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## **Lingvokriminalistikaning o‘tmishi va buguni**

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Respublika sud ekspertiza markazi eksperti

### **Anotatsiya**

Mazkur tezisda lingvokriminalistika (forensik lingvistika) fanining shakllanish tarixi, rivojlanish bosqichlari va bugungi kundagi holati kompleks tarzda yoritilgan. Tadqiqotda tilshunoslik va huquqning kesishgan nuqtasida vujudga kelgan ushbu fan yo‘nalishining sud-tergov amaliyotidagi ahamiyati, lingvistik ekspertizaning metodologik asoslari hamda zamonaviy yondashuvlari tahlil qilinadi. Shuningdek, stilometriya, diskurs va pragmatik tahlil, mualliflikni identifikatsiya qilish, sun‘iy intellekt va kompyuter lingvistikasi vositalarining sud lingvistik ekspertizasidagi o‘rni ko‘rsatib o‘tiladi. Tezisda O‘zbekistonda lingvokriminalistika fanining shakllanishi, sud-ekspertiza tizimidagi amaliyot, ijtimoiy tarmoqlarda sodir etilayotgan haqorat, obro‘sizlantirish va kiberjinoyatlar bilan bog‘liq ishlar bo‘yicha lingvistik ekspertizaga bo‘lgan ehtiyojning ortib borayotgani ham tahlil qilinadi. Tadqiqot natijalari lingvokriminalistikaning bugungi yutuqlari va istiqboldagi rivoj yo‘nalishlarini belgilashga xizmat qiladi.

### **Kalit so‘zlar.**

Lingvokriminalistika, sud lingvistik ekspertisasi, matn tahlili, diskurs va pragmatik tahlil, stilometriya, mualliflikni aniqlash, haqorat va obro‘sizlantirish, kiberjinoyatchilik, sun‘iy intellekt(AI)

## **The Past and Present of Linguistic Criminology**

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## **Abstract**

This thesis provides a comprehensive overview of the formation history, stages of development, and the current state of linguistic criminology (forensic linguistics). The study analyzes the significance of this scientific field, which emerged at the intersection of linguistics and law, in judicial and investigative practice, as well as the methodological foundations and modern approaches of linguistic expertise. In addition, the role of stylometry, discourse and pragmatic analysis, authorship identification, artificial intelligence, and computational linguistics tools in forensic linguistic expertise is highlighted. The thesis also examines the development of linguistic criminology in Uzbekistan, its application within the forensic examination system, and the growing demand for linguistic expertise in cases related to insults, defamation, and cybercrimes committed on social media platforms. The research findings contribute to identifying the current achievements of linguistic criminology and outlining its prospective directions for future development.

## **Keywords:**

Linguistic criminology, forensic linguistic expertise, text analysis, discourse and pragmatic analysis, stylometry, authorship identification, insult and defamation, cybercrime, artificial intelligence (AI).

## **Kirish.**

Lingvokriminalistika (forensik lingvistika) – bu tilshunoslik fanining yuridik amaliyotlar bilan o‘rgangan yangi yo‘nalishi bo‘lib, unda til va nutq tahlili sud-tergov jarayonlarida dalil sifatida qo‘llanilishidir. Ushbu soha tilning jinoyatlarining va huquq kontekstidagi ilmiy tahlilini o‘z ichiga oladi. Matn tili, sud protsesslaridagi nutq, jinoyatga oid yozma va og‘zaki dalillarning tilshunoslik tahlili shu jumlasidandir. Sud lingvistika til, jinoyat va qonun chorrahasidagi ilmiy amaliyotda XX asr o‘rtalaridan rivoj topa boshladi. So‘nggi vaqtlarda axborot sohasidagi siljishlar va ijtimoiy

tarmoqlarning hayotimizga keng kirib kelishi natijasida, lingvokriminalistikaga, jumladan sud lingvistik ekspertizasiga bo‘lgan talab ortib bormoqda

Tarixan lingvistik ekspertizasiga bo‘lgan talab 1950–1960-yillarda paydo bo‘la boshlagan, va bunda sud amaliyotida yozma va og‘zaki nutqini tahlil qilish zarurati tug‘ildi. 1960-yillarga kelib, Buyuk Britaniyada mashhur Evans ishi lingvistik ekspertiza kuchini namoyish etdi – Jan Svartvik 1968-yilda ushbu ish bo‘yicha “The Evans Statements: A Case for Forensic Linguistics” nomli tahlilini e‘lon qilib, “forensic linguistics” atamasini birinchi bor ilmiy muomalaga kiritdi. Svartvik Evansning politsiya iqrornomasini lingvistik tahlil qilgan holda, uning tili Evansning oddiy nutq uslubiga mos kelmasligini, bayonnoma tilidan politsiya nutqidagi uslubini isbotlab berdi. Bu ish tilshunoslik nuqtai nazari bilan begunoh insonni oqlash qobiliyatini ko‘rsatib, lingvokriminalistika fanining mustaqil yo‘nalish sifatida shakllanishiga turki bo‘ldi.

Hozirgi kunga kelib, lingvokriminalistika nafaqat AQSh va Yevropa, balki O‘zbekiston, Rossiya, Belorusiya kabi davlatlar huquqiy tizimida ham muhim ahamiyat kasb etmoqda. Ushbu tadqiqot ishida lingvokriminalistika fanining tarixiy shakllanish bosqichlari, zamonaviy yutuqlari hamda xalqaro va O‘zbekistondagi amaliyotdagi muammolarni tahlil qilish, tadqiqot bo‘yicha e‘lon qilingan ilmiy manbalar (metodik qo‘llanmalar, maqolalar va ilmiy-uslubiy qo‘llanmalar) o‘rganilib, bugungi kundagi lingvokriminalistika yutuqlari va istiqboldagi soha yo‘nalishlari bo‘yicha tavsiyalar ishlab chiqiladi.

Lingvokriminalistik metodlar: Lingvistik ekspertiza jarayonida tekshirish usullari rang-barang bo‘lib, ular lingvistikaning turli yo‘nalishlariga tayanadi. Eng avvalo, diskurs va pragmatik tahlil usullari muhim o‘rin tutadi – matnning kontekstual ma‘nosi, nutq aktining maqsadi, nutqning pragmatik ta‘siri kabilarni tekshiradi. Chunki, odatda e‘tibor qaratilayotgan so‘z lug‘aviy ma‘nosida haqorat yoki kamsitishni bildirmasligi,

ammo matn va vaziyatda bunday ma'no kasb etishi mumkin. Masalan, neytral ma'no anglatuvchi “*maxluq*” insonga nisbatan turli xil kontekstda turlicha – haqoratli yoki bezarar – bo'lishi mumkinligi aniqlangan. Shunday qilib, lingvistik tahlil kontekst va nutq vaziyat ekanini tahlil qilib, iboralarning haqiqiy kommunikativ funksiyasini aniqlaydi.

Bundan tashqari, stilometriya va mualliflikni identifikatsiya qilish usullari lingvokriminalistikada keng qo'llaniladi. Matndagi grammatik va jihatdan uslubiy naqshlarni statistik tahlil qilish orqali mualliflikka doir ma'lumotlarni aniqlash mumkin. Masalan, muallifga xos so'z qo'llash, iboralardan foydalanish, noma'lum mualliflik tekshiruvini indikatorlar asosidagi urinishlar amaliyotga joriy qilingan. Buning namunasi sifatida Malcolm Coulthard va Tim Grant olingan sud ishlarini stilometrik tahlil qilish orqali muallifni aniqlash usullarini ishlab chiqdi. Matematik lingvistika va sun'iy intellekt yutuqlari ham soha metodologiyasiga joriy qilingan. Masalan, katta hajmdagi matnlarni avtomatik solishtirma tahlil qilish uchun JGAAP (Java Graphical Authorship Attribution Program) va LIWC (Linguistic Inquiry and Word Count) kabi tizimlar ishlab chiqildi. Ushbu dasturlar matnlarni lug'aviy va grammatik jihatdan solishtirib, muallifni aniqlashga xizmat qiladi.

Lingvistik ekspertizada matn tahlili quyidagicha olib boriladi:

- ✓ Matnning kontekstual sharoitini va vaziyatini aniqlash;
- ✓ Matnda ifodalangan nutq akti turi va maqsadini (masalan, haqorat, kamsitish, chaqiriq va hk);
- ✓ Matnda mavjud subyekt baholovchi (salbiy yoki haqoratli) birliklarni topish ;
- ✓ Ularning grammatik va semantik tuzilishini tahlil qilish (so'zning lug'aviy ma'nosi va konnotativ ma'nosini aniqlash);

- ✓ Yakunda matnning huquqiy tavsifini berish, ya'ni u haqorat yoki tuhmat sifatida ishlab chiqarish.

Bu kabi tizimli metodika lingvistik ekspertlarining obyektivligi va asoslilikini ta'minlashga xizmat qiladi. Darhaqiqat, sud uchun taqdim etilayotgan dalillar lingvistik tahlil qilish, uning adresatini aniqlash mezonlari ham e'tiborga olinishi lozim. Shu bois ekspertlar oldidan qo'yiladigan savollarni to'g'ri baho berish, lingvistik tahlil chegaralarini aniqlash ham ushbu metodikalarda ko'zda tutilgan.

Ma'lumotlar va vizualizatsiya: Ma'lumotlar tahlili bo'limida aniqlangan statistik ma'lumotlar bilan mustahkamlab borildi. Olingan ma'lumotlar asosida ayrim jadval va grafiklar tuziladi.

Lingvokriminalistikaning tarixiy shakllanishi. AQShda lingvokriminalistika: Lingvistik ekspertiza fan sifatidagi birinchi rivoj topgan makon – Amerika Qo'shma Shtatlaridadir. XX asr o'rtalarida AQSh sud amaliyotida tilshunoslarning ishtiroki muhim ahamiyat kasb etgan. 1950-yillarda AQShda Greer ishi til materiallarini tahlil qilishda lingvist mutaxassislarni jalb etish zaruratini ko'rsatgan bo'lsa, 1960-yillarga kelib sohada nazariy ishlab chiqarish ham shakllana boshlagan. Roger W. Shuy – AQShda lingvistik ekspertiza rivojiga katta hissa qo'shgan tilshunos olimdir. U 1980-yillarda Forensic Linguistics Associates nomli mustaqil konsalting markazini tashkil etib, sud-tergov ishlarida lingvistik tahlilini professional xizmatga aylantirdi. Shuy o'z faoliyat mualliflikni tekshirish, so'roq paytidagi til, jinoyatchilarning nutqlarini mantiqiy tahlillarini qilish kabi yo'nalishlarda ishladi va o'z sinovlarini “Language Crites: The Use and Abuse of Language Evidence in the Courtroom” (1993) kitobida umumlashtirdi. Ushbu kitob va Shuyning amaliy faoliyat jarayonida AQShda lingvistik ekspertiza xulosalari sud protsessida dalil sifatida e'tirof etilishi tasdiqlangan. Masalan, Shuy bir necha jinoyat ishlarida tilshunos ekspert sifatida ko'rsatma berib, matndagi til jinoyatga aloqadorlikka yordam bergan. XX asr oxiriga kelib esa, AQSh Federal Tergov

Byurosi (FBI) tomonidan maxsus Language Analysis Unit (Til tahlili bo'limi) tuzildi va maktublar va hujjatlarda tovlamachilik mazmundagi materiallar hamda ekstremistik kontentlarni tahlil qilish yo'lga qo'yildi. Shu tariqa, 1990-yillarga kelib lingvokriminalistika AQShda huquqni nazorat qilishning ajralmas qismiga aylandi.

Buyuk Britaniyada lingvistik ekspertiza: Buyuk Britaniyada lingvokriminalistika rivoji biroz keyinroq, 1980-yillar boshidan bo'lsa-da, bu yerda soha akademik nuqtai nazardan mustahkamlandi. Malcolm Coulthard Britaniyada ushbu yo'nalishni rivojlantirgan olimdir. U Birmingem universitetida, Aston universitetida sud lingistikasi bo'yicha tadqiqotini tashkil qilgan. 1990-yillar Coulthard va shogirdi Tim Grant sud hujjatlari, yozishmalar, bayonotlar va boshqa materiallarda muallifni aniqlashning statistik usullarini ishlab chiqdilar. Ularning sa'y-harakatlari natijasida Buyuk Britaniyada 1990-yillarda lingvistik ekspertiza markazi tashkil topdi. Professor Coulthard, tahlil darajasini, so'roq jarayonidagi savol-javob diskursini lingvistik tahlil qilish, ya'ni so'roq jarayonda jinoyatni qanday aniqlash bo'yicha ham innovatsion ishlar qildi. Buyuk Britaniyada 1993-yilda Janubiy Uels Politsiyasi qoshida ham lingvistik tahlil bo'limi ish boshlab, u ko'plab jinoyat ishlarida xatlar va qo'lyozmalar tilini ekspertiza qilish bilan shug'ullangan. 1990-yillarga kelib Britaniya lingvokriminalistlar xalqaro hamjamiyatni mustahkamlash "Xalqaro sud lingvistlari assotsiatsiyasi (International Association for Forensic & Legal Linguists, IAFL)\*\*ni tashkil etishdi. Bugungi kunda IAFL dunyoning ko'plab mamlakatlarida faol bo'lib, konferensiyalar va jurnallar orqali soha rivojiga hissa qo'shmoqda. AQSh va Britaniyada lingvokriminalistik farqlanadigan ba'zi jihatlar mavjud.

Aspekt	AQSh (Amerika) yondashuvi	Buyuk Britaniya yondashuvi
<b>Ekspert qiymatining roli</b>	Lingvist-ekspert tekshiruvi sudda dalil sifatida qabul qilinishi va jinoyat isbotining bir qismi bo'lishi mumkin.	Lingvist-ekspert sudda maslahatchi sifatida olinadi, undan faqat til ishtirokini chegaralanadi. Ya'ni, Buyuk Britaniyada lingvist ekspertlar tomonidan bevosita "ayb isboti" emas, balki sudyaga tushunmovchiliklarni tilshunoslar nuqtai nazaridan yetkazib beruvchi vosita sifatida qaraladi.
<b>Tashkil topishi va ilmiy maktab</b>	1950–60-yillardan amaliy qo'llanila boshladi; 1980 yillarda R. Shuy tomonidan birinchi mustaqil konsalting tashkil etildi. 1990-yillarda FBI huzurida rasmiy til tahlili bo'limi yo'lga qo'yilgan.	1960-yillardan (Svartvik ishi) qayta ishlash; 1980–90-yillarda M. Coulthard tomonidan Aston universitetida birinchi ilmiy maktab va tadqiqot instituti tashkil etildi. Soha universitetlarda o'rganila boshlandi va 1990 yilda IAFLL xalqaro ilmiy hamjamiyat shakllangan. Akademik va amaliy integratsiya kuchli, maxsus o'quv dasturlari mavjud.

AQShdagi jadvaldan ko'rinadiki, AQSh modeli lingvistik ekspertizani sud jarayonida faolroq qo'llashga intiladi Britaniya modelida esa tilshunoslar fikri ko'proq isbotlovchi dalil sifatida qabul qilingan va qonuniy baholashni sudyalarning hay'atining o'zi hal qilgan. Shunga qaramay, har ikki maktabda ham lingvokriminalistika multidisipar xarakterga ega ekani kuzatiladi. Masalan, AQShda ham, Buyuk Britaniyada ham lingvistik ekspertiza psixologiya, huquqshunoslik, kriminologiya kabi sohalar bilan

uzviy bog'langan holda rivojlanmoqda. Bugungi kunda dunyoning ko'plab mamlakatlarida (jumladan, Yevropa Ittifoqi davlatlarida, Avstraliya, Kanada va boshqalarda) lingvistik ekspertiza bo'yicha ekspertlar faoliyatini olib boradi va bu boradagi global tajribalar bir-birini boyitmoqda.

XXI asrda lingvistik ekspertizaning yuksalishi. Raqamli texnologiya asrida lingvokriminalistika yangi bosqichga ko'tarildi. Endilikda tilshunos-ekspertlar faqat an'anaviy matn va nutqni emas, balki elektron xabarlar, internet muloqotlari va ijtimoiy tarmoqlardagi postlarni ham tahlil qilishga to'g'ri kelmoqda. Yangi qilingan jinoyatlar – masalan, ijtimoiy tarmoqlar orqali haqoratlash, obro'sizlantirish, ekstremistik chaqiriqlar – matn ko'rinishida sodir etilayotgani sababli lingvist ekspertlarga ehtiyoj ortmoqda. Zamonaviy lingvistika va kompyuter dasturlari katta matnlar omborini qisqa vaqt ichida, shaxsga xos so'z qo'llash uslubi orqali muallifni avtomatik identifikatsiya qilish imkoni yaratmoqda. Masalan, AQShda terrorchilik jinoyatlarini internetda, ijtimoiy tarmoqlarda paydo bo'lgan real vaqtda rejimida avtomatik tahlil qilish uchun maxsus dasturiy ta'minotlar joriy etilgan. Zamonaviy dasturlar kontent muallifini tekshirishda stilometrik algoritmlar asosida tekshirishlar olib boradi – bunday zamonaviy texnologiyalarning muallifni aniqlash ko'rsatgichi 85–90% aniqlikka erishgani haqida ma'lumotlar mavjud.

Sun'iy intellekt yutuqlari: So'nggi yillarda sun'iy intellekt (AI)ni lingvistik ekspertiza sohasida ham qo'llash g'oyalari ilgari surilmoqda, Jumladan, katta hajmli til modellari va mashinali o'rnatish algoritmlari yordamida matnlarning dasturiy ta'minotdan samarali foydalanishi yo'lga qo'yildi. Misol uchun, BERT yoki chatGPT kabi zamonaviy model asosida ishlovchi dasturlar matndagi manipulyativlik indeksi yoki jinoyat alomatlari mavjud axborotni aniqlab samarali ishga tushirilmoqda. Albatta, bunday avtomatlashtirilgan tahlil inson omilini, ekspert o'rnini bosa olmaydi, lekin katta axborotlarni tahlil qilishda, saralashda qo'l keladi. Lingvokriminalistlar endi diqqat-

e'tiborini eng nozik va murakkab hollarga qaratib, vaqt va resursni tezamoqda. Kompyuter lingvistikasi asosidagi boshqa manbalar ham masalan, yuqorida tilga olingan JGAAP, LIWC katta hajmdagi statistik ma'lumotlarni tahlil qilishga yordam beradi.

Xalqaro ilmiy markazlar: Globallashuv davrida dunyoning turli burchaklarida lingvistik ekspertizaga ixtisoslashgan markazlar tashkil topmoqda. Masalan, Buyuk Britaniyadagi Aston University Forensic Linguistics Institute, AQShdagi laboratoriya Shuy asos solingan Forensic Linguistics Institute, Londondagi John Olsson Forensic Linguistics Institute kabilar internet tarmog'ida til orqali amalga oshirilayotgan jinoyatchilikni aniqlashga ixtisoslashtirilgan markazlarga aylangan. Bu markazlar lingvistika, psixologiya, siyosatshunoslik va integratsiyalashgan huquq sohalarini, yangi tadqiqot uslublarini yaratishni nazarda tutadi. AQShning xavfsizlik (Homeland Security), Ichki ishlar vazirligi (CIA) tarkibidagi markaziy tahliliy faoliyat yuritib, terrorizm, kiberjinoyatlar, tovlamachilik va ekstremizmga oid matnni tadqiq qilmoqda. Buyuk Britaniyada esa politsiya va universitetlar hamkorligida bir necha qo'shma dasturlar yo'lga qo'yilgan – masalan, talabalar uchun forensik lingvistika bo'yicha magistratura kurslari taklif qilinib, bitiruvchilarga politsiya ekspertiza bo'limlarida amaliyot o'tkazish yo'lga qo'yilgan.

O'zbekistonda lingvokriminalistika bo'yicha birinchi izlanishlar 2000-yillar boshlariga to'g'ri keladi. Bu boradagi tilshunos olimlar til va huquqning o'zaro aloqasini, xususiyl, siyosiy nutq, axborot manbalari tili, ijtimoiy tarmoqlardagi matnlarni o'rganishga kirishdilar. Bunday izlanish turtki bo'lgan asosiy omil – mustaqillikdan so'ng jamiyatda tuhmat, haqorat, to'g'ridan-to'g'ri nutq orqali sodir etiluvchi huquqbuzarlikka qarshi kurashishning ahamiyati ortganidir. Toshkent davlat sharshunoslik universiteti, Alisher Navoiy nomadago O'zbek tili va adabiyoti universitet va huquqni muhofaza qiluvchi tashkilotlarda lingvokriminalistika

masalalarida ishlar olib borildi. 2010-yillarga kelib ayrim sud ishlarida filologini jalb etish amaliyoti paydo bo'ldi. 2018–2019-yillarda O'zbekiston sud-ekspertiza tizimida lingvistik ekspertiza bo'limlari tashkil etildi. Bugungi kunda O'zbekiston Respublikasi Adliya vazirligi huzuridagi Respublika Sud ekspertizasi markazi (RSEM) va Ichki ishlar vazirligida ekspertlar lingvistik tahlil bo'yicha faoliyat olib bormoqda.

O'zbekistonda lingvistik ekspertiza asosan shaxs sha'ni va qadr-qimmatini himoya qilish (haqorat, obro'sizlantirish, kamsitish), ijtimoiy (adovat qo'zg'atuvchi nutq) hamda kiberjinoyatchilikka qarshi kurash (onlayn va to'g'ridan-to'g'ri) sohalarini o'z ichiga oladi. O'tgan yillarda bu yo'nalishdagi murojaatlar soni sezilarli darajasida oshdi. Ayrim manbaalarda qayd etilishicha, so'nggi paytlarda tergov va sud idoralariga haqorat va obro'sizlantirish bilan bog'liq ekspertiza uchun murojaatlar keskin ko'paygan. Jamiyatda, ijtimoiy tarmoqlarda tarqalgan haqoratli materiallar bo'yicha tilshunos ekspertlariga bo'lgan talab ortgan.

Lingvokriminalistika – tilshunoslik va huquqning kesishuvidagi fan – bugungi kunda jadal rivojlanayotganini ko'rishimiz mumkin. Lingvistik ekspertiza 1960-yillarda Buyuk Britaniyada boshlangan bo'lsa, hozirgi davrda AQShdan tortib O'zbekistongacha ko'plab qonun amaliyotida muhim o'rin egallamoqda. Soha taraqqiyotiga tilshunos olimlarning xizmatlari juda katta. Jan Svartvik, Rojer Shuy, Malkolm Koulthard kabi tadqiqotchilar uning nazariy va amaliy poydevorini yaratdi. Bugungi zamon lingvistik ekspertizalari nafaqat matn muallifini aniqlash yoki uni til nuqtai nazaridan aniqlash, balki siyosiy mujarolarga qarshi kurash, onlayn tahdidlar, haqoratlarni aniqlashda ham muhim ro'l o'ynamoqda.

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## **Turizm sohasida ijtimoiy tarmoqlarning marketingdagi o‘rni: raqamli yondashuvlar asosida tahlil**

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**Annotatsiya :** Ushbu tezisdan raqamli marketing, ayniqsa ijtimoiy tarmoqlar orqali amalga oshiriladigan marketingning turizm biznesiga ta’siri o‘rganiladi. Ushbu bog‘liqlikni yanada chuqurroq anglash maqsadida ilmiy tadqiqotlar, soha hisobotlari, hukumat hujjatlari hamda onlayn platformalar kabi turli manbalar tahlil qilinadi. O‘rganish natijalari shuni ko‘rsatadiki, ijtimoiy tarmoqlar va video kontentdan foydalanishga asoslangan raqamli marketing, odamlarning sayohatga bo‘lgan qiziqishini oshirishda muhim rol o‘ynaydi. Shuningdek, ijtimoiy tarmoqlar odamlarning sayohatni rejalashtirish va bron qilish jarayonlarini ham sezilarli darajada o‘zgartirmoqda. Hisobotlarga ko‘ra, hozirgi kunda aksariyat sayohatchilar qayerga borishni tanlashda va hatto sayohat xizmatlarini bron qilishda ijtimoiy tarmoqlardan foydalanmoqda. Ushbu xulq-atvordagi o‘zgarishlar sayohatni rejalashtirish jarayonida ijtimoiy tarmoqlarning naqadar muhim ahamiyat kasb etayotganini yaqqol namoyon etadi.

**Kalit so‘zlar:** raqamli reklama, sayohatni rivojlantirish, ijtimoiy tarmoqlar, turizm sanoati, influencer marketing, onlayn mavjudlik

**Аннотация:** В данном тезисе исследуется влияние цифрового маркетинга, особенно маркетинга через социальные сети, на туристический бизнес. Для более

глубокого понимания этой взаимосвязи были проанализированы различные источники, включая научные исследования, отраслевые отчёты, государственные документы и онлайн-платформы. Результаты исследования показывают, что цифровой маркетинг, основанный на использовании социальных сетей и видеоконтента, играет важную роль в повышении интереса людей к путешествиям. Кроме того, социальные сети существенно изменяют процесс планирования и бронирования поездок. Согласно отчётам, в настоящее время большинство путешественников используют социальные сети для выбора направления поездки и даже для бронирования туристических услуг. Эти изменения в поведении наглядно показывают, насколько важную роль социальные сети играют в процессе планирования путешествий.

**Ключевые слова:** цифровая реклама, развитие туризма, социальные сети, туристическая индустрия, инфлюенсер-маркетинг, онлайн-присутствие.

**Abstract:** This thesis examines the impact of digital marketing, particularly marketing conducted through social media, on the tourism business. To gain a deeper understanding of this relationship, various sources were analyzed, including academic studies, industry reports, government documents, and online platforms. The findings indicate that digital marketing based on the use of social media and video content plays a significant role in increasing people's interest in travel. Moreover, social media has substantially changed the way people plan and book their trips. According to reports, the majority of travelers now use social media to decide on travel destinations and even to book travel services. These behavioral changes clearly demonstrate the important role that social media plays in the travel planning process.

**Keywords:** digital advertising, boosting travel, social-media, travel industry, influencer marketing, online existence.

Onlayn platformalarning ushbu integratsiyasi turizm sohasida tub o'zgarishlarni yuzaga keltirdi. Texnologik vositalar va imkoniyatlardan foydalanish orqali u zamonaviy mijozlarning ilgari o'rganilmagan hududlar bo'ylab sayohat qilish jarayonida izlaydigan moslashtirilgan tajribalarini taqdim etishga xizmat qilmoqda (Buhalis & Law, 2008). Ushbu inqilob sayohat va turizm dinamikasini tubdan qayta shakllantirgan texnologik yutuqlar bilan jadallashdi (Buhalis & Law, 2008). Raqamli marketing, ijtimoiy tarmoqlar va turizmning uyg'unlashuvi muhim ahamiyat kasb etib, nafaqat foydalanuvchilar bilan o'zaro aloqani va hamjamiyat shakllanishini kuchaytirmoqda, balki brendga sodiqlikni ham rivojlantirmoqda (Buhalis & Law, 2008). Axborot va kommunikatsiya texnologiyalarining (AKT) turizmning turli jihatlarida tobora keng qo'llanilishi natijasida "aqlli turizm" (smart tourism) tushunchasi shakllandi (Gretzel et al., 2015). Keng ko'lamli ma'lumotlarni qiymat takliflariga aylantirishda AKTdan foydalanish bilan tavsiflanadigan aqlli turizm katta transformatsion salohiyatga ega bo'lsa-da, u hali ham qo'shimcha konseptual rivojlanish va ilmiy tadqiqotlarni talab etadi (Gretzel et al., 2015).

Texnologik innovatsiyalar turizm subyektlari va destinatsiyalarning raqobatbardoshligini oshirishda muhim rol o'ynab, sanoat tuzilmalari, taqsimot kanallari va xarajatlarni optimallashtirish jarayonlarini qayta shakllantirmoqda (Zimeng et al., 2023). Bundan tashqari, axborot texnologiyalarining qo'llanilishi turizm sanoatining iqtisodiy o'sishida yetakchi omilga aylanib, zamonaviy turizm rivoji uchun qulay va samarali xizmatlarni taqdim etmoqda (Jin, 2023). Raqamli marketing, ijtimoiy tarmoqlar va texnologiyaning integratsiyasi turizm sanoatini tubdan o'zgartirib, operatsion jarayonlarning samaradorligini oshirish, sayyohlar uchun tajribalarni boyitish hamda uglerod chiqindilarini kamaytirish kabi strategik maqsadlarga erishish imkonini bermoqda (Zimeng et al., 2023). Turizm sanoatida integratsiyalashgan rivojlanish va texnologik innovatsiyalarni rag'batlantirishda axborot

texnologiyalarining oʻrni raqamlashtirishning transformatsion taʼsirini yaqqol namoyon etadi (Zimeng et al., 2023). Turizm muhiti rivojlanishda davom etar ekan, texnologik taraqqiyot oʻzgarish va taraqqiyotning asosiy harakatlantiruvchi kuchi boʻlib qolmoqda hamda destinatsiyalar, biznes subyektlari va sayohatchilar oʻrtasidagi oʻzaro aloqalarni shakllantirib, sohaning kelajagini belgilab bermoqda.

Ijtimoiy tarmoqlar turizm sanoatida marketing faoliyati uchun muhim va transformatsion vosita sifatida namoyon boʻldi. U turizm korxonalariga foydalanuvchilar bilan faol muloqotni yoʻlga qoʻyish, keng qamrovli axborot almashish hamda mijozlar bilan mustahkam munosabatlarni shakllantirish imkonini beradi. Shunga qaramay, ijtimoiy tarmoqlardan samarali foydalanish bilan bogʻliq muammolar hanuzgacha saqlanib qolmoqda. Ushbu sohadagi ilmiy tadqiqotlar muvaffaqiyatli strategiyalar va tendensiyalarni yoritishda muhim manba boʻlib xizmat qiladi hamda raqamli marketingning turizm sohasiga uzoq muddatli taʼsirini chuqurroq anglashga hissa qoʻshadi.

Mazkur tadqiqot turizm bizneslarini rivojlantirishda raqamli marketingning oʻrnini har tomonlama oʻrganishga qaratilgan boʻlib, unda sayohatlarni targʻib qilish va destinatsiyalar marketingida ijtimoiy tarmoqlardan samarali vosita sifatida foydalanishga alohida eʼtibor qaratiladi. Turizm sohasida raqamli marketingning rivojlanishi va uning taʼsirini tahlil qilish; Sayohatlarni targʻib qilishda ijtimoiy tarmoqlarning kommunikatsiya kanali sifatidagi ahamiyatini oʻrganish; Ijtimoiy tarmoq platformalarida qoʻllanilayotgan raqamli marketing strategiyalarini baholash; Sayohatchilarning afzalliklari va destinatsiya tanlovini shakllantirishda ijtimoiy tarmoqlarning samaradorligini aniqlash.

Raqamli marketing, ayniqsa ijtimoiy tarmoqlar orqali amalga oshiriladigan marketing, turizm bizneslarini targ'ib qilishda muhim o'rin tutadi. U sayohatlarni samarali targ'ib etish hamda sayohatchilarning o'zgarib borayotgan afzalliklariga mos keluvchi immersiv (chuqur jalb etuvchi) tajribalarni yaratish imkoniyatiga ega (Kong, 2023). Raqamli marketing strategiyalari bilan sayohatchilar xulq-atvorini anglash o'rtasidagi o'zaro uyg'unlik biznes subyektlariga samarali va ta'sirchan marketing kampaniyalarini ishlab chiqish imkonini beradi (Buhalis & Law, 2008). Bundan tashqari, ijtimoiy tarmoq platformalari mijozlar bilan munosabatlarni mustahkamlab, brendga sodiqlikni shakllantiradi hamda turizm bizneslariga o'z mijozlari bilan uzoq muddatli va barqaror aloqalarni rivojlantirish imkonini beradi (Kong, 2023). Janubiy Afrika turizmi kontekstida ijtimoiy tarmoqlar orqali marketingni joriy etishga ta'sir etuvchi omillar aniqlangan bo'lib, uning to'liq salohiyatidan foydalanish uchun trening va qo'llab-quvvatlash zarurligi ta'kidlangan (Zimeng et al., 2023). Ijtimoiy tarmoq platformalarida raqamli marketingdan samarali foydalanish orqali turizm bizneslari immersiv sayohat tajribalarini yaratishi va kuchli brend imidjini shakllantirishi, natijada mijozlarni jalb etish va ularni uzoq muddat saqlab qolishga erishishi mumkin.

Turizm sanoatida texnologiya, innovatsiya va raqamli marketingning uyg'unlashuvi ushbu elementlarning o'zaro chambarchas bog'liqligini namoyon etadi. Texnologik innovatsiyalar turizm innovatsiyasining muhim tarkibiy qismi hisoblanadi va ularsiz sanoat tub yutuqlarga erishishda hamda an'anaviy sohada zamonaviy sohaga o'tishda jiddiy qiyinchiliklarga duch keladi (Kong, 2023). Kompyuter texnologiyalari va Narsalar interneti (Internet of Things) rivoji turizm sanoatini tubdan o'zgartirib, axborotga asoslangan turizmni rivojlantirish hamda an'anaviy turizm modellarini transformatsiya qilish imkonini berdi (Kong, 2023). Bundan tashqari, turizm sanoatining rivojlanishi va texnologik innovatsiyalar axborotlashtirish darajasining

oshishiga ijobiy ta'sir ko'rsatib, o'z-o'zini mustahkamlovchi mexanizmni shakllantiradi (Zimeng et al., 2023).

Turizm sanoatida ijtimoiy tarmoqlar orqali amalga oshirilgan bir qator muvaffaqiyatli marketing kampaniyalari mavjud bo'lib, ular destinatsiyalarni samarali targ'ib qilish va sayohatchilarni faol jalb etishga xizmat qilgan. Shunday misollardan biri — Avstraliya Turizmining “Dunyodagi eng yaxshi ishlar” (“Best Jobs in the World”) kampaniyasi bo'lib, u foydalanuvchilar tomonidan yaratilgan kontent va inflyuenser marketingdan foydalangan holda Avstraliyani jozibador sayohat yo'nalishi sifatida namoyish etgan (Gretzel & Yoo, 2015). Ushbu tashabbus ishtirokchilarni Avstraliyadagi ideal kasblarni aks ettiruvchi videolar yaratishga undab, nafaqat keng qiziqish uyg'otdi, balki Avstraliyaning turistik jozibadorligiga nisbatan auditoriya orasida hamjihatlik va katta qiziqishni shakllantirdi (Chungyoo & Hakjoo, n.d.). Ijtimoiy tarmoqlarda samarali hikoyaviy yondashuv (storytelling) orqali sayyohlarni jalb etishning yorqin namunasi sifatida Islandiyaning “Inspired by Iceland” kampaniyasini keltirish mumkin. Ushbu targ'ibot dasturi mamlakatning betakror xususiyatlarini yoritishda ramziy voqealar va foydalanuvchi uchun qulay kontentni uyg'unlashtirdi. Ta'sirchan videolar va interaktiv elementlar orqali kampaniya sayohatchilarga faol ishtirok etish va o'z tajribalarini baham ko'rish imkonini berib, auditoriya bilan destinatsiya o'rtasida mustahkam emotsional bog'liqlikni shakllantirdi.

Yangi Zelandiyaning **“100% Pure New Zealand”** kampaniyasini ham alohida ta'kidlash joiz, chunki u bir nechta ijtimoiy tarmoq platformalari bo'ylab uzviy integratsiyani namoyish etib, mamlakatning betakror tabiiy go'zalligi va sarguzashtlarga boy ruhini yorqin aks ettirdi. Kampaniya o'zining ishonchliligini mustahkamlash va potentsial sayohatchilarni Yangi Zelandiyaning betakror maskanlarini kashf etishga ilhomlantirish maqsadida foydalanuvchilar tomonidan yaratilgan kontentdan samarali

foydalandi. Destinatsiyalarning muvaffaqiyatli tajribalari ularning foydalanuvchi tomonidan yaratilgan materiallar, hamkorlik aloqalari, ta'sirchan hikoyalar (storytelling) hamda gamifikatsiya kabi ko'ngilochar elementlardan foydalanish kabi o'ziga xos yondashuvlarni joriy etganini yaqqol namoyon etadi. Ushbu usullardan samarali foydalanish orqali turistik manzillar o'zlarining noyob savdo ustunliklarini (unique selling points) ta'kidlab, sayyohlarni jozibador va ishonarli takliflar orqali jalb etish imkoniyatiga ega bo'ladi. Dastlabki tahlillar raqamli, xususan ijtimoiy tarmoqlar orqali erishilgan qamrov bilan turizm sohasining o'sishi va muvaffaqiyat ko'rsatkichlari o'rtasida kuchli bog'liqlik mavjudligini ko'rsatadi. Tadqiqot natijalari videokontent kabi raqamli vositalardan foydalanish biznes subyektlarining qamrovini va ta'sir doirasini sezilarli darajada kengaytirishini yaqqol tasdiqlaydi. Akademik tadqiqotlar va sanoat hisobotlari kabi turli manbalardan olingan xulosalar bir yo'nalishga ishora qiladi: turizm sanoati muvaffaqiyatida raqamli marketing hal qiluvchi ahamiyatga ega.

Raqamli marketingning turizm korxonalariga ta'sirini o'rganish muhim ilmiy va amaliy xulosalarni ochib berdi. Turli ma'lumotlar asosida raqamli marketingdagi, ayniqsa ijtimoiy tarmoqlarga yo'naltirilgan yangi tendensiyalar sayohat sohasining istiqbollarini tubdan o'zgartirayotganini ko'rsatildi. Ushbu natijalar tezkor o'zgarib borayotgan muhitda muvaffaqiyatga erishishni maqsad qilgan kompaniyalar uchun katta ahamiyatga ega. Raqamli marketingning ulkan ta'sir kuchini anglagan holda, tadqiqot avvalgi sayohatlar jarayonida olingan tajribalar kelajkdagi sayohat rejalari shakllanishiga qanday ta'sir ko'rsatishini ochib beradi. Ushbu bob yakunida raqamli marketing va turizm sohasining dinamik muhiti o'rtasidagi murakkab o'zaro bog'liqlik yanada chuqurroq anglanib, sohaning ilg'or yo'nalishlarida yanada samarali strategiyalar va puxta biznes qarorlarining shakllanishiga zamin yaratiladi.

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### **ADAPTIVE PHYSICAL EDUCATION METHODS FOR THE BLIND AND BLIND IN MODERN SCHOOL CONDITIONS**

**Abstract.** This article is dedicated to methods of adaptive physical education for children with visual impairments. The types and methods of physical exercises for solving the tasks of adaptive physical education are considered.

**Keywords:** adaptive physical education (APE), visual impairment, visually impaired, APE methods.

**Introduction:** The current decline in visual acuity in school-age children can be illustrated with the following example. In the specialized boarding school No. 10 "Nurli maskan" of the city of Nukus under the National Agency for Social Protection under the President of the Republic of Uzbekistan, 274 school-age blind children are studying in the 2023-2024 academic year. The growth trend of children with visual impairments encourages the development of adaptive physical education in modern schools.

Adaptive physical education is a type of activity that allows a person with limited health to prepare for work and labor, to form elementary physical skills.

The adaptive physical training program is compiled taking into account individual approaches to load management, the learner's sensory capabilities, and emotional intensity. Based on this, there are various methods of education aimed at achieving different goals and an individual approach to each child, taking into account their health and developmental characteristics.

The verbal method is one of the typical methods of teaching children with visual impairments: discussion, description, explanation. The most common explanation, in which the student tries to understand and imagine a picture of the action, describes it, the teacher not only conveys the proposed material to the students, but also gives a spatial representation with objects and phenomena. Auditory perception helps children compare verbal explanations with things in reality that define them. Such practice with the help of auditory perception contributes to the creation of conditions for learning the definitions of more and more words and terms used in the assimilation of movements in adaptive physical training [1].

*Various types of verbal explanations are used: accompanying explanation - brief comments and remarks that the teacher uses when performing exercises to improve the*

perception of students, instruction - verbal explanation of the method of the studied action.

Also, the verbal method refers to the method of remote control, which involves remote regulation of the learner's actions using these commands, i.e., "turn right," "turn left," "three steps forward, right, left," etc. Sound information is often used by children with visual impairments. In most exercises, a sound arises in the process of interaction with an object, with the help of which you can form an understanding of the object. Thus, sound is used as a conditional signal [4].

The simulator method is based on the perception of information through the senses of the sensory organs in the learning process. This method teaches the child to feel muscles and joints when performing motor actions, and also allows transferring acquired knowledge into practical actions.

For example, if a child is offered to run after the teacher, catch up with him, then the trainee should be offered to run independently to pay attention to the movements of his arms and legs, to show muscle sensations, and then to achieve a repetition of the muscle forces he felt while running after the teacher.

The method of stimulating motor activity consists in rewarding children, for which it is necessary to allow them to experience the joy of movement, to help them get rid of a complex of irresponsibility, fear of emptiness, and self-doubt. Creating conditions for achieving success whenever possible [3].

In the training of visually impaired people, the visual method occupies a special place, which is one of the features of using teaching methods in the process of familiarization with objects and actions. In the process of examining sports objects, it is recommended to first divide the object into parts, set the goal: determine its shape, surface, quality, and then the student himself tries to fully perceive the object or actions. [5].

Certain requirements are imposed on visual aids, for example, large size of objects and saturation of colors. Red, yellow, green, orange colors are mainly used for the preparation of visual aids. For children to fully comprehend educational literature, demonstrations of movement actions and sports equipment are used. Visualization is always accompanied by oral explanation, which helps to prevent distortions in the representation of the subject and allows stimulating the mental activity of students.

**Conclusion.** When teaching children with visual impairments, as a rule, depending on the lesson objectives, some single method is used, and a multitude of complementary methods are used. A methodology that better ensures the development of children's motor activity is a priority. [1].

Thus, the study and analysis of methods of teaching blind and visually impaired people adaptive physical education contributes to the formation of proper development of children and the correction of their shortcomings.

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## Psychological Characteristics of the Professional and Social Adaptation of Specialists with Visual Impairments

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### Abstract.

This thesis provides a comprehensive analysis of the psychological mechanisms underlying the process of professional and social adaptation of specialists with visual impairments. The role of professional activity in social integration, psychological stability, and self-realization of the individual is revealed. The research findings indicate that vocational training, personal resources, and social support significantly improve the quality of life of persons with visual impairments.

**Keywords:** visual impairment, professional adaptation, social integration, quality of life, personal resources, rehabilitation, inclusive work environment.

**Annotatsiya.** Ushbu tezisdagi ko'rish qobiliyati cheklangan mutaxassislarining kasbiy va ijtimoiy moslashuvi jarayonining psixologik mexanizmlari keng qamrovda tahlil qilinadi. Mehnat faoliyatining shaxsning ijtimoiy integratsiyasi, psixologik barqarorligi va o'zini o'zi ro'yobga chiqarishidagi o'rni ochib beriladi. Tadqiqot natijalari shuni ko'rsatadiki, kasbiy tayyorgarlik, shaxsiy resurslar va ijtimoiy qo'llab-quvvatlash ko'rishda nuqsoni bo'lgan shaxslarning hayot sifatini sezilarli darajada oshiradi.

**Kalit so'zlar:** ko'rish nuqsoni, kasbiy moslashuv, ijtimoiy integratsiya, hayot sifati, shaxsiy resurslar, rehabilitatsiya, inklyuziv mehnat muhiti.

Ko‘rishda nuqsoni bo‘lgan shaxslarning kasbiy va ijtimoiy moslashuvi zamonaviy, maxsus va ijtimoiy psixologiyaning eng dolzarb muammolaridan biri hisoblanadi. Mehnat faoliyati shaxsning jamiyatdagi mavqeini belgilash, iqtisodiy mustaqillikka erishish, ijtimoiy aloqalarni rivojlantirish hamda o‘zini o‘zi ro‘yobga chiqarishning muhim omili sifatida namoyon bo‘ladi [1]. Ko‘rish imkoniyati cheklangan mutaxassislar uchun kasbiy faoliyatga moslashish murakkab kompensator, motivatsion va ijtimoiy-psixologik mexanizmlar orqali amalga oshadi.

Ko‘rish analizatori insonning atrof-muhitni idrok etishida yetakchi rol o‘ynaydi. Shu sababli ko‘rish qobiliyatining yo‘qolishi yoki cheklanishi shaxsning psixik rivojlanishi, o‘z-o‘zini baholashi, ijtimoiy munosabatlari va kasbiy yo‘nalishiga sezilarli ta’sir ko‘rsatadi [7].

Jahon sog‘liqni saqlash tashkiloti (WHO, 2018) ma’lumotlariga ko‘ra, dunyo bo‘yicha 253 milliondan ortiq inson turli darajadagi ko‘rish nuqsonlariga ega [2]. Ushbu shaxslarning katta qismi mehnat bozorida raqobatbardosh bo‘lish, kasb tanlash va ish muhitiga moslashishda jiddiy muammolarga duch keladi.

Tadqiqotlar ko‘rsatishicha, ko‘rish qobiliyati cheklangan shaxslar ko‘pincha past ijtimoiy-iqtisodiy holat, kamsitish, tanqid va salbiy stereotiplar, sog‘liqni saqlash va reabilitatsiya xizmatlariga cheklangan kirish, ishsizlik hamda jamiyat tomonidan yetarli ijtimoiy qo‘llab-quvvatlanmaslik muammolaridan aziyat chekadilar [3]. Ish beruvchilar va atrofdagilar tomonidan bildiriladigan salbiy munosabatlar ishga joylashishdagi kechikishlarning asosiy omillaridan biri sifatida qayd etiladi.

Ko‘rish qobiliyati zaif shaxslarning ijtimoiy moslashuvi va integratsiyasida muhim rol o‘ynovchi shaxsiy resurslarga quyidagilar kiradi: shaxsiy avtonomiya, hayot mazmunini anglash, optimistik dunyoqarash, ijtimoiy aloqalar tizimi, mas’uliyat,

o‘ziga va boshqalarga ijobiy munosabat, kommunikativ bag‘rikenglik hamda psixologik himoya mexanizmlarining past darajada namoyon bo‘lishi [4]. Ushbu resurslarning rivojlanganligi moslashuv jarayonining muvaffaqiyatini belgilaydi.

Ko‘rish qobiliyati cheklangan shaxslarning ijtimoiy integratsiyasi jamiyat hayotining barcha sohalarida – ta’lim, mehnat, bo‘sh vaqt, madaniy va ijtimoiy-siyosiy faoliyatda teng huquqli ishtirok etish imkoniyatlarini yaratishni nazarda tutadi. Integratsiyaning obyektiv mezonlariga ijtimoiy moslashuv darajasi, ijtimoiy-madaniy muhitga kiritilish, bandlik va ijtimoiy farovonlik kiradi. Subyektiv mezonlarga esa moslashuvni o‘z-o‘zini baholash, shaxsiy va ijtimoiy faollik, hayot sifati va faoliyat natijalaridan qoniqish kiradi [5].

Kasbiy tayyorgarlik va rehabilitatsiya dasturlari ko‘rish qobiliyati cheklangan shaxslarning hayot sifati sezilarli darajada oshiradi. WHOQOL-BREF metodikasi asosida o‘tkazilgan tadqiqotlar jismoniy, psixologik, ijtimoiy va ekologik sohalarda ijobiy o‘zgarishlar kuzatilishini ko‘rsatadi [6]. Xususan, o‘z-o‘zini parvarish qilish ko‘nikmalarining rivojlanishi, tibbiy yordamga qaramlikning kamayishi va mustaqil hayot kechirish imkoniyatlarining kengayishi muhim ahamiyat kasb etadi. Zamonaviy texnologiyalar – elektron qurilmalar, ovozli dasturlar, navigatsiya va yo‘nalishli harakat texnologiyalarining integratsiyasi tashqi faoliyat bilan bog‘liq xavflarni kamaytirishga, mehnat unumdorligini oshirishga xizmat qiladi [7].

Ko‘rishda nuqsoni bo‘lgan shaxslar uchun ham sog‘lom shaxslar kabi kasbiy imkoniyatlar va resurslarga teng kirish imkoniyatini ta‘minlash juda muhimdir. Ish sohasida ularga nisbatan kamsitish yoki tarfkashlik adolatsiz va axloqan noto‘g‘ridir. [11] Ko'rish qobiliyati zaif kattalarda ish joyidagi unumdorlikning pasayishi ishchi kuchi ishtirokining past darajasi va depressiya va xavotirning yuqori darajasi

bilan bog'liq bo'lishi mumkin. Ular, shuningdek, qarindoshlari yoki do'stlariga qaram bo'lib qolishlari mumkin.[12]

Xulosa o'rnida shuni aytish joizki ko'rishda nuqsoni bo'lgan mutaxassislarning kasbiy va ijtimoiy moslashuvi ko'p omilli va murakkab jarayon bo'lib, shaxsiy resurslar, kasbiy tayyorgarlik, texnologik qo'llab-quvvatlash va ijtimoiy muhit bilan chambarchas bog'liqdir. Inklyuziv ta'lim va mehnat muhiti, samarali rehabilitatsiya dasturlari hamda ijobiy ijtimoiy munosabatlar ushbu shaxslarning hayot sifatini oshirish va jamiyatda to'laqonli ishtirok etishini ta'minlaydi.

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## The Relationship Between the Level of Self-Awareness and Emotional Stability in Personality

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**Abstract.** This thesis analyzes the relationship between the level of self-awareness and emotional regulation and emotional stability in individuals. Self-awareness is considered as the ability of a person to understand their inner experiences, emotions, and cognitive processes, and its role in managing emotional states is highlighted. Research shows that a well-developed self-awareness enhances the effectiveness of emotional regulation and ensures psychological adaptability of the individual.

**Key words:** self-awareness, emotional regulation, emotional stability, self-regulation.

### Shaxsda o'zini anglash darajasi va emotsional barqarorlik o'rtasidagi o'zaro bog'liqlik

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**Annotatsiya.** Ushbu tezisdagi shaxsda o‘zini anglash (self-awareness) darajasi va emotsional barqarorlik o‘rtasidagi o‘zaro bog‘liqlik masalalari tahlil qilinadi. O‘zini anglash shaxsning ichki kechinmalari, his-tuyg‘ulari va kognitiv jarayonlarini anglash qobiliyati sifatida ko‘rib chiqilib, uning emotsional holatlarni boshqarishdagi roli yoritiladi. Tadqiqotlar shuni ko‘rsatadiki, rivojlangan o‘zini anglash emotsional regulyatsiya samaradorligini oshiradi va shaxsning psixologik moslashuvchanligini ta’minlaydi.

**Kalit so‘zlar:** o‘zini anglash, emotsional regulyatsiya, emotsional barqarorlik, self-awareness, self-regulation.

Zamonaviy psixologiyada shaxsning emotsional barqarorligini ta’minlovchi muhim omillardan biri sifatida o‘zini anglash jarayoni alohida ahamiyat kasb etadi. O‘zini anglash shaxsning o‘zini idrok etishi, ichki kechinmalarini tahlil qilishi va o‘z xatti-harakatlarini ongli boshqarish imkonini beruvchi murakkab kognitiv-emotsional mexanizmdir [1]. Ushbu jarayon emotsional regulyatsiya bilan uzviy bog‘liq bo‘lib, shaxsning stressli vaziyatlarga moslashuvi va ruhiy salomatligini saqlashda muhim rol o‘ynaydi.

O‘zini anglash – bu shaxsning o‘z e’tiborining ob’ekti bo‘la olish qobiliyati bo‘lib, bunda inson o‘z his-tuyg‘ulari, fikrlari va sezgilarini faol ravishda kuzatadi, qayta ishlaydi va baholaydi [2]. Onglilik (consciousness) darajasidan farqli ravishda, o‘zini anglashda shaxs o‘z kechinmalarini tahlil qilish va ular haqida refleksiya yuritish imkoniyatiga ega bo‘ladi. Masalan, “Men hozir ko‘k rangni ko‘ryapman” yoki “Men taom yeyayapman va u menga yoqmoqda” kabi mulohazalar shaxsning o‘zini anglash holatiga kirganini ifodalaydi [3].

Tadqiqotchilarning ta'kidlashicha, o'zini anglash ko'p o'lchovli fenomen bo'lib, shaxsning o'tmishi (avtobiografik xotira), kelajakka yo'naltirilgan rejalari (prospektsiya), shaxsiy xususiyatlari, qadriyatlari va maqsadlari bilan bog'liq jarayonlarni o'z ichiga oladi [4]. Ushbu jarayonlar natijasida shaxsda o'z-o'zini baholash, o'ziga ishonch, o'zini tartibga solish va o'z-o'ziga gapirish kabi muhim psixologik mexanizmlar shakllanadi [5].

Emotsional regulyatsiya esa shaxsning yuzaga kelayotgan his-tuyg'ularni anglash, baholash va ularni mos ravishda boshqarish jarayonidir [6]. Samarali emotsional regulyatsiya emotsional barqarorlikni ta'minlab, impulsiv xatti-harakatlarning oldini oladi, ijtimoiy munosabatlarni yaxshilaydi hamda ruhiy salomatlikni mustahkamlaydi [7]. Aksincha, emotsional regulyatsiya yetarli darajada rivojlanmagan hollarda xavotir, depressiya va stressga bog'liq buzilishlar yuzaga kelishi mumkin [8].

O'zini anglash darajasi yuqori bo'lgan shaxslar o'z emotsiyalarini aniqroq tanib olishlari va ularga ongli tarzda munosabat bildirishlari bilan ajralib turadilar. Bu holat emotsional regulyatsiya strategiyalaridan samarali foydalanishga imkon yaratadi va shaxsning emotsional barqarorligini oshiradi [9]. Masalan, ishdagi muvaffaqiyatsizlikka duch kelgan shaxs o'z his-tuyg'ularini anglab, ularni konstruktiv yo'l bilan qayta ishlashi orqali vaziyatga moslashadi.

Xulosa qilib aytganda, o'zini anglash va emotsional regulyatsiya o'rtasida uzviy bog'liqlik mavjud bo'lib, bu bog'liqlik shaxsning emotsional barqarorligini ta'minlashda muhim ahamiyatga ega. Rivojlangan o'zini anglash emotsional holatlarni samarali boshqarish, stressga chidamlilikni oshirish va shaxsning psixologik

moslashuvchanligini kuchaytiradi. Shu bois, shaxsda o‘zini anglash ko‘nikmalarini rivojlantirish emotsional barqarorlikni mustahkamlashning muhim sharti hisoblanadi.

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## **METHODS FOR DEVELOPING STUDENTS' CREATIVE THINKING IN TEACHING ENGLISH**

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### **Annotation**

This article examines effective pedagogical methods aimed at developing students' creative thinking in English language teaching. It analyzes problem-based learning, storytelling, role-play, creative writing, the use of digital technologies, and the creation of a supportive learning environment as key tools for fostering creativity. Drawing on the ideas of Ken Robinson regarding the development of creativity in education, the article argues that creative thinking is not an innate ability but an essential competence that can be formed through appropriate pedagogical conditions. The findings of the study indicate that these methods contribute to the development of higher-order thinking skills, enhance communicative competence, and strengthen students' motivation and self-confidence. The article emphasizes the necessity of viewing creative thinking as a central didactic principle in modern English language teaching.

**Key words:** creative thinking, English language teaching, problem-based learning, storytelling, role-play, creative writing, digital technologies, creativity-oriented education, learner-centered approach, personal potential development, Ken Robinson's concept

Creative thinking is an essential component of the 21st Century education and plays a crucial role in English language teaching. In an increasingly globalized world,

students must not only acquire linguistic competence but also develop the ability to generate original ideas, solve problems, and express themselves creatively. This article explores effective pedagogical methods that enhance students' creative thinking in English classes, including problem-based learning, storytelling, role-plays, creative writing, technology-enhanced tasks, and supportive classroom environments. The findings highlight that integrating creativity-oriented strategies in English teaching fosters higher-order thinking skills, improves communication abilities, and strengthens students' confidence and motivation. Developing creative thinking in English language teaching has become a vital educational priority. According to Ken Robinson, creativity is not an innate talent possessed by a few, but a fundamental human capacity that can be developed through appropriate educational environments. In his influential work *The Element*, Robinson emphasizes that students reach their highest levels of engagement and creativity when their natural talents, passions, and learning intersect. He argues that traditional education systems often suppress creativity by prioritizing standardized testing and uniform teaching methods over individual strengths and imaginative thinking. This perspective strongly supports the integration of creative approaches in English language teaching, where learners are encouraged to explore language through meaningful, personalized, and imaginative activities. By aligning language instruction with students' interests and creative potential, teachers can foster deeper motivation, originality, and long-term learning engagement. Modern pedagogical approaches view creativity not as a separate ability but as an integral part of effective communication. Students who are encouraged to think creatively become more active participants in classroom discussions, generate original ideas, and engage with language more meaningfully. Creativity promotes intellectual autonomy, strengthens motivation, and helps learners approach tasks with curiosity and confidence. One of the most effective methods for fostering creative thinking is

problem-based learning (PBL). Through PBL tasks, students are presented with complex, real-life problems that require critical analysis, brainstorming, and decision making. These tasks push learners to explore multiple solutions and justify their reasoning. For example, students may be asked to design an ideal school, propose solutions for environmental issues, or manage an imaginary travel scenario. Such activities require meaningful language use and encourage learners to apply vocabulary and grammar in flexible and innovative ways. Storytelling is another powerful tool that nurtures creativity. When students create stories based on pictures, key words, music, or videos, they engage both their imagination and linguistic skills. Retelling familiar stories with alternative endings, creating fictional interviews, designing characters, or turning factual information into a narrative all enhance expressive language use. Storytelling also promotes fluency, coherence, and emotional engagement. Role-play and simulation activities provide students with opportunities to communicate spontaneously in real-life contexts. Situations such as job interviews, emergency problem-solving, hotel reservations, business negotiations, or cultural encounters encourage learners to adapt their speech to different roles and purposes. These tasks strengthen creativity by requiring flexible language use, quick thinking, and improvisation. Students also gain confidence and reduce anxiety when speaking. Creative writing is another essential method that stimulates imaginative thinking. Freewriting, poetry composition, diary entries, fictional dialogues, opinion essays, and narrative transformations allow learners to explore language beyond textbook structures. Creative writing encourages risk-taking, linguistic experimentation, and personal expression. It also enhances vocabulary development, organization of ideas, and stylistic awareness. Robinson's concept of nurturing creativity through flexible, learner-centered education aligns closely with problem-based learning and creative writing tasks. Such methods allow students to discover their "element" by engaging in

activities that combine linguistic competence with personal meaning, curiosity, and imagination. When learners feel that their ideas matter, creativity becomes a driving force rather than a secondary skill. Technology-enhanced tasks further expand opportunities for creative learning. Digital storytelling tools, interactive platforms, collaborative documents, language learning applications, and mind-map software enable students to visualize ideas and express them creatively. Technology increases motivation, supports multimodal learning, and allows students to produce original digital content such as videos, podcasts, posters, or animated stories. When integrated properly, digital tools become powerful instruments of creativity rather than mere supplementary materials. A supportive classroom environment is essential for the development of creative thinking. Students need to feel comfortable expressing ideas without fear of errors or judgment. Teachers play a crucial role in fostering such an environment by encouraging open-ended responses, valuing diverse ideas, providing constructive feedback, and promoting collaboration. When learners perceive the classroom as a safe space for experimentation, their creative potential increases significantly. Overall, the integration of creativity-oriented methods in English language teaching enriches the learning process and contributes to students' cognitive, emotional, and linguistic development. As Ken Robinson highlights, education must move beyond rigid structures and embrace creativity as a core educational value. English language teaching, with its communicative and expressive nature, offers a unique space for nurturing students' creative thinking. By creating environments where learners feel free to experiment, fail, and express individuality, teachers help students develop not only linguistic skills but also the confidence and creativity necessary for lifelong learning. Creativity enables students to use English more naturally and confidently, supports problem-solving abilities, and enhances cultural awareness. It prepares learners not only for academic success but also for real-world

communication in a rapidly changing global environment. Creative thinking is an indispensable element of modern English teaching. Methods such as problem-based learning, storytelling, simulations, creative writing, and digital tools effectively enhance students' creativity, motivation, and linguistic competence. A supportive learning environment further strengthens their ability to generate original ideas and express themselves freely. Incorporating creativity-focused approaches in English lessons prepares students to face future academic, social, and professional challenges with confidence.

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## THE COMPARATIVE STUDY OF FLIPPED LEARNING AND TRADITIONAL LEARNING IN TEACHING ENGLISH.

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### **Abstract:**

This article presents a comparative and statistical analysis of the practical effectiveness of flipped learning and traditional teaching methods in the process of teaching English, based on experimental studies. During the research, the impact of classes organized according to two different pedagogical approaches on students' learning activity, communicative competence, independent learning skills, and level of language acquisition was monitored. Diagnostic results showed that in groups where the flipped learning model was applied, students' oral speech activity, participation in the learning process, and level of independent thinking were significantly higher than in groups taught using traditional methods. Statistical analyses serve to scientifically substantiate the methodological effectiveness of flipped learning in teaching English.

**Keywords:** flipped learning, traditional teaching, English language, experimental studies, monitoring, diagnostics, communicative competence, practical effectiveness.

In recent years, English language education has increasingly focused on learner-centered approaches aimed at improving student engagement and communicative competence. Traditional teaching methods, characterized by teacher-centered instruction and in-class explanations, have long dominated English as a Foreign Language (EFL) classrooms.

However, the emergence of flipped learning has challenged this paradigm by reversing the instructional sequence: students first encounter new material outside the classroom and use class time for interactive activities. Despite growing interest in flipped learning, there remains debate regarding its effectiveness compared to traditional teaching, particularly across different learner levels and learning contexts. This study seeks to address this gap by comparatively examining flipped and traditional instructional models in English language teaching.

The aim of the study is to compare the impact of flipped learning and traditional instruction on students' language achievement, classroom engagement, and communicative skills.

The study of the effectiveness of the flipped learning model in teaching English is considered one of the important research directions in modern pedagogy. The literature review shows that the flipped learning model is based on reorganizing the process of knowledge delivery and its practical application, directing classroom time toward active interaction and collaboration. Bishop and Verleger describe flipped learning as a two-component model consisting of individual learning outside the classroom and interactive activities within the classroom. Bergmann and Sams emphasize that this approach develops students' responsibility and independent learning skills and, particularly in English language teaching, increases communicative engagement. The F-L-I-P model developed by the Flipped Learning Network forms the methodological foundation of flipped learning and defines the teacher's role not as a source of knowledge, but as a facilitator who guides the learning process.

The psychological foundations of flipped learning are associated with Vygotsky's sociocultural theory of learning, which emphasizes the importance of interaction and collaboration in the process of language acquisition. In addition, according to Deci and

Ryan's self-determination theory, ensuring learner autonomy strengthens students' intrinsic motivation, which is clearly manifested in flipped learning environments.

However, the literature review also indicates that flipped learning is not equally effective in all contexts. Kirschner, Sweller, and Clark argue that for beginner-level learners, traditional teacher-centered explanations are necessary when learning complex grammatical concepts. Therefore, the traditional teaching model retains its significance as an important methodological foundation in English language teaching. Studies conducted by Basal as well as Al-Harbi and Alshumaimeri demonstrate that flipped learning significantly enhances student engagement and speaking skills in EFL contexts. At the same time, it is emphasized that the choice of method depends on learners' proficiency level, technological resources, and the teacher's methodological preparedness. Consequently, the literature review scientifically substantiates the need to apply flipped and traditional teaching models in English language instruction not as opposing approaches, but as complementary methods. The methodology of the present study was developed precisely on the basis of these theoretical conclusions.

This study aims to examine the impact of flipped learning and traditional teaching models on the English language learning process and to determine their practical effectiveness. The research was conducted using a quasi-experimental comparative research design, which is widely applied in pedagogical studies and allows for an objective evaluation of instructional methods under real educational conditions.

The study followed a pre-test – post-test – control group (observation) model. This design made it possible to identify differences between students' initial proficiency levels and their learning outcomes at the end of the experimental period, thereby enabling a comparative analysis of the effectiveness of pedagogical interventions.

The participants consisted of 40 10<sup>th</sup> -grade students from a general secondary school. Based on the results of an initial diagnostic test, the participants were equalized in terms of proficiency level and then divided into an experimental group and a control group:

Experimental group (20 students) – flipped learning model

Control group (20 students) – traditional teaching model

The experiment was conducted over a six-week period. In the control group, instruction was organized according to a traditional, teacher-centered model. Classroom activities in this group were based on direct teacher explanations, systematic presentation of grammatical and lexical material, and reproductive exercises. Knowledge consolidation was mainly carried out through homework assignments and assessment tasks. In this model, the teacher functioned as the primary controller and evaluator of the learning process. In contrast, the experimental group was taught using the flipped learning model. In accordance with this approach, students became familiar with new instructional materials independently before class. For this purpose, video lectures, electronic instructional texts, interactive tasks, and digital resources were used. Classroom time was then devoted to communicative and interactive activities aimed at the practical application of knowledge. These included discussions, role-playing, problem-solving tasks, pair work, and group work. In this process, the teacher assumed the role of a facilitator, guide, and advisor.

A mixed-methods approach was employed for data collection and analysis, incorporating the following methods:

- pedagogical observation (to identify students' activity levels, degree of interaction, and intensity of participation);
- pre- and post-tests (to assess quantitative changes in language knowledge and skills);
- diagnostic monitoring (to determine learning progress dynamics);

- comparative statistical analysis (to summarize results based on percentages and mean scores).

The pre- and post-tests were used to identify changes in students' grammatical knowledge, vocabulary range, as well as speaking and listening comprehension skills. Pedagogical observation provided qualitative indicators, including student engagement, level of independent thinking, and the development of communicative competence. The collected data were systematized, and the pedagogical effectiveness of the flipped and traditional teaching models was comparatively analyzed.

This methodological approach made it possible to scientifically identify the advantages and limitations of different instructional models in English language teaching and to draw conclusions regarding their rational application in educational practice.

The results obtained during the experimental phase of the study demonstrated significant differences in the effectiveness of the flipped learning and traditional teaching models in English language instruction. Comparative statistical analysis of the pre-test and post-test results revealed positive changes in both groups; however, in terms of growth dynamics and qualitative indicators, the experimental group showed clear superiority. In particular, students in the experimental group taught using the flipped learning model exhibited substantial improvement in communicative competence, specifically in speaking and listening comprehension skills. Compared to the pre-test results, post-test outcomes indicated an average increase of 18–22% in students' oral language activity and a 20–25% increase in classroom participation. The findings of pedagogical observations further confirmed that the frequency of interaction and the level of independent expression of ideas were notably higher in the experimental group.

In the control group, where the traditional teaching model was applied, the acquisition of grammatical knowledge and lexical items showed stable results. However, the extent to which this knowledge was actively applied in real communicative situations was

relatively limited, and indicators of communicative engagement lagged significantly behind those of the experimental group. This finding suggests that traditional instruction is primarily oriented toward the development of reproductive knowledge rather than active communicative use.

The obtained results are methodologically and theoretically consistent with the conclusions of previous empirical studies on the flipped learning model. The findings indicate that directing classroom time toward active communication and interactive tasks serves as a decisive factor in the development of students' communicative competence. This outcome can be explained through theories of active learning and interaction. Under flipped learning conditions, students entered the classroom having already prepared for the lesson, which allowed higher-level cognitive processes—such as analysis, evaluation, and application—to take precedence during class time. This, in turn, led to greater fluency in speaking, stronger listening comprehension skills, and more conscious use of language units in real communicative situations. As a result, students transitioned from passive recipients of knowledge to active users of the language. At the same time, the research results do not negate the methodological significance of the traditional teaching model. In particular, for beginner-level learners, a teacher-centered approach proved to be more effective in the systematic and structured teaching of complex grammatical concepts. From the perspective of cognitive load theory, this finding supports the role of traditional instruction as an important foundational approach. Thus, the results of the study suggest that in English language teaching, flipped and traditional learning models should not be viewed as opposing methods, but rather as complementary and integrative approaches. The choice of method should be closely aligned with learners' proficiency levels, instructional objectives, and pedagogical conditions.

This study made it possible to comparatively and statistically analyze the practical effectiveness of flipped learning and traditional teaching models in English language instruction using a quasi-experimental approach. The findings indicate that both approaches possess distinct pedagogical strengths; however, their instructional effectiveness is directly dependent on students' proficiency levels and the specific teaching objectives. The research scientifically confirmed that the flipped learning model is highly effective in developing students' communicative competence, increasing classroom engagement, and fostering independent learning skills. In contrast, the traditional teaching model proved to be a significant methodological foundation for establishing grammatical competence and ensuring the systematic acquisition of knowledge.

In conclusion, the highest level of effectiveness in English language teaching can be achieved through an integrative model that harmoniously combines elements of both flipped and traditional instruction. The results of this study provide a scientific and practical basis for improving English language teaching methodology, for the gradual implementation of flipped learning elements in educational practice, and for conducting broader empirical research in the future.

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## The Envelope of a Family of Curves in the Plane

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### Abstract

The concept of the envelope of a family of curves plays a significant role in differential geometry, mathematical analysis, and applied mathematics. An envelope represents a curve that is tangent to each member of a given family of curves at some point. This paper presents a systematic study of envelopes of one-parameter families of curves in the plane. Theoretical foundations, analytical methods for determining envelopes, and geometric interpretations are discussed in detail.

**Keywords:** envelope of curves, family of curves, plane geometry, differential equations, parametric curves

### Introduction

The study of families of curves and their envelopes is a classical topic in mathematics, with origins tracing back to the works of Leibniz, Euler, and Lagrange. In plan geometry, a family of curves is typically defined by an equation involving a parameter, and the envelope of this family represents a curve that is tangent to each member of the family at least at one point..

The purpose of this paper is to present a comprehensive and structured analysis of envelopes of families of curves in the plane. The objectives of the study are:

- to define and formalize the concept of an envelope;
- to describe analytical methods for constructing envelopes;
- to provide illustrative examples of typical curve families;

to discuss applications and limitations of the envelope concept.

## Methods

### Definition of a Family of Curves

A one-parameter family of curves in the plane is commonly represented by an equation of the form

$$F(x, y, a) = 0,$$

where  $x$  and  $y$  are Cartesian coordinates, and  $a$  is a real parameter. Each fixed value of  $a$  defines a distinct curve in the plane.

### Analytical Method for Determining Envelopes

$$\tau = 2 (\sigma_t (\sigma_t + \sigma'))$$

$\sigma'$  is the effective normal stress

$\sigma_t$  is the tensile strength of the material

$$\tau = 2\sigma_t + \sigma' \tan(\phi') \text{ Where, } \phi' \text{ is the angle of friction on the crack surfaces.}$$

This system expresses the condition that the envelope is tangent to a member of the family at the point of contact. The partial derivative condition ensures that nearby curves intersect the envelope at the same point.

### Parametric Representation

In many cases, it is convenient to represent the envelope parametrically. Solving the system for  $x$  and  $y$  in terms of the parameter yields:

$$x = x(a), \quad y = y(a),$$

which defines the envelope as a parametric curve.

### Illustrative Examples

Several standard families of curves were analyzed, including:

- families of straight lines;
- families of circles with varying radii;
- families of parabolas and other conic sections.

Symbolic computation and graphical visualization were used to verify analytical results.

## Results

### Envelope of a Family of Straight Lines

Eliminating the parameter yields the envelope:

$$y^2 = 4x,$$

which is a parabola.

### Envelope of a Family of Circles

$$\sigma' = \sigma'_1 + \sigma'_2 m^3 + s$$

$$1 - 3 \frac{c_1}{\sigma'_1} \left( \frac{c_1}{\sigma'_1} \right)$$

are the major and minor effective principal stresses at failure is the uniaxial compressive strength of the intact rock material are material constants, where  $s = 1$  for intact rock.

$$\sigma'_1 + \sigma'_2 \left( \frac{\sigma'_1 - \sigma'_2}{\sigma'_1} \right)^{1/3} d\sigma'^{-1/3}$$

$$\sigma'_1 = 1 - 3 \frac{c_1}{\sigma'_1} \left( \frac{c_1}{\sigma'_1} \right)$$

$$n \frac{2}{2} \left| d\sigma'_1 \right| \left| \frac{1}{d\sigma'_1} + 1 \right| \left( 3 \right)$$

Consider the family of circles defined by

$$(x - a)^2 + y^2 = a^2.$$

Applying the envelope condition results in a straight line, demonstrating that envelopes may be curves of a different type than the original family members.

## **Existence Conditions**

The results show that not every family of curves admits an envelope. The existence depends on the smoothness of the function  $F$  and the solvability of the envelope system. Singular points and degenerate cases may prevent the formation of a well-defined enveloped.

## **Conclusion**

This paper has presented a detailed study of the envelope of a family of curves in the plane. By employing analytical and parametric methods, conditions for the existence and construction of envelopes were established. The results highlight the geometric significance and practical importance of envelopes across various scientific disciplines.

Future research may focus on numerical approaches, envelopes of multi-parameter families, and extensions to surfaces in three-dimensional space.

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## MEASURES TO INCREASE THE EFFICIENCY OF SERVICE ENTERPRISES

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**Abstract.** This article examines the issues of improving the efficiency of small enterprises operating in the service sector. Under the conditions of innovative development, the study highlights key directions for ensuring the competitiveness of small service enterprises, improving financial support mechanisms, developing human capital, and forming innovative infrastructure. In addition, practical recommendations are proposed to ensure the sustainability of small enterprises through service quality management and the development of innovative activities.

**Keywords.** Small business, service sector, efficiency, innovation, competitiveness, infrastructure.

In the context of innovative development of the economy, it is achieved by increasing the efficiency of enterprises in the service sector, ensuring their competitiveness in the services market, improving quality indicators through innovative activities, and increasing the level of intellectualization of labor processes. This goal cannot be achieved without fully transitioning the economy of our republic to an innovative model, which requires the creation of an effective system of stimulating the sustainable development of the service sector in the country and the practical implementation of innovative ideas, developments and technologies in priority sectors of the industry.

Despite the conditions created for the development of business in our country today, it still has its own main problems, which include: the presence of high credit rates; limited financial resources for the implementation of activities; high rental prices; shortage of qualified workers; fundamental changes in the government's economic policy; the inability of most enterprises to cope with the high level of competition;

problems with registering entrepreneurship; lack of available premises for enterprises; problems with entering foreign markets, etc.

Let's focus on the main characteristics of these problems.

1. High credit rates for entrepreneurial activity. It is known that most business entities start their activities by obtaining loans. Therefore, in order to ensure the solvency of service enterprises on credit and to develop entrepreneurial activity, it is necessary to ensure that credit rates are provided at favorable interest rates. In addition, many banks and financial institutions no longer risk granting loans to entrepreneurs who have just started their business and assess their repayment guarantees at a low level. This leads to obstacles to entrepreneurial activity based on economic and administrative restrictions.
2. Limited financial resources. Another problem of service enterprises at the initial stage of their activity is the limited funds available to them and borrowed from banks or other legal entities to expand their scope of activity. It is almost impossible for a new entrepreneur to get a loan. Most new entrepreneurs are forced to avoid using loans and credits due to their impossibility. As a result of their receipt, 60% of enterprises fail in the first two years of operation. Another reason is the high risks associated with lending to businesses and the general costs of banks, which are almost the same as for loans.
3. High rental fees. This is a serious obstacle for businesses, as the lack of state support makes it difficult to purchase or rent land or buildings. It is almost impossible to get a loan in this process. New buildings of this type are being built very rarely, and their cost is even higher. Nowadays, many enterprises rent one office space and divide it into parts. Over the past 3 years, the share of such enterprises has increased from 3.0% to 15.0%.
4. Lack of qualified workers in service enterprises. Enterprises have problems with hiring qualified specialists in any field. In market conditions, large companies hire more qualified workers, who can offer incentives in the form of higher salaries and bonuses. Enterprises operate in a "fast-paced world" where the information environment is

constantly changing, managers must constantly monitor changes in their field of activity and adapt to new conditions. Assessing the reasons for the closure of business entities, more than half of the business leaders surveyed believe that this situation is associated not only with environmental factors, but also with low qualifications of entrepreneurs. Therefore, for enterprises, improving the skills and training of existing employees, obtaining the necessary business and specialized knowledge through distance learning and consulting remains an urgent problem.

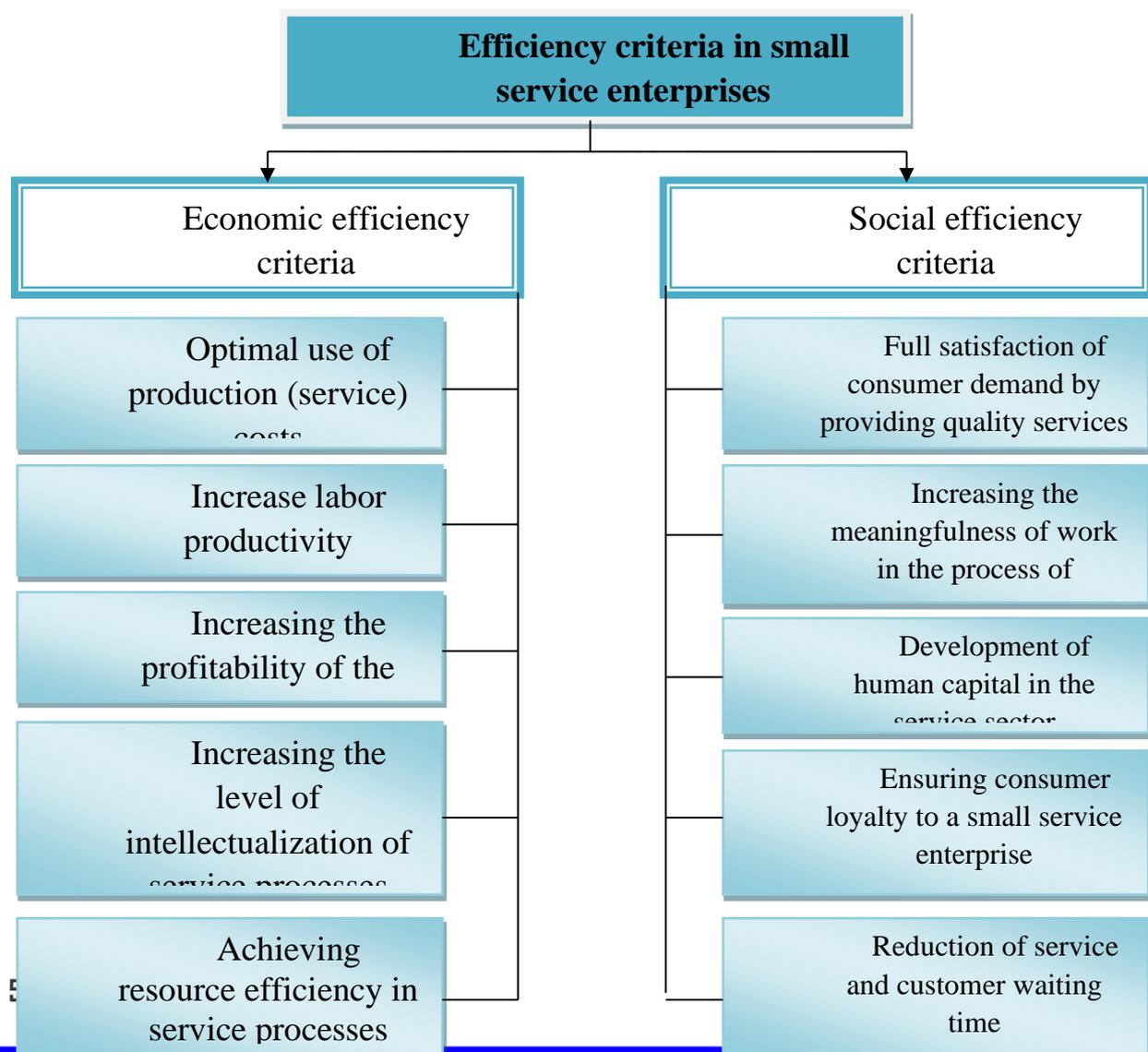
5. The problem of service enterprises entering the domestic market. The problem that any new entrepreneur faces is that if his product (service) is not a “pioneer” in this area, it is quite problematic to enter the market. Large companies can advertise their products (services), reduce prices and profit from turnover, and even at some point sell the product at cost to attract attention to it. One of the most common ways for a business to enter the market is the high quality of the product (service) they produce.

6. Other problems associated with the activities of service enterprises. These problems include: low level of infrastructure development; the presence of administrative barriers to state support for business; existing monopolies in some areas of service provision, etc.

In order to achieve the efficiency of enterprises in the service sector, it is important to develop a promising strategy aimed at ensuring their competitiveness, improving the quality of services, developing human resources in enterprises in the sector, and introducing innovations into service processes, taking into account internal and external factors of the development of the services market.

The system of management of innovative activities of service enterprises has a complex system structure. Therefore, when forming the system of management of innovative activities, the approaches and principles adopted for basic and complex systems should be taken into account.

The expected effect from the implementation of the strategy is aimed at increasing the efficiency of service enterprises, and its implementation will create a basis for achieving target indicators for the adoption of state target programs and programs for sustainable development of enterprises in the industry. Increasing the efficiency of enterprises in the service sector is of great strategic importance in the context of innovative development of the economy. The results of the study show that the sustainable operation and competitiveness of service enterprises are closely related, first of all, to the introduction of innovative approaches, the effective use of financial resources, increasing human resources, and improving the quality management system of services.



**Figure 1.1. Criteria for social and economic efficiency in small service enterprises**

Despite the conditions created for business development in our country, high credit rates, limited financial resources, a shortage of qualified personnel, and insufficiently developed innovation infrastructure negatively affect the activities of service enterprises. Eliminating these problems requires a comprehensive and systematic approach.

Based on the above, we consider it appropriate to make the following proposals to increase the efficiency of enterprises in the service sector:

- improving financial support mechanisms for service enterprises, in particular, the widespread introduction of preferential loans, leasing and venture financing instruments;
- strengthening the activities of technoparks, business incubators and innovation centers through the development of innovation infrastructure and expanding their use by enterprises;
- increasing human resources capacity in service enterprises, developing a system of retraining and advanced training of employees based on modern forms of education;
- expanding competitive types of services that meet market requirements by introducing and improving a service quality management system;
- forming an innovation management system in service enterprises and regularly monitoring the effectiveness of implementing innovation projects.

The implementation of these proposals in practice will serve to increase the efficiency of enterprises in the service sector, strengthen their competitiveness, and ensure sustainable economic development.

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## The Educational Significance of the Scholarly Heritage of Great Thinkers

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**Abstract.** In the thesis, the works of scholars who lived and worked in our country, their rich spiritual and educational heritage were analyzed. Philosophical and mystical views advanced by scholars in their scientific and literary heritage were analyzed through excerpts from their works. Also, his views and philosophical observations on the sciences of tafsir, hadith, kalam, Sufism, and Aqeedah were explained through generalizations based on examples.

**Keywords:** heritage, science, enlightenment, art, lore, philosophical, work, creativity, spirituality, love.

**Аннотация.** Тезисда юртимиздан яшаб ижод этган алломалар ижоди, уларнинг бой маънавий-маърифий мероси таҳлилга тортилган. Алломалар илмий ва адабий меросида илгари сурган фалсафий, ирфоний қарашлари асарларидан олинган парчалар орқали таҳлил қилинган. Шунингдек, тафсир, ҳадис, калом, тасаввуф, ақида илмлари борасидаги қарашлари, фалсафий мушоҳадалари мисоллар асосида умумлашма фикрлар орқали шарҳланган.

**Калит сўзлар:** мерос, илм, маърифат, санъат, ирфон, фалсафий, асар, ижод, маънавият, муҳаббат.

Минтақамиз алломаларининг илм-фан, маданият, адабиёт, санъат, ислом илмлари ривожига қўшган ҳиссаси беқиёсдир. Хусусан Имом Бухорий, Имом Термизий, Абу Мансур Мотуридий, Маҳмуд Замахшарий, Бурҳонуддин

Марғиноний, Қафғол Шоший, Абдуҳолиқ Ғиждувоний, Баҳоуддин Нақшбанд, Мустамлий Бухорий, Колободий Бухорий, Нажмиддин Кубро, Ҳаким Термизий, Аҳмад Яссавий ва бошқа кўплаб иждокор-алломаларимизнинг илм, маърифат ривожига қўшган ҳиссасини тилга олиш мумкин. Ҳар бир аллома ёки иждокор ўз даври учун бой илмий ва иждодий мерос қолдирган.

Маълумки, юртимиз алломалари иждоди, уларнинг асарлари хилма хил ва кенг фалсафий мушоҳадага бой мерос ҳисобланади. Хусусан буюк муҳаддис Имом Бухорий ҳадис илми билимдони бўлибгина қолмай, балки тафсир илми ривожига ҳам муносиб ҳисса қўшган аллома саналади. Олим “ал-Жомийъ ас-саҳих” асарида тафсирга оид ҳадисларни ҳам жамлаган бўлиб, алоҳида тафсирга бағишлаган “Қуръон тафсири китоби”ни ҳам ёзган, унинг бобида, “Фотиҳа” сурасини тафсир қилиб, унда Абу Саид ибн Муаллодан ривоят қилинган Қуръоннинг энг улуғ сураси “Фотиҳа” экани тўғрисидаги ҳадисни келтириб ўтган. Шунингдек, мазкур бобда, жами 358 та оятга шарҳ берган[1:149]. Бундан кўринадики, муҳаддис, фақат ҳадис илми билан чекланмай, балки муфассир олим сифатида тафсир илми борасида ҳам ўзининг қимматли илмий қарашларини баён этиб кетган.

Араб тили грамматикасини чуқур ўрганиб, арабларга ўз тилидан сабоқ берган ва “Хоразм фаҳри”, “Араб ва ғайри араблар устози” деган юксак номларга сазовор бўлган буюк ватандошимиз Маҳмуд Замахшарий фаолияти ҳам ўзига хос ва араб тилшунослигини ўрганишда алоҳида ўринга эга. Замахшарий тафсир, ҳадис, адабиёт, фикҳ илмлари бўйича ҳам бебаҳо асарлар яратган йирик олимдир. Айниқса, машҳур “ал Кашшоф” асари дунёнинг ислом олий даргоҳларида Қуръон тафсирига оид муҳим дарслик сифатида ўқитиб келинади.

Шунингдек, Хожагон тариқати асосчиси, ориф зот Абдуҳолиқ Ғиждувоний ирфоний қарашлари ҳам ўзининг маърифий аҳамияти юқори эканлиги билан

ажралиб туради. Аллома юксак инсоний сифатларни, умуминсоний ғояларни ўз асар ва ўғитларида илгари сурган. Хусусан, “Васиятнома” рисоласида, “Эй, фарзанд! Мен сенга барча ҳолатларда илм, адаб ва тақвода бўлишингни васият қиламан! Ўтган уламоларнинг изидан юришинг лозим. Аҳли суннат ва жамоатнинг мулозими бўл!”, дея комиллик ва етукликка чақиради. Ғиждувонийнинг илмий-адабий меросида камтарликка, ҳалол меҳнат қилиш, халқ дарди билан яшаш, умрни қадрлаш, хотиржамликка даъватни кўрамиз. Ул зот қарашларида халқ билан бўлиш, касб-ҳунар орқали инсонларга манфаати етиш, эзгулик қилиш ғояси илгари сурилади. Чунончи, ўғитларида “Халқ оғирини енгиллатиш лозим, бу муяссар бўлмаганда ҳалол касб-ҳунар эгаллаб, даст ба кор ва дил ба ёр ҳолатида бўлмоқлик амри муқаррар турар”, дейди [2:25].

Тасаввуф таълимотининг илмий-назарий асосларини ҳамда комил инсон концепциясини ўз асарлари орқали тадқиқ этган, баъзида амалий ҳаётида яшаб, сўфий, ориф, орифуллоҳ мақомига етган буюк аждодларимизнинг жамият маърифий такомили ривожига кўшган ҳиссасини ҳам алоҳида таъкидлаш мумкин. Хусусан, Калободий Бухорийнинг тасаввуф илмига бағишланган “ат-Таърруф ли-мазҳаб аҳл ат-тасаввуф” (“Тасаввуф аҳли йўли билан танишув”) мўъжаз асарига Мустамлий Бухорий жавобан “Шарҳ ат-Таърруф ли-мазҳаб ат-тасаввуф” (“Тасаввуф йўли билан танишув” асарига шарҳ”) номли кенг шарҳ ёзиб, тасаввуф назарияси бўйича яхлит ва мукамал маълумотларни асослаб берди. Аллома тасаввуфий истилоҳларни атрофлича тушунтирар экан, ҳар бир тушунча изоҳида охир-оқибат комил инсон сифатлари мужассамини кўрамиз. Жумладан, аллома ёзади: “...Муҳаббат йўқ жойда маърифат ҳам бўлмайди. Маърифат бўлмаган жойда эса, иймон ҳам йўқдир”, дейди [3:149]. Муҳаббат деганда, илоҳий муҳаббатга олиб борадиган барча эзгу фазилатларга эга бўлиш назарда тутилмоқда. Яхши сифатларга эга бўлган инсонда маърифат, яъни билим бўлади.

Аллома маърифат тушунчасини мукаммал даражада Аллоҳни билиш, таниш, унга муносиб банд бўлиш сифатида баҳолайди. Таъкидлаш лозимки, ўша даврда, тасаввуф илмига нисбатан турли салбий фикрлар юзага келган пайтда, асар ана шундай қарашларга холис ва илмий баҳо бериш мақсадида ёзилган.

Умуман олганда, алломаларнинг илмий-маърифий мероси бой ва хилма-хил бўлиб, ахлоқий-тарбиявий жиҳатдан юқоридир. Улар меросининг мазмун-моҳияти баркамол, етук инсон бўлишга қаратилганлиги билан аҳамиятлидир. Зеро, неча асрлар давомида ахлоқий тарбиявий вазифани амалга ошириб келган мазкур бебаҳо мерос яна неча асрлар ўтса ҳамки, ўз маърифий аҳамиятини йўқотмаган ҳолда жамият ва инсон маънавий ривожини учун хизмат қилади.

#### **Фойдаланилган адабиётлар рўйхати:**

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## **N. V. Gogol's Short Story 'The Overcoat' and Its Significance in Real Life**

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**Annotation.** This article analyzes N.V. Gogol's short story "The Overcoat" as a literary work reflecting real social problems of the nineteenth century. The focus is placed on the main character and his position in society. The life significance and modern relevance of the story are discussed.

**Keywords:** N.V. Gogol, The Overcoat, little man, society, social problem.

### **Повесть Н.В. Гоголя «Шинель» и её значение в реальной жизни**

**Аннотация.** В статье рассматривается повесть Н.В. Гоголя «Шинель» как произведение, отражающее реальные социальные проблемы общества XIX века. Основное внимание уделяется образу главного героя и его положению в социальной среде. Анализируются жизненное значение произведения и его актуальность для современного читателя.

**Ключевые слова:** Н.В. Гоголь, «Шинель», маленький человек, общество, социальная проблема.

**Annotatsiya.** Ushbu maqolada N.V. Gogolning «Shinel» asari XIX asr jamiyatidagi ijtimoiy muammolarni yorituvchi asar sifatida tahlil qilinadi. Asarda bosh qahramon obrazi va uning jamiyatdagi o'rnini ko'rib chiqiladi. Asarning hayotiy ahamiyati va bugungi kundagi dolzarbligi yoritib beriladi.

**Kalit so'zlar:** N.V. Gogol, Shinel, kichik odam, jamiyat, ijtimoiy muammo.

**Введение.** Повесть «Шинель» Н.В. Гоголя является одним из наиболее известных произведений русской литературы XIX века. В этом произведении автор поднимает важные социальные вопросы, связанные с положением простого человека в обществе. Гоголь показывает, как равнодушие и жесткость социальной среды могут повлиять на судьбу личности.

Актуальность данной темы заключается в том, что проблемы, описанные в повести, можно наблюдать и в современной жизни. Целью статьи является анализ жизненного значения повести «Шинель» и её роли в отражении социальной реальности.

**Методы исследования.** В процессе написания статьи использовался анализ художественного текста, а также описательный и сравнительный методы. Произведение рассматривалось с точки зрения его содержания, образов и идейной направленности. Также учитывался социально-исторический контекст эпохи Гоголя.

**Результаты.** В ходе анализа было выявлено, что главный герой повести Акакий Акакиевич Башмачкин является типичным представителем «маленького человека». Он занимает низкое положение на службе и не имеет возможности защитить себя от несправедливого отношения окружающих. Его жизнь однообразна и лишена радости.

Шинель в произведении приобретает особое значение. Для героя она становится символом надежды на лучшую жизнь и уважение со стороны общества. Однако утрата шинели показывает, насколько человек оказывается беззащитным перед равнодушием окружающих и властью.

**Обсуждение.** Гоголь через судьбу своего героя показывает проблемы социального неравенства и безразличия. Общество не замечает человека до тех пор, пока он не становится жертвой несправедливости. Эти идеи делают повесть глубокой и жизненной.

Несмотря на то что произведение было написано в XIX веке, его проблемы остаются актуальными. В современном мире также можно встретить людей, чьи интересы и чувства игнорируются обществом.

**Заключение.** Повесть Н.В. Гоголя «Шинель» имеет большое жизненное значение, так как поднимает важные социальные и нравственные вопросы. Автор показывает, насколько важно уважительное отношение к человеку независимо от его положения. Произведение заставляет задуматься о справедливости и человеческом достоинстве, поэтому остаётся актуальным и сегодня.

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## Lexical Characteristics of the Representation of Historical Figures in English and Uzbek Literature

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### Abstract

This thesis analyzes the lexical features used in the representation of historical figures in English and Uzbek literature. The study highlights how lexical choices reflect cultural values, historical memory, and the author's worldview. The research demonstrates that in Uzbek (Eastern) literary tradition, historical figures are predominantly portrayed through honorific, moral, and metaphorical vocabulary, emphasizing spiritual ideals and ethical perfection. In contrast, English (Western) literature tends to employ descriptive, socio-political, and psychologically neutral lexical units, presenting historical figures as real individuals shaped by social and political contexts. The findings confirm that the lexical construction of historical figures is not universal but culturally conditioned, reflecting different aesthetic and ideological approaches in Eastern and Western literary traditions.

**Keywords:** historical figure, lexical characteristics, cultural codes, literary tradition, ideological representation, Eastern and Western literature.

### Annotatsiya

Ushbu tezis ingliz va o'zbek adabiyotida tarixiy shaxslar obrazini yaratishda qo'llaniladigan leksik xususiyatlarni tahlil qilishga bag'ishlangan. Tadqiqotda tarixiy shaxs obrazining shakllanishida leksik vositalarning madaniy qadriyatlar, tarixiy xotira va muallif dunyoqarashi bilan uzviy bog'liqligi ochib beriladi. Natijalarga ko'ra, o'zbek (Sharq) adabiyotida tarixiy shaxslar asosan ehtirom, ma'naviylik va metaforik leksika orqali ideallashtirilsa, ingliz (G'arb) adabiyotida tarixiy shaxslar deskriptiv, ijtimoiy-siyosiy va psixologik jihatdan neytral birliklar orqali real tarixiy sharoitda tasvirlanadi. Bu farq tarixiy shaxs obrazining madaniy kodlar asosida shakllanishini tasdiqlaydi.

**Kalit so'zlar:** tarixiy shaxs, leksik xususiyatlar, madaniy kodlar, adabiy an'ana, ideallashtirish, realizm.

Tarixiy shaxs obrazining badiiy adabiyotda ifodalanishi muallif tomonidan tanlangan leksik birliklar orqali namoyon bo'ladi va bu birliklar muayyan madaniy hamda tarixiy kontekst bilan uzviy bog'liqdir. Tarixiy shaxs obrazini shakllantirish jarayonida leksika nafaqat informativ, balki baholovchi va ideologik vazifani ham bajaradi. Shu bois tarixiy shaxsga nisbatan qo'llanilgan so'zlar jamiyatning tarixiy xotirasi, axloqiy me'yorlari va estetik qarashlarini aks ettiruvchi muhim ko'rsatkich hisoblanadi.

Sharq adabiy an'alarida tarixiy shaxs obrazini yaratishda diniy-axloqiy mazmunga ega leksik qatlam yetakchi o'rin egallaydi. O'zbek mumtoz adabiyotida tarixiy shaxslar ko'pincha ehtirom va ulug'lash ma'nosini ifodalovchi birliklar orqali tasvirlanadi. "Hazrat", "ulug'", "donishmand", "orif", "adil hukmdor" kabi so'zlar tarixiy shaxsni axloqiy ideal darajasiga ko'taradi. Bunday leksik birliklar shaxs obrazining ideallashtirilishiga xizmat qilib, uni real tarixiy individdan ko'ra, ma'naviy va tarbiyaviy timsol sifatida talqin etishga yo'naltiradi.

Bundan tashqari, Sharq adabiyotida metaforik va ramziy leksikaning faol qo'llanilishi tarixiy shaxs obrazining estetik ta'sirchanligini oshiradi. "Ilm quyoshi", "adolat dengizi", "xalq otasi" kabi metaforalar tarixiy shaxsni ilohiylashtirilgan yoki komillikka yaqin obraz sifatida ko'rsatadi. Ushbu yondashuv Sharq adabiy tafakkurida tarixiy shaxsning asosiy vazifasi jamiyat uchun axloqiy me'yor va ibrat namunasi bo'lishi bilan izohlanadi.

G'arb adabiyotida esa tarixiy shaxs obrazini yaratishda deskriptiv va ijtimoiy-siyosiy leksika ustuvorlik qiladi. Ingliz adabiyotida tarixiy shaxslar "ruler", "politician", "strategist", "leader", "reformer" kabi birliklar orqali real tarixiy sharoit va ijtimoiy munosabatlar doirasida tasvirlanadi. Bu yerda tarixiy shaxs ilohiy yoki mutlaq axloqiy timsol emas, balki muayyan tarixiy vaziyatda qaror qabul qilgan va jamiyat taqdiriga ta'sir ko'rsatgan real shaxs sifatida talqin etiladi.

G'arb adabiyotiga xos yana bir muhim xususiyat tarixiy shaxs obrazini psixologik jihatdan tahlil qilishga moyillikdir. Shaxsning ichki ziddiyatlari, shaxsiy motivlari va ruhiy kechinmalari tasvirlanishi tarixiy obrazning ko'p qirrali va murakkab xarakterini ochib beradi. Shu sababli G'arb adabiyotida tarixiy shaxs obrazi ideallashtirishdan ko'ra, tahliliy va analitik yondashuv asosida yaratiladi.

Natijada, Sharq va G'arb adabiyotlarida tarixiy shaxs obrazining leksik shakllanishi turli madaniy kodlar asosida yuzaga keladi. Sharqda tarixiy shaxs jamiyat uchun axloqiy va ma'naviy ideal sifatida talqin qilinsa, G'arbda u tarixiy jarayonlarning faol subyekti sifatida ko'rib chiqiladi. Ushbu farqlar tarixiy shaxs obrazining leksik jihatdan universal emas, balki madaniy jihatdan shartlangan hodisa ekanini tasdiqlaydi.

## **Xulosa**

Xulosa qilib aytganda, ingliz va o‘zbek adabiyotida tarixiy shaxs obrazining leksik shakllanishi turli madaniy va estetik yondashuvlar bilan belgilanadi. O‘zbek adabiyotida ideallashtiruvchi va ma’naviylashtiruvchi leksika ustuvor bo‘lsa, ingliz adabiyotida realistik va analitik leksik birliklar yetakchi o‘rin egallaydi. Ushbu farqlar tarixiy shaxs obrazini madaniy xotira va qadriyatlar tizimi bilan bog‘liq holda o‘rganish zarurligini ko‘rsatadi.

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## DIDACTIC POTENTIAL OF ART-HISTORICAL WORKS IN DEVELOPING COLLABORATIVE SKILLS IN STUDENTS

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**Abstract.** This article explores how art-historical works can be used as a powerful didactic resource for developing collaborative skills in students. Artworks invite interpretation, demand evidence-based discussion, and naturally create situations where learners must negotiate meaning, share roles, and make collective decisions. The paper explains why visual and material culture is especially suitable for group learning, outlines classroom designs that turn analysis into teamwork, and describes practical methods such as structured inquiry, jigsaw interpretation, curatorial projects, and peer critique.

**Keywords:** art-historical works, collaborative skills, group learning, visual literacy, inquiry-based learning, discussion protocols.

### INTRODUCTION

Collaborative skills are no longer an optional extra in education. Students are expected to work in teams, communicate across differences, build shared plans, and produce joint outcomes in academic settings and in professional life. Yet collaboration is not a talent that appears by magic the moment a teacher says work in groups. It is a set of teachable habits: listening with attention, contributing clearly, asking productive questions, negotiating roles, managing conflict, and staying accountable to a shared goal. The challenge for educators is to choose learning materials that naturally demand these habits instead of merely allowing them.

Art-historical works offer a surprisingly practical solution. A painting, sculpture, poster, photograph, architectural plan, or craft object is rich enough to support multiple interpretations, yet concrete enough to keep discussion anchored in evidence. Students

can point to a gesture, a composition, a symbol, a material, or a stylistic feature and argue for what it might mean. Because artworks rarely have a single obvious answer, they invite dialogue rather than recitation. That is exactly the kind of intellectual environment where collaboration can become real: learners must coordinate perspectives, test claims against visible details, and build a group interpretation that is stronger than any one person's first impression. If traditional group work sometimes feels like four people dividing a worksheet, art-centered inquiry can feel like a team trying to solve an intriguing mystery with clues on the wall [1].

### **MATERIALS AND METHODS**

Art-historical works are uniquely suited to collaborative learning because they combine ambiguity with shared access. When students read a complex text, uneven reading fluency can create silent divisions in a group. With an image or object, every student can begin by observing. Observation levels the playing field and gives immediate entry points for participation: I notice, I wonder, I think this detail matters. From there, the group can move toward interpretation, argument, and contextualization. This progression mirrors how effective teams operate in real settings: they start with available evidence, generate hypotheses, compare viewpoints, and then select the most defensible explanation or plan.

Another reason art supports collaboration is that it requires multiple kinds of thinking that are hard for one person to perform alone at a high level in a short time. One student may be strong in formal analysis, noticing color relationships, composition, balance, and visual rhythm. Another may connect the work to historical events, social issues, or political contexts. Another may focus on symbolism, narrative, or ethical questions. A fourth may excel at synthesizing and presenting the group's conclusions. When tasks are designed to value these different contributions, students experience collaboration as genuine interdependence, not as charity for weaker members or

domination by the loudest voice. The group becomes a miniature research team where each role matters [2].

## **RESULTS AND DISCUSSION**

Art-historical works also cultivate respectful disagreement, a core collaborative skill. In many subjects, students assume there is one correct answer and disagreement feels like error. In art interpretation, disagreement is expected, but it must be disciplined. Students can disagree while still respecting one another because they can return to the shared object as a neutral reference point. The question becomes not who is right, but which explanation is better supported by observable evidence and contextual reasoning. This shift from personal competition to joint inquiry helps students practice a form of conflict management that is both intellectually rigorous and socially safe [3].

To use art-historical works effectively, teachers must think like learning designers rather than content deliverers. The starting point is selecting works that match the students' developmental level and the collaboration goal. For early learners, works with clear narratives, strong contrasts, or familiar themes support confident observation and simple group roles. For older students, works with complex symbolism, contested histories, or stylistic experimentation can sustain deeper debate. The selection should also reflect cultural diversity and avoid presenting a single tradition as the default. If collaborative skills are partly about working across perspectives, then the curriculum should not hide plurality behind a narrow canon.

Once the work is selected, the teacher should structure the discussion so that participation is distributed. One effective approach is a guided observation protocol similar to Visual Thinking Strategies. Students begin with a shared prompt such as What is going on in this work and What do you see that makes you say that. These questions require evidence, which protects the discussion from becoming pure opinion. In groups, students can rotate roles: the observer identifies details, the evidence keeper asks for

support, the connector links ideas to context, and the summarizer crafts a group statement. Over time, rotating roles ensures that collaboration develops as a skill set for everyone, not a permanent job description for a few students [4].

A second powerful method is the jigsaw model applied to art history. Each group member becomes a specialist on one dimension of the work. One student studies formal elements such as composition, scale, line, and texture. Another studies historical context, including patronage, political conditions, or social movements. Another studies artist biography and artistic networks. Another studies reception and interpretation, including how meanings change across time and audiences. Students first meet in expert groups to build confidence and gather evidence, then return to mixed groups to teach one another and assemble a unified interpretation. This structure trains key collaborative habits: responsibility for a piece of knowledge, clarity in explaining it, and willingness to integrate others' expertise into a shared outcome.

Digital environments also create new opportunities and new challenges. Collaborative annotation tools allow groups to comment directly on images, tag details, and build shared evidence boards. This can strengthen accountability because contributions are visible. At the same time, digital discussion can become fragmented and less empathetic. Teachers should combine online tools with clear protocols and occasional face-to-face synthesis. A helpful routine is evidence collection first, interpretation second, and synthesis third. When students follow this sequence, collaboration stays organized and less prone to chaotic opinion exchange.

Taken together, these methods show that art-historical works have strong didactic potential for developing collaborative skills, but the potential is not automatic. It depends on purposeful task design, clear roles, structured talk, and assessment that values collaboration as both a process and an outcome. When these elements are present, art becomes more than a content area. It becomes a training space for the kind of

teamwork that students will need in academic research, professional environments, and civic life [5].

### **CONCLUSION**

Art-historical works offer an effective and realistic route for building collaborative skills because they invite multiple perspectives while keeping discussion anchored in shared evidence. Their interpretive richness encourages dialogue, negotiation, and synthesis, and their visual accessibility provides entry points for diverse learners. When educators use structured protocols, role rotation, jigsaw specialization, curatorial projects, and peer critique, group work becomes more than shared labor. It becomes a disciplined practice of communication, listening, decision-making, and respectful disagreement.

The main lesson is simple: collaboration improves when it is taught, structured, and assessed. Art-historical inquiry provides a natural context where these conditions can be met without forcing artificial teamwork. By designing tasks that require interdependence and by guiding students to justify claims with observable details and contextual reasoning, teachers can develop collaborative competence in a way that is both academically serious and socially meaningful.

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**Clinical and laboratory indicators in patients with infected pancreatic necrosis  
against the background of diabetes mellitus**

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**ANNOTATION:** In the scientific thesis, the authors analyze the clinical and laboratory indicators of 62 patients with infected pancreatic necrosis (IPC) against the background of diabetes mellitus (DM). The conducted studies showed that in the first phase of infected pancreatic necrosis in patients with diabetes mellitus, a pronounced increase in inflammatory markers and organ dysfunction was noted in the interval from 1 day to 3 days of the disease. In the second phase of IPN in patients with diabetes, a slow decrease in the early inflammatory response and a slowdown in the trend towards clinical improvement were observed, which was important for justifying a personalized approach.

**KEYWORDS:** Infected pancreatic necrosis, diabetes mellitus, personalized approach, surgical treatment.

**Клинико-лабораторные показатели у больных с инфицированным  
панкреанекрозом на фоне сахарного диабета**

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**АННОТАЦИЯ:** В научном тезисе авторы анализируют клинико-лабораторные показатели у 62 больных с инфицированным панкреанекрозом (ИПН) на фоне сахарного диабета (СД). Проведенные исследования показали, что при первой фазе инфицированного панкреанекроза у больных с наличием СД отмечалось выраженные нарастания воспалительных маркеров и органной дисфункции в интервале от 1 суток до 3 дня заболевания. При второй фазе ИПН у больных с СД наблюдалось медленное снижение раннего воспалительного ответа и замедление тенденции клинического улучшения, что имело важное значение для обоснования персонализированного подхода.

**КЛЮЧЕВЫЕ СЛОВА:** Инфицированный панкреанекроз, сахарный диабет, персонализированный подход, хирургическое лечение.

**Relevance.** Choosing optimal surgical tactics for infected pancreatic necrosis (IPN) in patients with diabetes mellitus (DM) remains one of the most complex and controversial issues in abdominal surgery. In this category of patients, early surgical intervention can provoke the progression of multiple organ failure (MRP), while delayed rehabilitation often leads to the generalization of infection and the development of sepsis. In the last two decades, there has been a shift in the paradigm of surgical treatment of infected pancreatic necrosis (IPN) towards minimizing trauma from early laparotomy and necrosectomy - to the phased use of transcutaneous drainage, video-necrosectomy, and endoscopic methods.

**The purpose of the study was:** To study the dynamics of clinical and laboratory indicators in patients with infected pancreatic necrosis against the background of diabetes mellitus.

#### RESEARCH MATERIALS AND METHODS

The clinical material of the study was formed based on observations of 62 patients with TPI against a background of diabetes mellitus who were undergoing treatment between 2012 and 2018. The study was conducted at the RSC EMC Andijan branch.

General clinical and laboratory research methods were used. Instrumental research methods were used to confirm the diagnosis of pancreatic insufficiency, to clarify the extent and extent of pancreatic (PAS) damage, its retroperitoneal and parapancreatic tissues, and to dynamically assess the course of the pathological process.

#### Results and their discussion.

Dynamic observation of the clinical condition of patients with TPI against the background of diabetes mellitus allowed us to establish a sequence of progression and change in the severity of the systemic inflammatory response (SIR) against the background of standard therapy. Upon admission, most patients exhibited signs of a pronounced inflammatory response. The proportion of patients with  $\geq 2$  criteria for systemic inflammatory response syndrome (SVRS) was 64.5%, and almost 1/3 of patients demonstrated 3 or 4 signs of SVRS (29%). On the 1st day of treatment, the structure of the indicators shifted towards a further intensification of the systemic reaction, which was expressed in an increase in the proportion of patients with  $\geq 2$  signs of CVSR to 74.2% (46 patients) and an increase in severe variants of CVSR to 38.7%.

On the 3rd day of treatment, the inflammatory activity reached its maximum, and the number of patients with 3 or 4 signs of CVSR increased to 48.4% (30 cases).

Temperature indicators were characterized by a similar dynamic, and at the time of patients' admission to the clinic, febrile fever  $\geq 38.5$  °C was detected in 58.1% of patients, and on the 1st day, this indicator increased to 64.5%, followed by an increase

to 69.4% on the 3rd day of treatment. Only after 5 days did the proportion of patients with such a level of hyperthermia gradually decrease, indicating a delayed clinical response despite the measures taken. Temperature normalization within the range of  $\leq 37.5$  °C was observed in only 12.9% of patients upon admission and remained a rare phenomenon for up to 5 days. Only by day 10 did the proportion of patients with normal temperature values reach 45.2%, which indicated that some patients gradually entered the stabilization phase.

The pain syndrome also tended to be persistent in the early stages, with 67.7% of patients, upon admission to the clinic, assessed the pain as  $\geq 7$  points according to VAS. On the 1st day, the value practically did not change, remaining above 70%. On the 3rd day, the proportion of patients with severe pain began to decrease, however, the indicator remained high and amounted to 64.5%. The absence of a noticeable decrease in pain compared to the previous day was observed in 74.2% of patients on the 1st day and 80.6% on the 3rd day. This ratio reflected the slow regression of pain syndrome characteristic of PBI, especially in patients with DM.

Hemodynamic indicators exhibited a more moderate, but persistent dynamic, among which hypotension was noted in 19.4% of patients upon admission and reached its maximum on the 3rd day, constituting 30.6%. By day 5, the proportion of patients with hypotension gradually decreased, and similarly, the frequency of tachycardia exceeded 100 beats/min in 54.8% of patients upon admission and increased to 66.1% on day 3, which was consistent with the severity of the systemic reaction at this stage.

Perfusion indicators also showed deterioration in the early stages, among which oliguria was recorded in 1/4 of patients on the 1st day of treatment and reached 33.9% by the 3rd day, after which it gradually decreased.

Symptoms of respiratory failure also showed an increase by the 3rd day, and if they were recorded in 32.3% of patients upon admission, then on the 3rd day this indicator reached 43.5%. Such changes were often combined with fever, tachycardia, and increased pain syndrome, forming a clinical picture requiring more careful observation. At the same time, impaired consciousness was less common, however, the tendency to increase by the 3rd day remained, reaching 16.1%. This sign was usually accompanied by a combination of hemodynamic instability and a pronounced inflammatory response.

Assessment of the response to antibacterial therapy (ABT) in dynamics showed a slow regression of clinical manifestations. The absence of a satisfactory response in the form of persistent pain syndrome and fever was noted in 54.8% of patients upon admission, and on days 1-3 the indicator increased to 64.5% and 71% respectively. Only by the 10th day did the proportion of such observations decrease to 1/4 of patients.

Overall, the dynamics of clinical indicators demonstrate that in patients with IUI against a background of diabetes mellitus, the maximum severity of the systemic

inflammatory response is observed in the interval between 1 and 3 days, and stabilization signs become noticeable only after 7 days of treatment. Such a structure of changes emphasizes the slow onset of clinical improvement and the stability of the early phase of the inflammatory response, which creates an unfavorable background for decision-making on management tactics and forms the basis for analyzing laboratory and morphological data.

Dynamic observation of laboratory parameters in patients with IUI against a background of diabetes allowed us to assess the depth of VVR, the degree of organ dysfunction, and the influence of hyperglycemia on the course of IUI. At the time of patients' admission to the clinic, the main markers of CVR were at high values, which corresponded to pronounced clinical symptoms. Leukocytosis reached  $15.2 \pm 3.1 \times 10^9/l$ , and LII exceeded 5 units. ( $5.1 \pm 1.0$  units), which indicated an active process of pancreatic tissue destruction. Already on the 1st day of therapy, there was a further increase in the intensity of the inflammatory response. Leukocytes increased to  $16.3 \pm 3.4 \times 10^9/l$ , LII reached  $5.6 \pm 1.1$  units, reflecting the continued involvement of systemic mechanisms of inflammatory response.

The maximum severity of the laboratory profile of CVR occurred on the 3rd day of conservative treatment. During this period, the concentration of C-reactive protein (CRP) increased to  $255.1 \pm 57.2$  mg/l, and the level of procalcitonin (PCT) averaged  $5.6 \pm 2.1$  ng/ml. The obtained values well corresponded to the clinical picture, in which the highest indicators of hyperthermia, tachycardia, and the number of CVD signs were observed.

By day 5, moderate stabilization of inflammatory indicators occurred in most patients, among which leukocytes decreased from  $17.5 \pm 3.6 \times 10^9/l$  to  $16.8 \pm 3.5 \times 10^9/l$ , CRP decreased to  $243.2 \pm 49.7$  mg/l, and PCT levels began to regress to  $5.1 \pm 1.9$  ng/ml. Despite gradual improvement, these figures remained high, reflecting the persistent inflammatory activity in TPI in patients with diabetes mellitus. Only after 7 and especially 10 days, a more pronounced decrease in the main markers of inflammation was noted, which coincided with a decrease in the frequency of febrile temperature and a decrease in pain syndrome.

Carbohydrate metabolism indicators demonstrated their own dynamics, when the average glucose level at the time of patients' admission to the clinic was  $11.8 \pm 2.4$  mmol/l, and on the 1st and 3rd days, a tendency to increase persisted, reaching  $12.8 \pm 2.8$  mmol/l. Such hyperglycemic resistance was observed in most patients and was often combined with the need to intensify insulin therapy.

Kidney functional indicators also changed parallel to the inflammatory phase of the disease, with creatinine levels at the time of admission (on the zero day) being  $112 \pm 28$   $\mu$ mol/l and increasing to  $138 \pm 36$   $\mu$ mol/l on the 3rd day, which corresponded to the frequency of oliguria episodes presented above. On the 5th and subsequent day, a

gradual decrease in creatinine levels was observed, reflecting the beginning of kidney function restoration in most patients.

The functional state of the liver in the early stages of treatment of patients showed a moderate deterioration, among which total bilirubin increased from  $24.3 \pm 8.1$  to  $32.4 \pm 11.3$   $\mu\text{mol/l}$  by the 3rd day, AST and ALT showed similar dynamics with a peak on the 3rd day, reflecting the hepatobiliary system's response to systemic inflammation and decreasing only by the 10th day. Along with this, pancreatic enzymes showed a gradual decrease, in particular, amylase decreased from  $580.7 \pm 160.2$  to  $300.2 \pm 86.7$  U/l, lipase - from  $780.5 \pm 67.4$  to  $380.4 \pm 42.8$  U/l by day 10. This dynamic characterizes the natural process of decreasing enzymatic activity against the background of pancreatic tissue destruction and is not a specific diagnostic marker in the late period of PIP. Fibrinogen reached its maximum on the 3rd day and then decreased, while lactate increased to  $3.1 \pm 0.9$  mmol/l on the 3rd day, after which it began to decrease. Endotoxemia remained consistently elevated until the 5th day and regressed only by the 10th day. Overall, coagulation indicators and endotoxemia markers exhibited a characteristic profile.

**Conclusion.** Thus, the dynamics of laboratory indicators emphasizes the two-phase nature of TPI in patients with DM. The first phase was characterized by a pronounced increase in inflammatory markers and organ dysfunction between 1 day and 3 days of the disease. The second phase manifested as a slower decrease in these indicators, which was observed only after 7 days. Such a structure of changes confirms the resistance of the early inflammatory response and the slow formation of a tendency towards clinical improvement, which is important for subsequent analysis of morphological changes and justification of the need for a personalized approach.

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## Smooth Mappings

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### Abstract

This paper considers smooth mappings between Euclidean spaces and their basic differential properties. A mapping defined on an open set is studied through its coordinate functions, differentiability, and continuity. Special attention is given to the Jacobian matrix, the differential of a mapping, and the concept of rank. Definitions of smooth, infinitely differentiable, and continuous mappings are presented, and illustrative examples are discussed to demonstrate the theoretical results.

### Keywords

Smooth mapping, Jacobian matrix, differential, rank of a mapping, Euclidean space

### Introduction

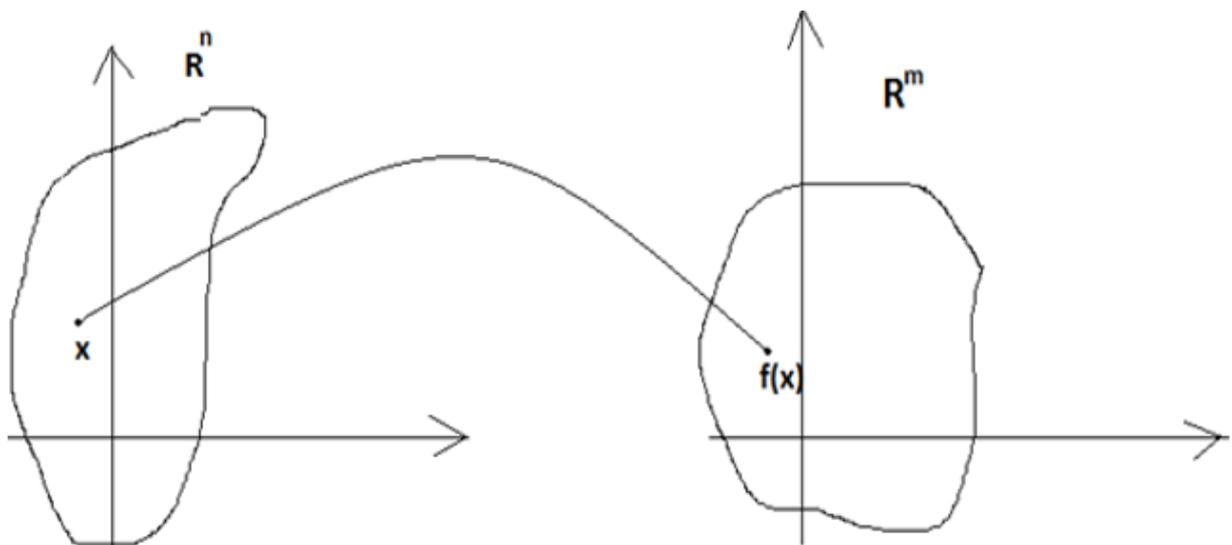
Mappings between Euclidean spaces play an important role in differential geometry and mathematical analysis. Many geometric and analytical properties of such mappings can be studied using partial derivatives and linear approximations. In particular, the Jacobian matrix provides a convenient tool for describing the local behavior of a mapping near a given point. The aim of this paper is to introduce basic definitions related to smooth mappings, differentials, and the rank of a mapping. The paper also illustrates these concepts with simple examples, which help to clarify their geometric meaning and practical applications.

### Tetod

Bizga  $f : G \rightarrow R^m$  akslantirish berilgan bo'lsin. Bu yerda  $G \subset R^n$  soha (ochiq to'plam). Bu akslantirish  $m$  ta  $n$  o'zgaruvchili funksiyalar berilishiga teng kuchlidir:

$$\begin{aligned}
 y_1 &= f_1(x_1, x_2, \dots, x_n) \\
 y_2 &= f_2(x_1, x_2, \dots, x_n) \\
 &\dots\dots\dots \\
 y_m &= f_m(x_1, x_2, \dots, x_n)
 \end{aligned}$$

**1-Ta'rif.** [1] Berilgan  $f : G \rightarrow R^m$ ,  $G \subset R^n$  akslantirish uchun  $f_1, f_2, \dots, f_m$  funksiyalar uzluksiz va  $r$  tartibgacha uzluksiz xususiy hosilalarga ega bo'lsa,  $f$  akslantirish silliq akslantirish yoki  $C^r$ -akslantirish deyiladi. Bu yerda  $r \geq 0$



rasmdagi  $x = (x_1, x_2, \dots, x_n)$  nuqta va uning obrazi  $f(x) = (y_1, y_2, \dots, y_m)$  nuqta bo'ladi.

Agar barcha  $f_i$  funksiyaning  $\forall$  tartibli xususiy hosilalari uzluksiz bo'lsa  $f$  akslantirish cheksiz ko'p marta differensiallanuvchi deyiladi  $f \in C^\infty$ . Uzluksiz akslantirish  $C^0$  - akslantirish deyiladi.

**2-Ta'rif.** [2] Berilgan  $f : G \rightarrow R^m$  akslantirish uchun

$$J(f) = \begin{pmatrix} \frac{\partial f_1}{\partial x_1} & \frac{\partial f_1}{\partial x_2} & \dots & \frac{\partial f_1}{\partial x_n} \\ \frac{\partial f_2}{\partial x_1} & \frac{\partial f_2}{\partial x_2} & \dots & \frac{\partial f_2}{\partial x_n} \\ \dots & \dots & \dots & \dots \\ \frac{\partial f_m}{\partial x_1} & \frac{\partial f_m}{\partial x_2} & \dots & \frac{\partial f_m}{\partial x_n} \end{pmatrix} \quad (2.1.1)$$

matritsa  $f$  - akslantirishning Yakobi matritsasi deyiladi. Yakobi matritsasi chiziqli akslantirishni aniqlaydi. Berilgan  $x_0 \in R^n$  nuqta va  $v \in T_{x_0} R^n$  vektor uchun

$$w_1 = \frac{\partial f_1}{\partial x_1} \Big|_{x_0} v_1 + \frac{\partial f_1}{\partial x_2} \Big|_{x_0} v_2 + \dots + \frac{\partial f_1}{\partial x_n} \Big|_{x_0} v_n$$

.....

$$w_m = \frac{\partial f_m}{\partial x_1} \Big|_{x_0} v_1 + \frac{\partial f_m}{\partial x_2} \Big|_{x_0} v_2 + \dots + \frac{\partial f_m}{\partial x_n} \Big|_{x_0} v_n$$

qoida bo'yicha  $w = \{w_1, w_2, \dots, w_m\}$  vektorni hosil qilamiz. Bu yerda  $v = \{v_1, v_2, \dots, v_n\}$

Bu  $f$  akslantirishning  $x_0$  nuqtadagi differensial deyiladi va  $d_{x_0} f$  ko'rinishda belgilanadi.

Bizga  $G \subset R^n$  - ochiq to'plam va  $f : G \rightarrow R^m$  akslantirish berilgan bo'lsin ( $C^r, r \geq 1$  sinfga tegishli).  $f$  akslantirishning  $x_0$  nuqtadagi rangi deb, (1) formula bilan aniqlangan Yakobi matritsasining rangiga aytiladi va  $rank_{x_0} f$  kabi belgilanadi.

**3-Ta'rif** . Har bir nuqtada  $f$  akslantirishning rangi maksimal ya'ni  $\forall x \in G, rank_{x_0} f = \min(n, m)$  bo'lsa bu akslantirishning rangi maksimal deyiladi.

**Misol:** Quyidagi

$$\begin{cases} f_1(x) = x \\ f_2(x) = x^2 \\ f_3(x) = x^3 \end{cases}$$

formular yordamida berilgan  $f : \mathbb{R}^1 / \{0\} \rightarrow \mathbb{R}^3$  akslantirishning Yakobi matrisasini va uning  $x_0 = 2$  nuqtada rangini topaylik:

$$J(f) = \begin{pmatrix} \frac{\partial f_1}{\partial x} \\ \frac{\partial f_2}{\partial x} \\ \frac{\partial f_3}{\partial x} \end{pmatrix} = \begin{pmatrix} 1 \\ 2x \\ 3x^2 \end{pmatrix}$$

$$\text{rank}_{x_0} f = \text{rank} \begin{pmatrix} 1 \\ 4 \\ 12 \end{pmatrix} = 1.$$

Uning hamma nuqtalarda rangi birga teng.

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## “Risks of Using Artificial Intelligence in Organizations and Governance Mechanisms”

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**Annotation:** This thesis analyzes the main risks associated with the use of artificial intelligence in organizations and the mechanisms for managing them. The importance of effective control and responsible use of AI technologies to improve management efficiency is emphasized.

**Keywords:** artificial intelligence, risks, management mechanisms, digital transformation, organization

**Аннотация:** В тезисе рассматриваются основные риски использования искусственного интеллекта в организациях и механизмы их управления. Обоснована необходимость эффективного контроля и рационального применения AI-технологий для повышения управленческой эффективности

**Ключевые слова:** искусственный интеллект, риски, механизмы управления, цифровая трансформация, организация.

**Annotatsiya:** Mazkur tezisdagi tashkilotlarda sun’iy intellektdan foydalanish jarayonida yuzaga keladigan asosiy risklar va ularni boshqarish mexanizmlari tahlil qilinadi. Sun’iy intellekt texnologiyalaridan samarali va xavfsiz foydalanish orqali boshqaruv samaradorligini oshirish masalalari yoritilgan.

**Kalit so‘zlar:** sun’iy intellekt, risklar, boshqaruv mexanizmlari, raqamli transformatsiya, tashkilot.

**Введение:** В условиях стремительного развития цифровых технологий искусственный интеллект (ИИ) становится одним из ключевых факторов трансформации современных организаций. Использование AI-технологий позволяет автоматизировать управленческие процессы, оптимизировать использование ресурсов, повышать точность прогнозирования и принимать более обоснованные управленческие решения. Искусственный интеллект активно внедряется в сферы финансового управления, маркетинга, логистики, управления персоналом и стратегического планирования. Несмотря на значительные преимущества, использование искусственного интеллекта в организациях сопровождается рядом рисков, которые могут негативно повлиять на эффективность управления, устойчивость бизнеса и репутацию организаций. Недостаточное понимание данных рисков и отсутствие эффективных механизмов управления ими способны привести к финансовым потерям, ошибочным управленческим решениям и снижению доверия со стороны заинтересованных сторон. В связи с этим актуальной научной и практической задачей является анализ рисков использования искусственного интеллекта в организациях и разработка механизмов их эффективного управления. Целью данного тезиса является исследование основных видов рисков, возникающих при внедрении AI-технологий, а также обоснование необходимости комплексного и рационального подхода к управлению ими.

### **Роль искусственного интеллекта в современных организациях.**

Искусственный интеллект представляет собой совокупность технологий и алгоритмов, способных имитировать когнитивные функции человека, включая анализ данных, обучение, прогнозирование и принятие решений. В современных организациях AI используется для обработки больших массивов данных, выявления закономерностей и автоматизации сложных

управленческих процессов. Основными направлениями применения искусственного интеллекта в организациях являются: финансовое прогнозирование и управление рисками; анализ потребительского поведения; оптимизация бизнес-процессов; поддержка управленческих решений; автоматизация процессов управления персоналом. В условиях цифровой трансформации искусственный интеллект становится стратегическим инструментом повышения конкурентоспособности организаций. Однако его широкое внедрение требует осознания возможных рисков и формирования эффективных механизмов контроля. Основные риски использования искусственного интеллекта. Риски информационной безопасности и конфиденциальности Одним из наиболее значимых рисков использования искусственного интеллекта является угроза безопасности и конфиденциальности данных. AI-системы функционируют на основе больших объемов информации, включая персональные и коммерчески чувствительные данные. Нарушение защиты таких данных может привести к утечкам информации, финансовым потерям и репутационным рискам. Особую опасность представляет использование внешних облачных AI-платформ, где контроль над данными может быть ограничен. В условиях отсутствия четких регламентов по защите информации риск кибератак и несанкционированного доступа значительно возрастает. Алгоритмические ошибки и искажения, AI-системы принимают решения на основе алгоритмов и обучающих данных. Если данные являются неполными, искаженными или некорректными, это может привести к ошибочным результатам и неправильным управленческим решениям. Алгоритмические ошибки особенно опасны в финансовом управлении и стратегическом планировании. Кроме того, наличие скрытых предвзятостей (bias) в данных может привести к дискриминационным

решениям, что негативно отражается на социальной ответственности организаций и их устойчивом развитии. Риск снижения роли человеческого фактора. Активная автоматизация управленческих процессов может привести к чрезмерной зависимости организаций от искусственного интеллекта и снижению роли человеческого фактора. В ряде случаев менеджеры могут полностью полагаться на рекомендации AI-систем, игнорируя профессиональный опыт и интуицию. Это создает риск потери управленческой гибкости, а также снижает способность организации реагировать на нестандартные ситуации, которые не могут быть корректно интерпретированы алгоритмами. Отсутствие прозрачности и объяснимости решений. Многие современные AI-модели, особенно основанные на машинном обучении и нейронных сетях, характеризуются низкой прозрачностью. Руководители организаций не всегда могут понять, каким образом система пришла к тому или иному решению. Отсутствие объяснимости решений создает риски для корпоративного управления, снижает доверие к AI-технологиям и усложняет процесс контроля их использования. Использование искусственного интеллекта поднимает ряд этических и правовых вопросов, связанных с ответственностью за принимаемые решения, соблюдением прав человека и социальной справедливостью. В условиях недостаточного правового регулирования AI-технологий организации могут столкнуться с юридическими спорами и санкциями.

**Механизмы управления рисками использования искусственного интеллекта.** Формирование системы корпоративного управления AI. Одним из ключевых механизмов управления рисками является создание системы корпоративного управления искусственным интеллектом. Такая система должна включать четкие регламенты использования AI-технологий,

распределение ответственности и контроль за их применением. Руководство организации должно определить стратегические цели внедрения AI и обеспечить соответствие технологий корпоративным ценностям и принципам устойчивого развития. Качество данных является критически важным фактором эффективного функционирования AI-систем. Для снижения рисков необходимо внедрение процедур проверки, очистки и актуализации данных. Использование надежных источников информации и регулярный аудит данных позволяют минимизировать вероятность алгоритмических ошибок. Постоянный мониторинг работы AI-систем и регулярный аудит алгоритмов являются важными элементами управления рисками. Это позволяет своевременно выявлять ошибки, отклонения и потенциальные угрозы, а также корректировать работу систем в соответствии с изменяющимися условиями.

Обеспечение взаимодействия человека и искусственного интеллекта: Эффективное управление рисками предполагает сохранение баланса между автоматизацией и участием человека в процессе принятия решений. Концепция «человек-в-контуре» (human-in-the-loop) позволяет сочетать аналитические возможности AI с профессиональным опытом менеджеров. Важным механизмом управления является разработка и внедрение этических норм использования искусственного интеллекта. Такие стандарты должны регулировать вопросы прозрачности, ответственности и социальной справедливости при применении AI-технологий. Значение управления AI-рисками для повышения управленческой эффективности. Рациональное управление рисками использования искусственного интеллекта способствует повышению эффективности управления и устойчивому развитию организаций. Применение комплексного подхода позволяет: повысить качество управленческих решений; снизить вероятность финансовых потерь; укрепить

доверие заинтересованных сторон; обеспечить соответствие деятельности организаций требованиям цифровой экономики. Организации, которые осознанно подходят к управлению AI-рисками, получают стратегические преимущества и повышают свою конкурентоспособность в долгосрочной перспективе.

**Заключение:** Искусственный интеллект является мощным инструментом цифровой трансформации и повышения управленческой эффективности. Однако его использование в организациях сопровождается значительными рисками, связанными с безопасностью данных, алгоритмическими ошибками, этическими и управленческими аспектами. В данном тезисе обоснована необходимость внедрения эффективных механизмов управления рисками использования искусственного интеллекта. Комплексный подход, включающий контроль качества данных, мониторинг AI-систем, развитие человеческого капитала и формирование этических стандартов, позволяет минимизировать негативные последствия и обеспечить устойчивое развитие организаций в условиях цифровой экономики.

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