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Tashkent International University of Education
Turin Polytechnic University in Tashkent

PROCEEDINGS

of the MMIT'25 International Conference

TA'LIMNING ZAMONAVIY USULLARI VA
INNOVATSION TEXNOLOGIYALAR

MODERN METHODS AND INNOVATION
TECHNOLOGIES IN EDUCATION

СОВРЕМЕННЫЕ МЕТОДЫ И
ИННОВАЦИОННЫЕ ТЕХНОЛОГИИ
В ОБРАЗОВАНИИ

29 May 2025, Tashkent, Uzbekistan

MAQOLALAR TO'PLAMI
СБОРНИК СТАТЕЙ



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Modern methods and innovation technologies in education

**Современные методы и инновационные технологии в
образовании**

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To'plovchi va nashrga tayyorlovchi:

TIUE akademik ishlar bo'yicha prorektori, f.-m.f.n., dotsent

Baydjanov Maqsudbek Islamdjanovich

TIUE Ta'lim boshqaruvi va pedagogika kafedrasi mudiri, f.f.d. (DSc), dotsent

Bekbayev Rauf Rustamovich

Bosh muharrir:

TIUE akademik ishlar bo'yicha prorektori, f.-m.f.n., dotsent

Baydjanov Maqsudbek Islamdjanovich

Mas'ul muharrir:

TIUE Ta'lim boshqaruvi va pedagogika kafedrasi mudiri, f.f.d. (DSc), dotsent

Bekbayev Rauf Rustamovich

Taqrizchilar:

Mirzo Ulug'bek nomidagi O'zbekiston Milliy universiteti

Falsafa kafedrasi professori, f.f.n.

Karimov Rahmat Rahmonovich

TIUE Ta'lim boshqaruvi va pedagogika kafedrasi professori, f.f.d. (DSc)

Saidova Kamola Uskanbayevna

TIUE Axborot texnologiyalari va matematika kafedrasi dotsenti, f.-m.f.n.

Chay Zoya Sergeyevna

Ushbu to'plam "Tashkent International University of Education" xalqaro universiteti Ilmiy-texnik kengashining 2025 yil 15 iyuldagi 6-sonli majlis qarori asosida nashrga tavsiya etilgan.

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TA'LIMDA ZAMONAVIY AXBOROT-KOMMUNIKATSIYA TEKNOLOGIYALARI VA SUN'IY INTELLEKT: ISTIQBOLLAR VA AMALIY YECHIMLAR

Zuparova Munira Xamidovna

Tashkent International University of Education

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Annotatsiya. Mazkur maqolada zamonaviy ta'lim tizimida axborot-kommunikatsiya texnologiyalari (AKT) va sun'iy intellekt (SI) imkoniyatlari tahlil qilinadi. AKT vositalari yordamida ta'lim samaradorligini oshirish, SI asosida individual o'qitish va baholash tizimlarini joriy etish muhimligiga e'tibor qaratiladi. Xususan, masofaviy ta'lim, raqamli platformalar, virtual o'qituvchilar va tahminiy tahlil usullarining afzalliklari misollar orqali ko'rib chiqiladi.

Kalit so'zlar: axborot-kommunikatsiya texnologiyalari, sun'iy intellekt, masofaviy ta'lim, raqamli transformatsiya, adaptiv o'qitish.

MODERN INFORMATION AND COMMUNICATION TECHNOLOGIES IN EDUCATION AND ARTIFICIAL INTELLIGENCE: PROSPECTS AND PRACTICAL SOLUTIONS

Zuparova Munira Xamidovna

Tashkent International University of Education

Abstract. This article analyzes the possibilities of information and communication technologies (ICT) and artificial intelligence (AI) in the modern education system. Attention is paid to the importance of increasing the effectiveness of education using ICT tools, introducing individual training and assessment systems based on AI. In particular, the advantages of distance learning, digital platforms, virtual teachers, and approximate analysis methods are considered through examples.

Keywords: information and communication technologies, artificial intelligence, distance learning, digital transformation, adaptive learning.

Kirish

XXI asrda axborot texnologiyalari jamiyat hayotining barcha sohalariga chuqur kirib borgan. Ta'lim ham ushbu jarayondan chetda qolmadi. Aksincha, AKT ta'lim sifatini oshirish, o'quv jarayonini zamonaviylashtirish, o'qituvchilar va o'quvchilar uchun yangi imkoniyatlar yaratish vositasiga aylandi. Hozirgi kunda AKT ta'lim tizimining ajralmas qismi bo'lib, uning samaradorligi va ommaviyligini ta'minlashda muhim rol o'ynaydi. So'nggi yillarda global miqyosda ta'lim tizimi keskin raqamlashtirildi. Bu jarayon, ayniqsa, COVID-19 pandemiyasi davrida tezlashdi va natijada onlayn ta'lim, raqamli resurslar va sun'iy intellekt texnologiyalariga bo'lgan ehtiyoj sezilarli darajada ortdi. O'zbekiston Respublikasi Prezidentining 2020-yil 6-oktabrdagi PQ-4851-sonli qarorida ham raqamli texnologiyalarni ta'limda keng qo'llash bo'yicha aniq vazifalar belgilangan. [1]

Natijalar va muhokama

Axborot-kommunikatsiya texnologiyalari: zamonaviy ta'limning asosi AKT vositalari ta'limning barcha bosqichlarida – maktabgacha ta'limdan tortib oliy ta'limgacha – keng qo'llanilmoqda. Ularning asosiy vazifalari quyidagilardan iborat: Ta'limda AKTning ahamiyati quyidagi jihatlarida namoyon bo'ladi:

1. O'quv materiallarining interaktivligi, ya'ni AKT vositalari o'quv materiallarini yanada qiziqarli, tushunarli va esda qolarli qilish imkonini beradi. Multimedia prezentatsiyalari, video

darslar, interaktiv simulyatsiyalar o'quv jarayonini faollashtiradi va o'quvchilarning bilim olishga bo'lgan qiziqishini oshiradi.

2. Individual ta'lim – AKT o'quvchilarning individual xususiyatlarini hisobga olgan holda ta'lim berish imkoniyatini yaratadi. Onlayn platformalar, adaptiv testlar, individual o'quv rejalari har bir o'quvchining qobiliyatiga moslashtirilgan ta'lim olishga yordam beradi.

3. Masofaviy ta'lim – AKT geografik cheklanishlarni olib tashlab, masofaviy ta'limni rivojlantirishga imkon beradi. Onlayn kurslar, vebinarlar, videokonferentsiyalar, elektron kutubxonalar ta'lim olish imkoniyatini kengaytiradi va bilim olishni ommalashtiradi.

4. O'qituvchilarning kasbiy rivojlanishi, ya'ni AKT o'qituvchilarga o'z kasbiy mahoratini oshirish, yangi pedagogik texnologiyalarni o'zlashtirish, o'zaro tajriba almashish imkoniyatini beradi. Onlayn treninglar, vebinarlar, forumlar o'qituvchilarning doimiy ravishda o'rganish va rivojlanishiga yordam beradi.

5. Boshqaruv samaradorligini oshirish, ya'ni AKT maktablarni boshqarish, o'quv jarayonini rejalashtirish, moliyaviy hisobotlarni yuritish, ota-onalar bilan aloqa o'rnatish kabi jarayonlarni avtomatlashtirish imkonini beradi. Elektron kundaliklar, onlayn platformalar, ma'lumotlar bazalari maktab ma'muriyati ishini osonlashtiradi.

6. Raqamli o'quv kontenti – elektron darsliklar, videodarslar, testlar va animatsion simulyatorlar;

7. Masofaviy o'qitish platformalari: Moodle, Google Classroom, Zoom, Microsoft Teams;

8. Axborot bazalari va kutubxonalar: O'zbekiston Milliy elektron kutubxonasi, Google Scholar, JSTOR;

9. Ta'limni boshqarish tizimlari (LMS): O'qituvchining rejalashtirish, monitoring va baholash faoliyatini avtomatlashtirishga xizmat qiladi. [2]

AKT vositalari o'quvchi va o'qituvchining o'zaro interaktiv aloqasini soddalashtirib, vaqt va makon chegaralarini yo'qotmoqda.

Ta'limda AKTning istiqbollari quyidagilardan iborat:

Sun'iy intellektning ta'limdagi qo'llanilishi

(AI) ga asoslangan o'quv tizimlari o'quvchilarga individual yondashish, o'quv materiallarini avtomatik ravishda moslashtirish, o'quvchilarning bilimni baholash va ularga yordam berish imkoniyatini yaratadi. Sun'iy intellekt texnologiyalari ta'lim tizimida quyidagi yo'nalishlarda faol qo'llanilmoqda:

a) Adaptiv o'qitish tizimlari O'quvchining bilim darajasi, qiziqishlari va o'zlashtirish sur'atiga qarab individual o'quv yo'nalishi shakllantiriladi. Masalan, Khan Academy va Coursera platformalarida SI asosida foydalanuvchining faolligiga mos darslar taklif qilinadi.

b) Avtomatik baholash tizimlari Test natijalarini tahlil qilish, insho va topshiriqlarni tekshirishda SI yordamida xolis va tezkor natijalarga erishiladi. Bu o'qituvchining yuklamasini kamaytirib, sifatni oshiradi.

c) Virtual yordamchilar Virtual reallik (VR) va kengaytirilgan reallik (AR): VR va AR texnologiyalari o'quvchilarga virtual muhitda o'rganish, 3D modellarni bilan ishlash, tarixiy voqealarni jonli kuzatish imkoniyatini beradi. OpenAI, IBM Watson, Google Bard kabi sun'iy intellektlar ta'lim jarayonida murakkab savollarga javob berish, tushuntirish, tarjima qilish, loyihalashda yordam berishga xizmat qiladi.

d) Tahminiylar tahlil (Predictive Analytics) O'quvchining faoliyatiga asoslanib uning muvaffaqiyatsizlik ehtimolini oldindan aniqlash va o'z vaqtida chora ko'rishga imkon beradi. [3]

Shu bilan birga, ta'limda AKTni joriy etishda bir qator muammolar ham mavjud:

Maktablarning zamonaviy kompyuterlar, internet, proyektorlar va boshqa jihozlar bilan yetarli darajada ta'minlanmaganligi.

O'qituvchilar va o'quvchilarning AKTdan foydalanish ko'nikmalarining yetarli emasligi.

Sifatli elektron o'quv materiallarining yetishmasligi.

O'quvchilarni internetdagi zararli kontentdan himoya qilish masalasi.

Shahar va qishloq maktablari o'rtasida AKTga kirish imkoniyatidagi farq.

AKT va SI asosidagi ta'limda quyidagi pedagogik yondashuvlar muhim hisoblanadi:

1. Konstruktivizm – o'quvchi o'zi mustaqil bilim olishda faol ishtirok etadi;
2. Flipped learning (teskari sinf) – ma'ruza uyi sharoitida, amaliy mashg'ulot esa sinfda bajariladi;
3. Geymifikatsiya – o'yin elementlarini o'quv jarayoniga tatbiq etish orqali motivatsiyani oshirish.

Ushbu muammolarni hal etish uchun quyidagi choralarni ko'rish zarur:

Maktablarni zamonaviy texnik vositalar bilan ta'minlash.

O'qituvchilarning digital savodxonligini oshirish bo'yicha kurslar tashkil etish.

Sifatli elektron o'quv resurslarini yaratish va ulardan foydalanishni rag'batlantirish.

O'quvchilarni internet xavfsizligi qoidalariga o'rgatish.

Shahardagi va qishloqdagi maktablar o'rtasidagi texnologik tafovutni bartaraf etishga qaratilgan dasturlarni ishlab chiqish. Ushbu yondashuvlar SI bilan uyg'unlashganda, o'quvchilarning faolligi, mustaqilligi va natijadorligi sezilarli darajada ortadi. [4]

Xulosa

Ta'limda AKTdan foydalanish ta'lim sifatini oshirish, o'quv jarayonini zamonaviylashtirish, o'qituvchilar va o'quvchilar uchun yangi imkoniyatlar yaratishning muhim omilidir. Biroq, bu jarayonni amalga oshirishda yuzaga kelayotgan muammolarni hal etish va ularni bartaraf etish ta'lim sohasidagi islohotlarning muvaffaqiyatli amalga oshirilishiga zamin yaratadi. Zamonaviy axborot-kommunikatsiya texnologiyalari va sun'iy intellekt vositalari ta'lim sifatini oshirishda muhim omil hisoblanadi. Bu texnologiyalar o'quv jarayonini shaxsiylashtirish, avtomatlashtirish va samaradorlikni oshirishga xizmat qilmoqda. O'zbekiston ta'lim tizimi uchun bu texnologiyalarni chuqur integratsiya qilish kelajakda raqobatbardosh kadrlar tayyorlash imkonini beradi.

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An abstract graphic featuring a complex network of interconnected nodes and lines, resembling a molecular structure or a data network, set against a dark blue background. The nodes are represented by circles of varying sizes, and the lines are thin, light blue, creating a web-like pattern that fills the upper two-thirds of the page.

**Tashkent International University of Education
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