associate Professor, Samarkand Institute of Economics and Service

Saifnazarov I. – Doctor of philosophy, professor

Nematov Sh.E. – Candidate of Pedagogical Sciences (PhD)

Tillashayxova X.A. – Candidate of Psychological Sciences (PhD), Associate Professor

Yuldasheva F.I. – Doctor of Philosophy in Pedagogical Sciences (PhD), Associate Professor

Yuldasheva D.B. – Doctor of Philosophy (PhD) in Philological Sciences, Associate Professor

Tangriyev A.T. – is a professor of Tashkent State University of Economics

Ashurov R. R. – Doctor of Philosophy (PhD) in Psychology, Associate Professor

Panjiyev M. A. – First Deputy Head of the Department of Preschool and School Education of the Kashkadarya Region

Khudaiberganov N. A. – Senior Researcher of the Department of Natural Sciences of the Khorezm Mamun

Academy, Doctor of Philosophy (PhD) in Biological Sciences

Vakhobov Anvar Abdusattor oglu – Doctor of Philosophy in Pedagogical Sciences, Associate Professor

“Maktabgacha va maktab ta'limi” jurnali O'zbekiston Respublikasi Oliy attestatsiya komissiyasining quyidagi qarorlariga asosan pedagogika va psixologiya fanlari bo'yicha falsafa doktori (PhD) hamda fan doktori (DSc) ilmiy darajasiga talabgorlarning dissertatsiyalaridagi asosiy ilmiy natijalarni chop etish uchun milliy ilmiy nashrlar ro'yxatiga kiritilgan:

Pedagogika fanlari bo'yicha: OAK Kengashi tavsiyasi (26.08.2024-y., №11-05-4381/01) asosida:

- Ekspert kengashi (29.10.2024-y., №10)
- Rayosat qarori (31.10.2024-y., №363/5)

Psixologiya fanlari bo'yicha: Toshkent davlat pedagogika universiteti murojaatiga asosan OAK tavsiyasi (24.04.2025-y., №11-05-2566/01):

- Ekspert kengashi (25.05.2025-y., №10)
- Rayosat qarori (08.05.2025-y., №370/5)

“Maktabgacha va maktab ta'limi”
jurnali

26.09.2023-yildan

O'zbekiston Respublikasi Prezidenti
Administratsiyasi huzuridagi Axborot
va ommaviy kommunikatsiyalar
agentligi tomonidan **№C-5669363**
reyestr raqami tartibi bo'yicha
ro'yxatdan o'tkazilgan.

Litsenziya raqami: **№136361**

MUNDARIJA

“Kitobxonlar klubi” modelining ingliz tili to‘garak mashg‘ulotlarida o‘quvchilarning kognitiv kompetensiyasini rivojlantirish mexanizmlari.....	10
Madaminova Gulzira Gulamkadirovna	
Bo‘lajak pedagoglarning kasbiy faoliyatida suggestiv yondashuvning o‘rni	14
Arolov Davronjon Davlataliyevich	
Akmeologik yondashuv asosida maktabgacha ta‘lim direktor o‘rinbosarlarining kasbiy kompetensiyasini rivojlantirish mexanizmini takomillashtirish	19
Asatullayeva Sitora Dilmurod qizi	
Hozirgi o‘zbek tilida neologizmlarning tarixi va bugungi kun taraqqiyoti.....	22
Bektosheva Mehinbonu Abdumalik qizi	
Maktabgacha ta‘lim tashkilotlari bolalarida jamoada ishlash ko‘nikmalarini shakllantirishning pedagogik-psixologik xususiyatlari	26
Djurayeva Dilfuza Nuriddin qizi	
Korpus lingvistikasi vositalari yordamida bo‘lajak ingliz tili o‘qituvchilarining til tahlili ko‘nikmalarini shakllantirish metodikasi.....	30
Eshonqulova Sarvinoz Yashinovna	
Talabalarning shaxsiy sifatlarini rivojlantirishda sun‘iy intellektning o‘rni va ahamiyati.....	35
Hojiyeva Nasiba Bahodirovna	
Logopedik mashg‘ulotlarni tashkil etish va rejalashtirish moduliga oid mustaqil ta‘lim topshiriqlarini integrativ modellashtirishning innovatsion texnologiyalari.....	39
Ibroximova O‘g‘iloy Inomjon qizi	
Jismoniy tarbiya darslarida ortiqcha vaznli bolalarga differensial yondashuvning ahamiyati	43
Yuldashev Bobirjon Noibjon o‘g‘li	
Maktabgacha ta‘lim tashkilotida xalq og‘zaki ijodi vositasida bolalarning axloqiy sifatlarini shakllantirishning ahamiyati.....	48
Muradxanova Munisaxon Ikrom qizi	
Bo‘lajak psixologlarda altruistik xulq motivlarini rivojlantirishning psixologik imkoniyatlari	54
Nusratova Mexriniso Baxshilloevna	
Inklyuziv ta‘lim tushunchasi va uning zamonaviy pedagogik paradigmalar tizimidagi o‘rni.....	59
Pulatova Dilfuza Azamkulovna	
Magistrlarda “Imposter sindromi”ni yengish orqali kreativ salohiyatni rivojlantirishning psixologik mexanizmlari.....	66
Qayumov Baxtiyor Zokirjon o‘g‘li	
Kichik maktab yoshidagi bolalar nutqining fonematik rivojlanishi	70
Qurbonova Sevara Suyunovna	
Mikrobiologiya ta‘limida individual pedagogik texnologiyalarni joriy etish mexanizmlari	74
Raxmatov Oxunjon Soibjonovich	
“Estetik tarbiya”, “kreativ kompetensiya”, “estetik tarbiya mexanizmlari” tushunchalarining konseptual asoslari.....	79
Saidova Feruza Akramovna	
Zamonaviy ta‘lim jarayonida neyropedagogika yordamida nutqiy ko‘nikmalarni rivojlantirish.....	84
Sidiqova Yulduz Sobirovna	
“So‘nggi jadid” Begali Qosimovning ilmiy-pedagogik merosi.....	88
Toxirova Dilshoda Inom qizi	
Ona tili darslarida o‘qib tushunish ko‘nikmasini rivojlantiruvchi mashq va topshiriqlar ustida ishlash	92
Turg‘unova Nilufar Muxiddin qizi	
Ingliz, golland va o‘zbek tillaridagi frazeologizmlarning lingvostatistik xususiyatlari.....	96
Xaydarova Go‘zalxon	



Maktabgacha yoshdagi bolalarda hayotiy kompetensiyalarni shakllantirishda yumshoq ko'nikmalarning ahamiyati.....	101
<i>Xolmatova Dilshoda Sherali qizi</i>	
Farzandlarda kitobxonlik madaniyatini rivojlantirishda oilaning pedagogik imkoniyatlari	105
<i>Yusupova Diloromxon Sabirdjanovna</i>	
Yoshlarda tanqidiy fikrlash ko'nikmalarini rivojlantirish orqali sotsial manipulyativ ta'sirlarga psixologik barqarorlikni shakllantirish.....	109
<i>Qosimova Sarvinoz Baxtiyorovna</i>	
O'quvchilarda modellashtirish ko'nikmalarini shakllantirishga ko'maklashadigan faoliyat usullari	114
<i>Abdurazzaqov O'ktam Abduqayumovich</i>	
Dizartriya shakllarining klinik-patogenetik tahlili va differensial diagnostikasi	120
<i>Axmedova V. T.</i>	
Boshlang'ich sinflarda fanlararo yondashuvga asoslangan integrativ topshiriqlar ishlab chiqishning uslubiy asoslari.....	127
<i>Elmurodova Inoyat Abdumutalibovna</i>	
Deviant xulq-atvorli o'smirlar ijtimoiylashuvining psixologik determinantlari.....	132
<i>Elov Ziyodullo Sattorovich</i>	
Sun'iy intellekt texnologiyalari asosida talabalar o'quv natijalarini baholashning pedagogik modeli.....	138
<i>Ernazarov Mirzohid Yo'ldosh o'g'li</i>	
Tibbiyot oliy ta'lim muassasalarida biokimyo fanini raqamli texnologiyalar asosida o'qitish metodikasi	145
<i>Mamadaliyeva Zarina Raxmat qizi</i>	
Boshlang'ich ta'limda kognitiv tilshunoslikni joriy etish masalalar	150
<i>Mamatova Gulshan Amankulovna</i>	
Doston musiqiy merosini o'rganishni uslubiy takomillashtirish mazmuni.....	153
<i>Qo'shayev Ilhom Axtamovich, Nasirova Sevinch Ismatovna</i>	
"Elektr yoritish" fanida mustaqil ta'limning zamonaviy shakllari.....	157
<i>Nasretdinova Feruza Nabiyeвна</i>	
Maktabgacha va maktab yoshidagi bolalarda sog'lom turmush tarzi madaniyatini shakllantirish	162
<i>Nazarova Dildora Asatovna, Kuchkorova Robiya Shuxrat qizi</i>	
Dual ta'limda oliy ta'lim va maktabgacha ta'lim tashkilotlari o'rtasidagi hamkorlikning mazmuni.....	167
<i>Qoraboyeva Zohidaxon To'lanboyevna, Tursunbayeva Sevara Abdullo qizi</i>	
A Methodological Model for Developing Pedagogical Reflection in Pre-Service EFL Teachers.....	172
<i>Rahimberdiyeva Maftuna Rakhimberdi kizi</i>	
Bo'lajak o'qituvchilarda sog'lom turmush tarzining kasbiy kompetentlikka ta'siri	177
<i>Raximova Saboxat Qaxramon qizi</i>	
Bo'lajak o'qituvchilarning kasbiy kompetentligini rivojlantirishda interaktiv texnologiyalar va faol ta'lim metodlarining samaradorligi	182
<i>Safarova Nigora Nasilloevna</i>	
Maktabgacha ta'lim jarayonida interfaol usullarning mazmuni, turlari va funksional ahamiyati.....	190
<i>Safarova Soliha Ilhomovna</i>	
Talabalarni ma'naviy tarbiyalash jarayonida diagnostik metodlardan samarali foydalanishning ahamiyati... 196	
<i>Saotmuratova Zebo Yuldash qizi</i>	
Musiqqa ta'limida interfaol metodlardan foydalanishning didaktik imkoniyatlari.....	200
<i>Saparov Raxim Muratbayevich</i>	
Maktabgacha yoshdagi tarbiyalanuvchilarning mantiqiy fikrlashini rivojlantirish ijtimoiy zarurat sifatida.....	204
<i>Xolmatova Yodgoroy Baxtiyorjon qizi</i>	
Energetika fanlarini o'qitishda sun'iy intellektdan foydalanishning pedagogik afzalliklari.....	208
<i>Zoxidov Iqboljon Zokirjonovich</i>	
Методическая модель контекстуального обучения в формировании лингвокультурной компетенции при обучении русскому языку в национальных группах	213
<i>Рустамова Ферузaxon Махмуджановна</i>	

Integrating Artificial Intelligence into EFL Academic Writing Instruction: Opportunities, Challenges, and Pedagogical Implications.....	218
<i>Allamurodov Elyor Tursun ugli</i>	
Sahna nutqida adabiy tur va janrlarning metodik talqini.....	223
<i>Dilrabo Jumanova</i>	
Sun'iy intellekt asosidagi ta'lim ekotizimi: imkoniyatlar va xavflar	227
<i>Oqil Ochilov Lutfullo o'g'li</i>	
Z avlod bilan ishlashda ta'lim va tarbiyaga oid zamonaviy tendensiyalar	232
<i>Ravshanov Sanjar Tolibjonovich</i>	
Talabalarni ma'naviy tarbiyalash jarayonida diagnostik metodlardan samarali foydalanishning ahamiyati...	235
<i>Saotmuratova Zebo Yuldash qizi</i>	
Tarixiy-ilmiy materiallar va zamonaviy texnologiyalar integratsiyasi asosida boshlang'ich sinf o'quvchilarining geometrik tafakkurini rivojlantirish metodikasi.....	239
<i>Toshpulatova Mamura Ismailovna, Mannonova Dilafro'z Ravshan qizi</i>	
Davlat-xususiy sherikchilik asosidagi maktabgacha ta'lim tashkilotlarini boshqarish va muvofiqlashtirish ...	244
<i>Xakimov Abdug'ulom Soyibjonovich</i>	
Ingliz tilini boshqa sohadagilarga o'qitishda grammatik jihatlar	247
<i>Ataboyeva Guliruxsor Baxtiyor qizi</i>	
Methodological Foundations for Developing Environmental Education Through the Integration of Climate Change Education Into Biology Lessons in General Secondary Schools.....	250
<i>Abdurakhmanova Iqbolkhon Yulchiyevna</i>	
Sharq va G'arb mutafakkir olimlarining oila va farzand tarbiyasi borasidagi qarashlari	255
<i>Berdiyeva Dilnoza A'zamovna</i>	
Ommaviy sport turlari yordamida ayollarni sog'lom turmush tarziga yo'naltirishda ilmiy yondashuv	258
<i>Charos Axmadova</i>	
STEAM integratsiyasi orqali maktab o'quvchilarida tadbirkorlik ko'nikmalarini rivojlantirish	262
<i>Choriyor Maxmatraimov Eshmamatovich</i>	
Maktabgacha ta'lim kafedrasida bo'lajak tarbiyachilarni innovatsion-metodik faoliyatga tayyorlashni transformatsion boshqarish texnologiyasi	267
<i>Djalalov Baxromjan Begmurzayevich</i>	
Raqamli transformatsiya sharoitida yosh ota-onalarda yolg'izlik hissining namoyon bo'lishiga ta'sir etuvchi ijtimoiy-psixologik va etnopsixologik omillar	272
<i>Erimmetova Nafisa Bahromovna</i>	
Zamonaviy ta'lim muhitida talabalarning ijtimoiy-psixologik adaptatsiyasi va uning strategiyalari	279
<i>Haqberdiyeva Dinora Qobil qizi</i>	
Maktab direktorlarining moliyaviy boshqaruv kompetensiyalarini rivojlantirish texnologiyalari.....	283
<i>Karimov Jaxongir Abdunabiyevich</i>	
Jadidlar merosiga e'tibor: tarixiy xotira va ma'naviy tiklanish omili.....	287
<i>Madaminova Shaxodat Shomurotovna</i>	
Sun'iy intellekt texnologiyalarining ta'limdagi o'rni va nutqni baholashdagi imkoniyatlari.....	293
<i>Mahmudova Maftuna Aktam qizi</i>	
Effectiveness of Simulator Technologies in Pilot Training: an Experimental Study	297
<i>Maksudov Ilhomjon Turgunboy o'g'li</i>	
Yangi O'zbekistonda o'qituvchi maqomining huquqiy kafolatlari va pedagogik faoliyat samaradorligi.....	301
<i>Menlibayeva Azima Oralbayevna, Oralbayeva Aziza</i>	
Raqamli jamiyat sharoitida ong transformatsiyasining falsafiy jihatlari.....	305
<i>Muxitdin Nazarov</i>	
10-11-sinf o'quvchilarida o'qishdan yozuvga o'tish ko'nikmasini rivojlantirishning bosqichli metodik tizimi ...	310
<i>Nazarova Shoiraxon Abdumo'min qizi</i>	
Zamonaviy ta'lim paradigmasida "potensial" tushunchasi: shaxsning rivojlanishga qaratilgan ichki imkoniyatlari, bilim, ko'nikma, qobiliyat va kompetensiya.....	314
<i>Qurbonova Gulmira Alisher qizi</i>	



Deffenbacherning driving anger scale metodi asosida haydovchilarning agressiv xulq-atvorining psixologik xususiyatlarini jinslar kesimida o'rganish	318
Rahim Usmonov Raxmonali o'g'li	
Sun'iy intellekt texnologiyalaridan foydalanishning pedagogik-psixologik mexanizmlari.....	323
Sadoqat Sarmanova Shermahmatovna	
Vizual axborot: paydo bo'lish tarixi, qo'llanish sohalari va ta'lim jarayonidagi ahamiyati.....	328
To'g'izboyev Faxriddin Ulashovich	
Fizika darslarini tashkil etishning mazmuni, mohiyati va didaktik tamoyillari.....	334
Turabova Lobar Xusen qizi	
Ekstrakorporal urug'lantirish orqali tug'ilgan bolalarda xotiraning rivojlanishi	339
Usmonova Xusnora Ergashovna	
Raqamli ta'lim muhitida boshlang'ich sinf o'quvchilarining emotsional barqarorligini shakllantirish	344
Yusupova Diloromxon Sabirdjanovna	
Milliy va xalq o'yinlari vositasida talabalarni sog'lomlashtirish.....	347
Ahmedov Gayratjon Kosimovich	
Деонтология медицинского персонала: этико-профессиональные ориентиры в условиях современной медицины.....	350
Бабаджанова Гулчехра	
Формирование творческого восприятия учащихся на уроках музыки.....	355
Габдульманова Ильнура Минисламовна	
Qizlar tarbiyasida maktab va mahalla hamkorligi monitoring tizimini takomillashtirishning pedagogik asoslari.....	358
Abdurazoqova Marg'uba Muxammad qizi	
Maktabgacha ta'lim tarbiyachilarida iqtisodiy tushunchalarni shakllantirish pedagogik muammo sifatida	362
Ergashova Dilafro'z	
Bo'lajak tarbiyachilarda kasbiy karyerani shakllantirishning metodologik asoslari	365
Hayitova Sarvinoz Mahmudovna, Ilmiy rahbar: Ashirova Sojida Baxromovna	
Pedagogical and Methodological Foundations for Developing an Interactive Mobile Application for Teaching English to Preschool Children (Based on the Solobee Project)	368
Khurshida Kuchkarova	



EFFECTIVENESS OF SIMULATOR TECHNOLOGIES IN PILOT TRAINING: AN EXPERIMENTAL STUDY

Maksudov Ilhomjon Turgunboy o'g'li

Senior lecturer of the training aircraft cycle,
Department of Training Aviation, Military Aviation Institute,
Military Security and Defense University of the Republic of Uzbekistan

Abstract: This article examines the effectiveness of simulator technologies in student training. The study analyzes their pedagogical potential for integrating theoretical knowledge with practical skills, enhancing interactive learning, and supporting independent educational activities. The findings demonstrate that simulator-based learning contributes significantly to improving educational quality and developing learners' professional competencies.

Key words: simulator technologies, educational process, student training, interactive learning, practical skills, innovative pedagogy, digital education.

Annotatsiya: Ushbu maqolada talabalarni tayyorlash jarayonida simulyator texnologiyalarining samaradorligi tahlil qilinadi. Tadqiqotda ularning nazariy bilimlarni amaliy ko'nikmalar bilan integratsiyalash, interaktiv ta'limni rivojlantirish hamda mustaqil o'quv faoliyatini qo'llab-quvvatlashdagi pedagogik imkoniyatlari o'rganilgan. Olingan natijalar simulyatorlarga asoslangan ta'lim texnologiyalari ta'lim sifatini oshirish va talabalarning kasbiy kompetensiyalarini rivojlantirishga sezilarli darajada hissa qo'shishini ko'rsatadi.

Kalit so'zlar: simulyator texnologiyalari, ta'lim jarayoni, talabalarni tayyorlash, interaktiv ta'lim, amaliy ko'nikmalar, innovatsion pedagogika, raqamli ta'lim.

Аннотация: В данной статье рассматривается эффективность симуляторных технологий в подготовке студентов. В исследовании анализируются их педагогические возможности по интеграции теоретических знаний и практических навыков, развитию интерактивного обучения и поддержке самостоятельной учебной деятельности. Полученные результаты показывают, что обучение на основе симуляторов способствует повышению качества образования и развитию профессиональных компетенций обучающихся.

Ключевые слова: симуляторные технологии, образовательный процесс, подготовка студентов, интерактивное обучение, практические навыки, инновационная педагогика, цифровое образование.

INTRODUCTION

The rapid development of information and communication technologies in the modern education system requires the introduction of new pedagogical approaches into the educational process. Improving the quality of education, integrating theoretical knowledge with practical activities, and developing students' professional competencies are among the most important tasks of contemporary education. In this regard, the use of simulator technologies is gaining particular importance as one of the innovative means of enhancing educational effectiveness.

Simulator technologies make it possible to artificially model processes, situations, and elements of professional activities that occur in real life. Through these technologies, students have the opportunity to perform complex tasks in a safe environment, analyze various problem situations, and develop practical skills. In particular, the use of simulators in fields such as technology, medicine, transport, military education, and engineering significantly increases the level of student training ^[1].

Today, alongside traditional teaching methods, there is a growing need for interactive and practice-oriented approaches. Simulator technologies enhance student engagement in the learning process, develop independent decision-making skills, and expand opportunities for applying acquired knowledge in practice. In addition, they create favorable conditions for identifying, correcting, and analyzing errors during the educational process ^[2].

This article provides a scientific and theoretical analysis of the pedagogical potential, advantages, and impact of simulator technologies on educational effectiveness in student training. It also highlights current issues related to the development of students' knowledge, skills, and competencies through the use of simulators.

LITERATURE REVIEW

The issue of using simulator technologies in the educational process has been examined by numerous foreign and domestic scholars. In particular, the effectiveness of acquiring knowledge through practical activities is substantiated in D. Kolb's theory of experiential learning. Studies conducted by J. Salas, R. Bowers, and E. Edens (2001) recognize simulators as effective tools for improving the quality of professional training. Furthermore, the positive impact of interactive learning tools on educational outcomes is emphasized in R. Gagné's work *The Conditions of Learning* [3].

The scientific works of Uzbek scholars N. Muslimov, B. Khodjaev, and U. Begimkulov have analyzed the theoretical foundations of integrating modern pedagogical and information technologies into the educational process [4].

METHODOLOGY

This study employed the methods of scientific analysis and synthesis, comparative analysis, observation, and generalization. During the research process, scientific literature, monographs, and scholarly articles concerning the impact of simulator technologies on student training were examined. Based on existing theoretical sources, the advantages of simulator use, their role in developing students' practical skills, and their contribution to increasing educational effectiveness were analyzed. The obtained results were subsequently generalized, and scientific conclusions were drawn.

ANALYSIS AND RESULTS

Table 1 presents a systematic theoretical comparison of three primary training modalities-Full-Flight Simulator (FFS), Computer-Based Training (CBT), and Traditional Instruction-across ten analytically distinct dimensions. Theoretical effectiveness ratings are derived from a synthesis of the frameworks reviewed above and are supported by the broader literature on aviation education and training science.

Table 1: Theoretical Comparative Analysis of Pilot Training Modalities

Training Dimension	Full-Flight Simulator (FFS)	Computer-Based Training (CBT)	Traditional Instruction	Supporting Theoretical Perspective
Cognitive Realism	Very High	Moderate	Low	Situated Learning Theory (Lave & Wenger, 1991)
Psychomotor Engagement	Very High	Low	Moderate	Motor Learning Theory (Schmidt & Lee, 2011)
Scenario Repetition	Unlimited	Limited	Very Limited	Deliberate Practice (Ericsson et al., 1993)
Immediate Feedback	High	High	Low-Moderate	Feedback Loop Model (Hattie & Timperley, 2007)
Risk-Free Environment	Full	Full	Partial	Experiential Learning (Kolb, 1984)
Emergency Scenario Access	Full	Simulated	Restricted	Safety-Critical Training Theory (Flin et al., 2008)
Knowledge Transfer	High	Moderate	Low	Transfer-Appropriate Processing (Morris et al., 1977)
Learner Self-Regulation	Moderate	High	Low	Self-Regulated Learning (Zimmerman, 2000)
Crew Resource Management	High	Low	Moderate	Team Cognition Theory (Salas et al., 2005)
Cost-Effectiveness*	Moderate	High	Low	Human Capital Theory (Becker, 1964)



Note. Cost-effectiveness was assessed relative to the value of training outcomes per unit of expenditure over a five-year program horizon. FFS = Full-Flight Simulator; CBT = Computer-Based Training. Ratings reflect theoretical potential under optimal instructional design conditions.

As Table 1 illustrates, FFS training demonstrates theoretical superiority across the majority of dimensions most closely associated with safety-critical performance outcomes, including cognitive realism, psychomotor engagement, scenario repetition, risk-free emergency access, and knowledge transfer. CBT holds a theoretical advantage in learner self-regulation and cost-effectiveness, reflecting the flexibility and accessibility of digital learning platforms. Traditional instruction retains a comparative advantage only in psychomotor engagement relative to CBT, and even then remains below FFS. These patterns are consistent with the theoretical frameworks reviewed: the embodied, contextualized, and iterative nature of FFS training aligns with the primary mechanisms identified by situated learning, motor learning, and deliberate practice theories as predictors of durable performance gains.

The implementation of simulator technologies in the training of future pilots has become one of the most effective approaches in modern aviation education. The increasing complexity of aircraft systems, stringent safety requirements, and the need for rapid decision-making demand innovative training methods that combine theoretical knowledge with practical experience. Simulator-based instruction enables trainee pilots to practice flight operations in a realistic yet risk-free environment^[5].

The analysis revealed that simulator technologies significantly improve learning outcomes by allowing repeated practice of flight procedures, emergency situations, navigation tasks, and communication skills. Unlike conventional classroom instruction, simulators provide immediate feedback and enable trainees to correct mistakes without endangering lives or equipment. Furthermore, the use of advanced flight simulators enhances situational awareness, reaction speed, and confidence among future pilots^[6].

To evaluate the effectiveness of simulator-based training, a comparative analysis was conducted between traditional training methods and simulator-assisted instruction. The findings indicate noticeable improvements in operational performance, procedural accuracy, and emergency response capabilities among trainees who regularly used simulators.

Table 2: Presents the comparative results of pilot training performance.

Indicator	Traditional Training (%)	Simulator Training (%)
Procedural Accuracy	72	89
Emergency Response	68	91
Decision-Making	74	88
Flight Readiness	70	90

The results demonstrate that simulator-assisted training produced higher achievement levels across all evaluated criteria. The greatest improvement was observed in emergency response skills, which are critical for aviation safety. This confirms that simulation technology contributes not only to knowledge acquisition but also to the development of professional competencies^[7].

In addition, the diagram illustrates the overall improvement rate in key training indicators. The upward trend across all categories highlights the positive educational impact of simulation-based learning. Future pilots trained through simulators displayed stronger practical readiness and greater confidence when performing complex aviation tasks.

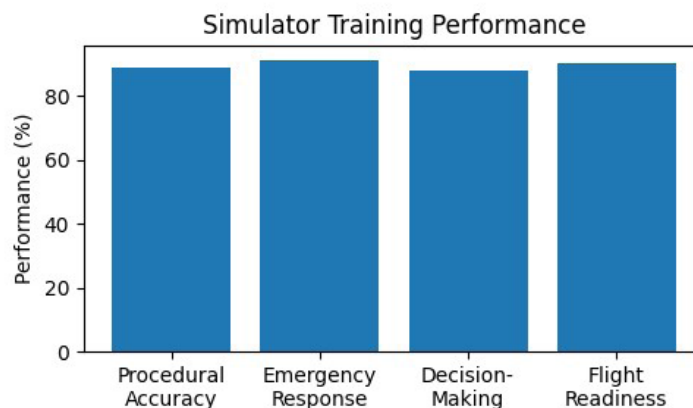


Diagram 1

Overall, the findings suggest that simulator technologies should be integrated more extensively into aviation education programs. Their ability to replicate real-flight conditions, provide safe practice opportunities, and strengthen professional skills makes them an indispensable component of modern pilot training. Continuous investment in simulator systems and instructor development will further enhance the quality of aviation education and contribute to higher standards of flight safety^[8].

CONCLUSION

The results of the study demonstrate that the use of simulator technologies in the training of future pilots is one of the most important tools for enhancing the effectiveness of professional education. Since aviation requires a high level of accuracy, responsibility, and rapid decision-making, simulators play a crucial role in reinforcing theoretical knowledge through practical application. With the help of simulators, future pilots gain practical experience in operating under various flight conditions, complex meteorological situations, and emergency scenarios^[9].

The analysis revealed that simulator technologies contribute significantly to the development of future pilots' professional competencies, improve their knowledge and skills in flight management, and foster a culture of compliance with safety requirements. Simulators enable the accurate modeling of real flight processes, helping to identify and eliminate cadets' errors within a safe training environment. This represents an important factor in ensuring flight safety.

The use of simulators also increases the interactivity of the educational process and develops future pilots' ability to think independently, assess situations rapidly, and make appropriate decisions. Simulators developed on the basis of modern digital technologies are elevating the quality of aviation education to a new level.

In conclusion, the effective use of simulator technologies in the training of future pilots is an essential condition for strengthening both their theoretical and practical preparation, improving their professional competencies, and ensuring their comprehensive readiness for future flight operations. Therefore, the broader implementation and continuous improvement of simulator technologies in aviation educational institutions remain among the most urgent priorities in contemporary aviation education.

References:

1. Axmedov A. A. Aviatsiya pedagogikasi va uchuvchilarni tayyorlash asoslari. - Toshkent : O'zbekiston Respublikasi Mudofaa vazirligi nashriyoti, 2021. - B. 45-62.
2. Yo'ldoshev Sh. X. Zamonaviy aviatsion trenajyorlar va ularning o'quv jarayonidagi o'rni. - Toshkent : Fan va texnologiyalar, 2022. - B. 78-95.
3. Kharoufah H., Murray J., Baxter G. A Review of Human Factors Causations in Commercial Air Transport Accidents and Incidents // Aviation. - 2018. - Vol. 22, No. 1. - P. 14-27.
4. Salas E., Bowers C. A., Edens E. Improving Teamwork in Organizations: Applications of Resource Management Training. - New York : Psychology Press, 2017. - P. 125-148.
5. Wickens C. D., Hollands J. G., Banbury S., Parasuraman R. Engineering Psychology and Human Performance. - 5th ed. - New York : Routledge, 2021. - P. 367-392.
6. Orlady H. W., Orlady L. M. Human Factors in Multi-Crew Flight Operations. - London : Routledge, 2019. - P. 201-230.
7. Ebbatson M., Jarvis S. Flight Simulation and Training Devices // Journal of Aviation Technology and Engineering. - 2020. - Vol. 9, No. 2. - P. 33-48.
8. Nelson R. C. Flight Stability and Automatic Control. - 3rd ed. - New York : McGraw-Hill, 2018. - P. 412-438.
9. Karimov B. R., Maxsudov I. T. Harbiy aviatsiyada simulyator texnologiyalarining o'quv samaradorligini oshirishdagi ahamiyati // Harbiy ta'lim va innovatsiyalar jurnali. - 2024. - № 2. - B. 56-63.

- 
- 13.00.00 Pedagogika fanlari
 - 13.00.01 Pedagogika nazariyasi. Pedagogik ta'limotlar tarixi
 - 13.00.02 Ta'lim va tarbiya nazariyasi va metodikasi (sohalar bo'yicha)
 - 13.00.03 Maxsus pedagogika
 - 13.00.04 Jismoniy tarbiya va sport mashg'ulotlari nazariyasi va metodikasi
 - 13.00.05 Kasb-hunar ta'limi nazariyasi va metodikasi
 - 13.00.06 Elektron ta'lim nazariyasi va metodikasi (ta'lim sohaları va bosqichlari bo'yicha)
 - 13.00.07 Ta'limda menejment
 - 13.00.08 Maktabgacha ta'lim va tarbiya nazariyasi va metodikasi
 - 13.00.09 Ijtimoiy pedagogika
 - 07.00.00 Tarix fanlari
 - 19.00.00 Psixologiya fanlari
 - 01.00.00 Fizika-matematika fanlari
 - 02.00.00 Kimyo fanlari
 - 03.00.00 Biologiya fanlari
 - 09.00.00 Falsafa fanlari
 - 10.00.00 Filologiya fanlari
 - 11.00.00 Geografiya fanlari



MAKTABGACHA VA MAKTAB TA'LIMI

Mas'ul muharrir: Ramzidin Ashurov

Ingliz tili muharriri: Murod Xoliyorov

Musahhih: Alibek Zokirov

Sahifalovchi va dizayner: Iskandar Islomov

2026. №6(6)

© Materiallar ko'chirib bosilganda "Maktabgacha va maktab ta'limi" jurnali manba sifatida ko'rsatilishi shart. Jurnalda bosilgan material va reklamalardagi dalillarning aniqligiga mualliflar ma'sul. Tahririyat fikri har vaqt ham mualliflar fikriga mos kelamasligi mumkin. Tahririyatga yuborilgan materiallar qaytarilmaydi.

"Maktabgacha va maktab ta'limi" jurnali 26.09.2023-yildan O'zbekiston Respublikasi Prezidenti Adminstratsiyasi huzuridagi Axborot va ommaviy kommunikatsiyalar agentligi tomonidan №C-5669363 reyestr raqami tartibi bo'yicha ro'yxatdan o'tkazilgan.
Litsenziya raqami: № 136361.

Manzirimiz: Toshkent shahar, Yunusobod tumani
19-mavze, 17-uy.