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БОШЛАНҒИЧ СИНФ ЎҚУВЧИЛАРИДА ҲАРФ ШАКЛЛАРИНИ ТЎҒРИ ЎЗИШ КЎНИКМАЛАРИНИ РИВОЖЛАНТИРИШ БИЛАН БОҒЛИҚ МУАММО ВА ЕЧИМЛАР

Норова Ирода Мирзоғолиб кизи

Навоий давлат педагогика институти тадқиқотчиси

Аннотация: Ушбу мақолада бошланғич синфларда ўқувчиларни ҳуснихат билан ўзишга ўргатиш методикаси, ўқувчиларнинг чиройли ёзув малакаларини хосил қилишда иштирок этувчи психофизиологик функциялар, чиройли ёзувга ўргатишда ўқитувчидан талаб этиладиган малакалар ҳақида маълумотлар берилган. Шу билан бир каторда ҳуснихатга ўргатишнинг методик шартлари ҳам ёрқин тушунтириб берилган.

Калит сўзлар: ҳуснихат, ҳуснихатга ўргатиш босқичлари, чиройли ёзувнинг ҳаётдаги аҳамияти.

ПРОБЛЕМЫ И РЕШЕНИЯ, СВЯЗАННЫЕ С РАЗВИТИЕМ НАВЫКОВ ПРАВИЛЬНОГО НАПИСАНИЯ БУКВЕННЫХ ФОРМ У УЧАЩИХСЯ НАЧАЛНЫХ КЛАССОВ

Аннотация: В данной статье представлена информация о методике обучения учащихся изящному письму в младших классах, о психофизиологических функциях, участвующих в формировании навыков красивого письма учащихся, а также о навыках, необходимых учителю при обучении красивому письму. Кроме того, наглядно разъяснены методические условия обучения каллиграфическому письму.

Ключевые слова: каллиграфическое письмо, этапы обучения письму, значение красивого письма в жизни.

PROBLEMS AND SOLUTIONS RELATED TO THE DEVELOPMENT OF THE SKILLS OF CORRECT WRITING OF LETTER FORMS IN PRIMARY CLASS STUDENTS

Abstract: This article provides information on the methodology of teaching students to write gracefully in elementary grades, the psychophysiological functions involved in the formation of beautiful writing skills of students, and the skills required of the teacher in teaching beautiful writing. In addition, the methodical conditions of teaching husnikhat are clearly explained.

Key words: husnikhat, stages of teaching husnikhat, the importance of beautiful writing in life.

Ёзув ва хаттотликни ўргатиш методологиясининг ривожланишининг дастлабки даври ҳарф белгиларини ўрганишнинг элемент-элемент принципининг пайдо бўлиши билан тавсифланади. Ўша пайтда методистлар ва хаттотлар ёзма шрифтнинг асосий ва қўшимча элементларининг таркибини (тўлиқ бўлмаса ҳам) аниқладилар, ўзбек алифбосининг ёзма ҳарфларини ёзиш схемаси ва кетма-кетлиги намуналарини бердилар, ўқувчиларни ёзишга тайёрлайдиган машқларни ишлаб чиқдилар. Ҳарфларнинг визуал қабул қилинган қисмлари асл ҳарфни ўрганиш учун асос бўлди. Ҳарф белгиларини кўпайтириш асосан визуал элементлар томонидан амалга оширилди. Ёзиш техникаси ҳар хил зарбаларни чизиш учун махсус моторли машқлар ёрдамида ишлаб чиқилган.

Ўқувчилар ўқишнинг кейинги босқичларида (2-4 синфларда) ҳарфларнинг узлуксиз ёзилиши техникаси ва уларнинг алоқалари билан танишдилар, бу эса болаларнинг дастлаб ривожланган ёзиш маҳоратини тиклашнинг исталмаган ҳодисаларига олиб келди.

Алоҳида методистларнинг ёзиш пайтида қўл ҳаракатининг ўзига хос хусусиятларини ҳисобга олишга уринишлари элемент принципига аниқ зиддир, аниқроғи, ёзиш жараёнида ҳарфларнинг визуал элементларига таяниш зарурати билан, чунки улар томонидан таъкидланган қўл ҳаракати сегментлари кўпинча нисбатан тўлиқ бузилган. Элемент ва умуман ҳарфнинг визуал тасвири. Методист хаттотларнинг ёзма ҳарфлар шакллариининг эстетик томонига ҳаддан ташқари қизиқиши ёзиш техникасига зарар етказди. Табиийки, саволлар туғилади: "болага маълум бир хат ёзишда керакли қўл ҳаракатини ўзлаштиришга қандай ёрдам бериш керак? Бундай қисмларни ажратиш принципи қайндай?" Усулни ишлаб чиқиш – Бу даврда ёш ўқувчиларда ёзишни ўргатиш ва график кўникмаларни шакллантириш масалалари бўйича илмий фикр ўтган асрнинг 40-60-йилларда таниқли психологлар А.Лурия, Б.Ананев, В. Гурянов, А.Пуни лабораторияларида ўтказилган жуда самарали психологик тадқиқотлар таъсири остида содир бўлди.

А.Лурия ва унинг ҳамкасблари томонидан олиб борилган тадқиқотлар шуни кўрсатдики, нутқ аппаратининг артикуляцион ҳаракатлари болаларда ёзиш жараёнида муҳим рол ўйнайди, яъни моторли ёзиш қобилиятлари иккинчи сигнал тизимига хос бўлган нутқ мотор анализатори томонидан тартибга солинади. Шунинг учун нутқ-мотор (артикуляция) ва умумий мотор анализаторларининг ўзаро таъсири ёзиш механизмида ҳал қилувчи аҳамиятга эга[1].

Бир қатор тадқиқотларда Б.Ананев ва унинг издошлари элементар ёзиш кўникмаларини шакллантириш жараёнида шартли рефлекс алоқаси нафақат ҳарфларнинг ҳарф ва оптик белгилари, балки уларнинг фазовий ва миқдорий муносабатлари билан ҳам пайдо бўлишини исботлайдилар. Болалар ёзувидаги хатоларнинг манбаи ҳарфларни визуал идрок этишнинг йўқлиги, саводхонлик дарсларида кўринадиган ҳарф белгисини таҳлил қилмасликдир. Бу шуни англатадики, ёзув дарсларида ҳарфни таҳлил қилиш керак, чунки фақат бундай ҳолларда уни интеграл идрок этиш, яъни синтез қилиш мумкин бўлади. Ўқувчи миясининг кортексидида ҳарфнинг визуал тасвири ва тегишли ешитиш-артикуляцион тасвирлар, яъни ҳарф ўртасида шартли рефлекс алоқаси ҳосил бўлади. Мактубда мураккаб комплекс стимул сифатида " шаклдан ташқари, алоҳида стимул ҳам белгининг катталиги, йўналиши ёки унинг элементи, шунингдек шунга ўхшаш элементларнинг сони ҳисобланади." Шунинг учун ёзишни ўргатиш жараёнида боланинг аналитик фаолиятини хатнинг алоҳида таркибий қисмларига йўналтириш, унинг қисмлари-элементлари ўртасида фазовий ва миқдорий муносабатларни ўрнатиш зарур. Хатнинг тайёр шакли фақат манба ва назорат намунаси сифатида берилиши мумкин, аммо машқларнинг ўзи учун етарли эмас[2].

Ёзишни ўқитиш методикаси ва амалиётида ушбу қониданинг етарли даражада эътиборга олинмаганлиги ушбу турдаги фаолиятни ўзлаштиришда бола учун маълум қийинчиликлар мавжуд.

Е.Гурьяновнинг асарларида ёзиш маҳоратини шакллантириш жараёни нисбатан мустақил равишда давом этиши кўрсатилган, чунки у восита рефлексларининг ривожланиши ва дифференциациясининг умумий қонунларига ҳам бўйсунди. Бошланғич мактаб ўқувчилари ёзувининг асосий хусусиятлари – бу ҳаракатни ажратиш, қўлнинг қаттиқлиги ва таранглиги, ҳарфлар ва уларнинг комплексларини қоғозга кўпайтириш жараёнида қўлнинг бўғинларини (бармоқлар, қўл, биллак ва елка) мувофиқлаштира олмаслик. Бинобарин, ўқувчи ҳарф белгиси шаклини идрок этиш ва шакллантириш жараёни билан ҳам, уни тасвирлаш жараёни билан ҳам боғлиқ бўлган қийинчиликларни бошдан кечиради. Хат ёзишдан олдин ўқувчи унинг қайси элементлардан иборатлигини ва ушбу элементларни қандай тартибда кўпайтириш кераклигини аниқлаши керак.

Экспериментал тадқиқотлар натижасида Е.Гурьянов бошланғич мактаб ўқувчиларида ёзиш кўникмаларини ривожлантириш жараёнида визуал ва моторли бошқарувни шакллантириш зарур деган хулосага келди, бунинг асосида

болалар тайёр бўлиб, график хатоларни мустақил равишда олдини олишга кодир[3].

А. Пуни ва унинг ҳамкорларининг тадқиқотларида восита маҳоратини ўзлаштиришда ҳаракатларни дастлабки намоёиш этишининг ўқув самараси аниқланди. Двигател маҳоратини ривожлантиришда ўрганилаётган машқнинг дастлабки тақдимотини кейинчалик амалий бажарилиши билан бирлаштириш орқали катта самарага еришилади. Шу билан бирга, идеал тасвирдаги тасвирлар восита маҳоратини шакллантиришга ёрдам берадиган фаол механизмга айланади[4].

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ИНСОН КАПИТАЛИ НАЗАРИЯСИ ВА ТАҲЛИЛИ

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Аннотация: Ушбу мақола иқтисодиёт соҳаларида инсон капитали назарияси ва таҳлили, инсон капитали замонавий концепциясининг пайдо бўлиши, шаклланиши, муаммолари, иқтисодий категория, бошқарув, ривожланиши ва тарқалиши бўйича тушунчалар ёритилган.

Калит сўзлар: инсон капитали, ресурслари, глобал, жаҳон иқтисодиёти, иқтисодий категория, профессионал, активлар, меҳнат, корхона, интеллектуал бошқарув.

Аннотация: В данной статье рассматриваются теория и анализ человеческого капитала в сферах экономики, возникновение, формирование, проблемы, экономическая категория, управление, развитие и распространение современной концепции человеческого капитала.

Ключевые слова: человеческий капитал, ресурсы, глобальный, мировая экономика, экономическая категория, профессионал, активы, труд, предприятие, интеллектуальный менеджмент.

Ҳозирги вақтда дунёнинг энг ривожланган мамлакатлари глобал миқёсда янги билим ва маълумотларни ишлаб чиқариш ва тарқатишга асосланган жамиятнинг янги турига - постиндустриал ёки ахборот жамиятига ўтиш билан ажралиб туради. Жаҳон иқтисодиётининг субъекти сифатида инсон шахсига нафақат илгари тўпланган билимларни идрок этиш, балки янгилик яратиш қобилиятига нисбатан талаблар доимий равишда ортиб бормоқда. Жамият ривожланишининг постиндустриал босқичида инсон ишлаб чиқарувчи кучлари инсон капитали - билим ва ижодий қобилиятлар шаклида ишлайди ҳамда кўпаяди, уларни тўплаш ва ривожлантириш харажатлари меҳнат унумдорлиги ва даромадларининг ўсишига ҳисса қўшадиган капитал қўйилмалар сифатида қаралади.

Инсон капитали замонавий концепциясининг пайдо бўлиши, биринчи навбатда, Т. Шульц ва Г. Беккерларнинг асарлари билан боғлиқ ҳисобланади. Инсон капитали ҳақидаги замонавий назарий ва услубий ғояларни ривожлантиришга таниқли америкалик ва британиялик иқтисодчилар Б.Вайсброт, Ж.Минтзер, Л.Туроу, В.Боуен, М.Фишер, Ж. Вайзилар катта ҳисса

кўшганлар. Кейинчалик бу концепцияни ишлаб чиқиш А.Аулин, М.Блауг, С.Боулз, Ж.Бен-Порат, М.Вудхол, Ж.Грейсон Э.Денисон, С.Дейзи, Ж.Кендрик, Р.Лаярд, Г.Псахаропулос ва бошқа тадқиқотчилар томонидан амалга оширилган.

Инсон капитали назариясининг шаклланиши «профессионал» ва «ижтимоий» шахсдан «ривожланаётган» ва «ташаббускор» шахсга ходимларни бошқаришга ёндашувлар эволюцияси билан паралелл равишда содир бўлди [1].

Инсон капитали назарияси инсон ресурсларини бошқаришнинг замонавий тушунчаларида, корхонанинг интеллектуал ва ижтимоий капиталини ривожлантириш тушунчаларида ишлаб чиқилган. Инсон ресурслари ва инсон капиталини ривожлантиришнинг замонавий муаммолари ахборот жамияти ва билимлар иқтисодиёти тушунчалари доирасида ҳам ўрганилади [2].

МДХ мамлакатлари иқтисодиётида инсон капитали муаммоларини ўрганиш узок вақтдан бери таълим иқтисодиёти ва меҳнат самарадорлиги масалалари билан чекланган. Шунингдек В.С.Гоило, А.В.Даиновский, Р. Р. Капелюшников, В. В. Ключкова В.В.Марцинкевич томонидан инсон капитали назариясига хорижий ёндашувларни ўрганган нашрлар пайдо бўлди. Кейинчалик М.М.Крицкий томонидан инсон капиталининг шаклланиши ва ҳаракати тўғрисида, Е.В.Галаева, А.И.Добринин, С.А.Дятлов, Е.Д.Цыренова, И.В.Илинский, С.А.Курганский, В.Р.Шчетинин таълим муаммолари ва унинг инсон капиталини кўпайтиришдаги роли тўғрисида, Г.В.Борисов - корхонанинг инсон капитали тўғрисида, Н.В.Казакова, Л.Г.Симкина, Т.Е.Степановалар иқтисодиётда инсон капитали ва таълим тизимини ривожлантириш тўғрисида илмий изланишлар олиб борганлар.

Ҳозирги вақтда иқтисодий адабиётларда инсон капиталининг иқтисодий категория ва бошқарув тоифаси сифатида бир нечта таърифлари мавжуд. «Инсон капитали» атамаси А.Шульц томонидан таклиф қилинган: «инсоннинг қимматли қобилиятлари ва инсон капитали тегишли инвестициялар ёрдамида ишлаб чиқилиши мумкин бўлади» [3]. Г.Беккер инсонни оддий меҳнат бирлиги ва маълум миқдордаги инсон капиталининг комбинацияси деб ҳисоблайди. Е. Дж. Доланнинг сўзларига кўра, инсон капитали «таълимий ёки амалий тажриба орқали олинган ақлий қобилият шаклидаги капитал». S. Fischer, Р. Дорнбусч ва Р. Шмалензи инсон капиталини инсонда мужассамланган даромад олиш қобилиятининг ўлчови сифатида белгилайди [4]. В. Боуеннинг таъкидлашича, «инсон капитали инсонларга берилган ва маълум вақт давомида товар ва хизматлар ишлаб чиқариш учун ишлатилиши мумкин бўлган билим, кўникма, мотивация ва энергиядан иборат». Инсон капитали жисмоний шахсларда мужассамланган ва иқтисодий фаолият билан боғлиқ бўлган билим, кўникма,

тажриба ва бошқа хусусиятлар сифатида белгиланади [5]. А. И. Добринин, С. А. Дятлов ва Е. Д. Цыреноваларнинг асарларида инсон капитали – «...инвестициялар натижасида шаклланган ва инсон томонидан маълум бир фаолият соҳасида мақсадга мувофиқ фойдаланиладиган, меҳнат унумдорлиги ва ишлаб чиқариш самарадорлигининг ўсишига ёрдам берадиган ва шу билан шахснинг ҳаёт сифатига таъсир кўрсатадиган соғлиқ, билим, кўникма, қобилият ва мотивацияларнинг маълум бир захира тўплами ва шахснинг даромади ўсиши тўғрисида берилган» [6].

Инсон капитали назариясининг ривожланиши ва тарқалиши табиий равишда иқтисодчилардан ушбу концепциянинг иқтисодий жараёнларда инсон иштирок этиш имкониятларини аниқлаш учун фойдаланиладиган «ишчи кучи», «меҳнат ресурслари», «меҳнат салоҳияти» ва «инсон салоҳияти» тоифалари билан ўзаро боғлиқлигини тушунишни талаб қилди. Мамлакатимиз иқтисодчи олимларидан Б.Хасанов, Р.Нурибетов, З.Гапназарова, А.Абдуллаев, М.Юлдашев ва бошқалар инсон капиталини «тадбиркор томонидан жисмоний капитални тўплашга ўхшатиш мумкин бўлган таълим, ўқитиш, ишлаб чиқариш кўникмаларини эгаллаш, шунингдек ҳаракатчанликка киритилган инвестициялар йиғиндиси» деб таърифлайдилар [7].

Кенг маънода улар ишчи кучини иқтисодий фаол аҳоли билан, тор маънода эса корхона ходимлари билан аниқлайдилар. Меҳнат салоҳияти, уларнинг фикрлари ва ишлаб чиқаришнинг моддий-техник базаси билан белгиланадиган инсон ресурсларининг амалга оширилган ва амалга оширилмаган имкониятларидир. Б. М. Генкин ишчи кучини инсоннинг меҳнат қобилияти, яъни ишлаб чиқаришда қўлланилиши мумкин бўлган жисмоний ва интеллектуал маълумотларнинг йиғиндиси сифатида тушунади. У инсон капиталини самарадорликни белгилайдиган ва инсон, оила, корхона ва жамият учун даромад манбаи бўлиши мумкин бўлган фазилатлар тўплами деб билади.

А. В. Докторович ва Н. А. Волгинлар ўз илмий асарларида меҳнат салоҳиятини табиий маълумотлар, таълим, тарбия ва ҳаётий тажриба асосида шаклланадиган инсон салоҳиятининг бир қисми ва турли хил фазилатлар тўплами сифатида белгилайди ходимнинг меҳнат қобилиятини, ишлаб чиқаришнинг шахсий омилининг умумлаштирувчи кўрсаткичини ва инсон капиталини «жамият ва иқтисодиёт ривожланишининг маълум бир тарихий босқичида, маълум шароитларда, зарур ресурслар билан амалга оширилиши мумкин бўлган меҳнат потенциалининг бир қисми, товарлар ва хизматлар ишлаб чиқариш учун меҳнат жараёни» сифатида белгилайди. [8].

Инсон салоҳияти «маълум шароитларда зарур ресурслар билан ҳаётий фаолият ва меҳнат жараёнларини таъминлайдиган даромад, соғлиқ, қобилият, билим, касбий малака, кўникма, маданият ва ахлоқнинг тизимли бирикмасидир». Инсон капитали ишлаб чиқаришда амалга ошириладиган меҳнат салоҳиятининг таркибий қисми сифатида инсон қобилиятининг бир қисмидир деб таърифлайдилар.

Т.Л. Судованинг таъкидлашича инсон капиталини замонавий талқин қилишнинг ўзига хос хусусияти унинг ижтимоий таркибий қисмини ҳисобга олади, чунки туғма қобилиятларни амалга ошириш учун шахс ҳаёт давомида - билимларни узатиш, шахсий алоқалар, касбий тажриба, малака ошириши ва ижтимоий билим ва кўникмаларни эгаллайди ва амалга оширади. [9]. Т.Е. Степанова инсон капитали билим, амалий тажриба, касбий ва маданий кўникмалар ва маданиятлараро мулоқотга эга бўлиш деб ҳисоблайди. Унинг қиймати субъектнинг ўзини ҳар қандай фаолиятда амалга ошириш қобилияти билан белгиланади. Корхона учун шахсийлаштирилган инсон капиталининг қиймати ушбу номоддий активларнинг даромадларини ошириш қобилиятига боғлиқ.

Ушбу фикрларни инсон капитали назариясидаги (корхонанинг инсон капиталини бошқариш назарияси) замонавий «бошқарув» ёндашувлари тасдиқлайди, бу унинг нафақат меҳнат унумдорлигини оширишда, балки корхонанинг номоддий активларини (интеллектуал капиталини) кўпайтиришдаги ролини таъкидлайди ва натижада, билимлар иқтисодиётида унинг рақобатбардошлигини таъминлайди. Инсон активлари - бу корхона ходимларининг жамоавий билимлари, уларнинг ижодий қобилиятлари, бошқарув, тадбиркорлик фазилатларидан фойдаланган ҳолда муаммоларни ҳал қилиш қобилияти ҳисобланади [10]. И. Бонтис инсон капиталини «муаммоларни ҳал қилиш қобилиятини берадиган бирлашган ақл, кўникма ва махсус билим» деб таърифлайди. Т.Стюарт, М.Юндг ва М.Армстронг инсон капиталини корхонанинг интеллектуал капиталининг ажралмас қисми сифатида ўрганадилар.

«Инсон капитали» тушунчасининг кўриб чиқилган ёндашувлари ва талқинлари ушбу турдаги капитал таркибининг батафсил даражаси билан ҳам фарқланади. Деярли барча тадқиқотчилар унинг асосий компоненти сифатида билим, кўникма, уларни кўпайтириш ва янгилаш қобилиятини ҳисобга олишади, яъни таълим омили бўлиб бир қатор мутахассислар-корхонанинг инсон ресурсларини бошқариш тарафдорлари-буни чеклаш кераклигини таъкидлайдилар [11]. Ушбу ёндашувда инсон ресурсларини ривожлантириш,

асосан, турли хил малака ошириш орқали ишчи кучининг потенциал имкониятларини оширишни англатади. Инсон капитали назарияси тарафдорлари замонавий маънода инсон активларини кенгрок талқин қилишни афзал кўришади. Масалан, Т.Е. Степанова фикрича уларнинг таркибига қуйидагилар киради: умумий ва махсус билимлар; кўникмалар, тажриба, малака; билимларни кўпайтириш ва янгилаш қобилияти; соғлиқ, генофонд; мотивациялар, қадриятлар; миграция капитали; иқтисодий аҳамиятга эга маълумотларга эга бўлишдир [12]. Е.М. Коротков эса инсон капиталининг билим, кўникма ва қобилиятлар, ижодий салоҳият ва қобилиятлар тўплами, қадриятлар тизими, ривожланган шахс, кадр-қиммат, ҳаракатчанлик, мотивация ва саломатлик каби асосий хусусиятларини (таркибий қисмларини) қайд этади.

Унинг турларини таснифлаш инсон капитали назариясида мунозарали масала бўлиб қолмоқда. Шундай қилиб, Г. Беккер «умумий» ва «махсус» инсон капиталини фарқлашни таклиф қилди ва махсус тайёргарлик натижасида олинган билим ва кўникмаларни ўз ичига олади ва фақат улар олинган корхона учун қизиқиш уйғотади [13]. Ж. Кендрик инсонкапиталини моддий (шахснинг жисмоний шаклланиши учун зарур бўлган харажатлар) ва номоддий (умумий таълим ва махсус тайёргарлик учун тўпланган харажатлар) га ажратади. М. М. Крецкий ишлаб чиқариш, истеъмол ва интеллектуал инсон капитали каби шакллари аниқлади, И.В. Ильинский - таълим, соғлиқни сақлаш ва маданият каби шакллари ажратиб кўрсатди.

Инсон капиталининг икки элементини ажратиб туради: мерос қилиб олинган (туғилиш пайтида олинган қобилиятлар) ва сотиб олинган (бу куч ва сармояни талаб қиладиган) [14].

«Инсон капитали» тушунчасининг мазмуни ва таркибининг кўриб чиқилган талқинлари унинг қуйидаги таърифини шакллантиришга имкон беради. Корхонанинг инсон капитали (инсон активлари) - бу унинг инновацион фаолиятда амалга ошириладиган ва ушбу фазилатлар эгаларига даромад келтирадиган корхонанинг инсон (шу жумладан меҳнат) салоҳияти ва интеллектуал капиталининг бир қисми бўлган инсон ресурсларининг жисмоний, интеллектуал ва ижтимоий фазилатлари мажмуи, улар ишлайдиган корхона ва умуман жамият, янги қадриятларни яратиш орқали амалга оширилади. Ушбу таъриф, биринчидан, инсон капиталининг корхона фаолиятидаги ролини тавсифлайди, иккинчидан, унинг тегишли иқтисодий тоифалар (инсон активлари, инсон ресурслари, меҳнат, инсон ресурслари, интеллектуал капитал) билан ўзаро боғлиқлигини акс эттиради ва учинчидан, унинг элементар таркибини очиб беради.

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TYPES OF PHRASEOLOGISMS AND SPECIFIC CHARACTERISTICS IN ENGLISH AND UZBEK LANGUAGE

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***Abstract:** In this article, while studying the unique features of phraseological units in the English and Uzbek languages, their comparative-typological analysis is carried out.*

***Key words:** phraseological units, phraseologism, stable word combinations, synonymy.*

A phraseological unit is a unit related to language and speech as a linguistic phenomenon. A linguistic unit consisting of the combination of more than one independent lexeme and having a figurative and spiritual nature is called a phraseological unit: ‘the hair on the top is standing up, the vinegar does not raise water; to show the white feather, to play the first fiddle’.

Phraseological unit is also referred to as phrase, phraseologism, stable compound, stable compound, phraseological compound.

The following are the main signs of phraseological units:

1. Two or more lexemes are part of the phraseological unit.
2. Phraseological unit represents a single lexical meaning.
3. The words in the phraseological unit have lost their lexical meaning.
4. Phraseological unit as a stable combination with a free combination is only in the homonymic state.
5. A phraseological unit can be replaced only as a whole
6. Phraseological unit comes in a syntactic function as a whole in the structure of the sentence.
7. A phraseological unit cannot be translated into another language word for word, it is translated as a whole. [1]

According to the constituent of a phraseological unit, a compound lexeme is similar to a phrase and a sentence. However, they live more ready and stable in the mind of the language community, like a joint lexeme. In other words, the phraseological unit has the nature of generality characteristic of all linguistic units in the language and appears as a feature in the speech. So, a phraseological combination is not a speech

event, but a language event. Also, the phraseological unit has a nominative meaning, so it is put on the same line as the lexeme, and it is called a nominative unit larger than the lexeme.

Two phenomena are distinguished in the content plan of phraseological units: 1) lexical meaning, more precisely, phraseological meaning; 2) methodological assessment. The meaning of a constituent morpheme, lexeme is usually embodied as a sum of meanings specific to the language units that make it up, and the meaning of the whole is understood based on the meaning of the parts. A phraseological unit is a linguistic unit, but its meaning is not equal to the simple sum of the meanings inherent in lexemes. In relation to the meaning of the lexemes in the meaning of phraseological units, the denominator is embodied as a superlative meaning, which may not depend on the meaning of the lexemes in the meaning. Due to the fact that the meaning of phraseological units is not a simple sum of the meanings specific to lexemes, but a new meaning built on top of them, there seems to be a break between the plan of expression and the plan of content in phraseological units. Specific meanings do not directly explain the general meaning. Therefore, the connection between the plan of expression and the plan of content in phraseological units becomes conditional. Here, more than one word as a whole undergoes semantic development based on a certain image, by means of transfer. Such a superimposed figurative meaning based on a certain image is called a phraseological meaning.[1.2]

By studying the semantic properties of phraseological units, it was determined that they contain phraseological polysemy, phraseological synonymy, phraseological antonymy, phraseological homonymy and paronymy phenomena [1].

Phraseological synonymy - synonymy is one of the semantic microsystems between language units, and also among phraseological units. In order to call two phraseological units synonymous, they must have the same meaning. Without it, it is impossible to talk about synonymy. It is not appropriate to understand the same meaning as the same meaning. Each synonym has its own edge of meaning, in addition to the general meaning of this nest of synonymy. Synonyms usually differ in one or more ways, one of which may be a difference in meaning. For example, to be in a bad mood and to be down in the mouth are synonyms of the phraseological unit: to be in a bad mood and to be down in the mouth. These synonyms, regardless of their other characteristics, differ in terms of meaning: in the latter, the meaning is somewhat stronger. When defining phraseological synonyms, the basis of another image is also taken into account. For example, a mouth, a shingle, a pinch of synonym phraseological units are based on various images: the organ of speech, a part of a head of grapes, the amount to be pinched.

Synonymous phraseological units should be distinguished from variants of one phraseological unit. For this, it is necessary to pay attention to the word-components of phraseological units. There is no doubt that phraseological units that do not have the same word-component in the lexicon are synonyms. For example, from thread to needle, mirid to secret, from hair to tail, which means "in every detail, to the smallest detail", is a mutual synonym of the phraseological unit, and they do not have a common word-component [2].

Synonymy is a phenomenon defined on the basis of meaning. The same ambiguity is determined between phrases in monosemantic phraseological units. If a polysemantic phraseological unit participates in a synonymous relationship, it should be derived not from a phraseological unit, but from a concrete phraseological meaning.

Phraseological antonymy. Antonymy is one of the phenomena determined on the basis of the semantic relationship between language units, and it is also found in phraseological units at the level of words. Determining antonymy, on the one hand, leads to a deeper understanding of the lexical meaning of phraseological units, on the other hand, it helps to distinguish between the meanings of one phrase in polysemy, and on the third hand, it is useful in defining synonyms.

In short, phraseological units in each language have their own linguistic features. But in all languages, phraseological units serve as language wealth. Polysemantic phraseological units serve to enrich the lexical structure of the language and speech and embody the meanings of emotional coloring.

Phraseological units play an incomparable role in conveying the uniqueness, lifestyle, material and spiritual values, history, culture, and customs of the peoples of the world into their own language. Phraseological units are related to how individuals use language units, as well as the basic rules and language norms that regulate their use. Use of phraseological units in speech, translation of their use in terms of national-cultural universality, differential and paradigmatic features, ways of transition from folk oral creativity to literary language, semantic features, artistic-stylistic possibilities, form and meaning explanation in terms of problems. , the importance of elucidating their place in the national language, the necessity of a dictionary suitable for modern linguistics is presented. Speaking about the contextual features of phraseological units, it can be said that there is a classification of phraseological structures according to the context, which are designated as phraseomes and idioms.

DISCUSSION AND RESULTS

Contextual features reflecting this type of phraseological units were first distinguished by Professor A.V. Kunin. Phraseological and phraseological units are

distinguished from free word combinations and compound words by their phraseological stability.

The theory of stability was also developed by Professor A. V. Kunin. A.V. Kunin considers sustainability as a multifaceted concept that includes the following elements:

1. Consistency of Use. This shows that phraseological units are not formed in speech, but are repeated in a ready form.

2. Lexical stagnation means that phraseological units cannot be replaced (for example, red tape, and mare's nest) or partially replaced within the framework of phraseological variation: lexical (skeleton in the closet - skeleton in the closet, blind pig. - blind or yo'lbars), grammatical (stone heart - stone heart), positional and mixed options.

3. Lexical stability of phraseological units is used to determine semantic stability. The meaning of the phraseological unit is preserved despite minor changes. It can only be identified, clarified, reduced or enhanced.

4. Syntactic consistency.

According to Kunin, any phraseology that does not have one of these stagnation qualities cannot be considered a phraseological unit. In this regard, there is a question of translating English idioms into another language, which have only idioms as a unique feature, and have a unique, unbroken phraseological structure. Preserving the lexical, semantic and linguistic features of idioms is a very difficult task. From the point of view of genetics, it is known that the structure of the English language differs from the structure of the Uzbek language; they belong to separate

language families. As a result, the grammatical structures of different languages differ from each other. There are several affixes in the Uzbek language, for example; the phrase begins with a noun and ends with a verb; there are no prepositions, articles, or gender categories. English has articles, prepositions and affixes. As a result, trying to translate words, phrases, sentences and especially idioms presents some difficulties. Moreover, the differences in form and meaning between English and Uzbek idioms make translation problematic. For example, — *hot under the collar* if translated as —yoqa ostidagi issiqlik ..., —*tepa sochi tikka bo'ldi* is the Uzbek version of this phrase. As can be seen from the example, the difficulty in mastering idioms is related to the disparity in terms of form and meaning. It should be noted that translating idioms from English to another language is very difficult. Because most of them are bright, inventive, laconic and vague, it is so. In translation, it is important not only to express the content of the phrase, but also to show its figurativeness, keeping in mind the methodological goal. When translating idioms, the translator must find an equivalent term in the local language and convey their meaning and imagery while preserving the

stylistic function of idioms. If there is no equivalent representation in the local language, the translator is forced to settle for an "approximate match.

CONCLUSION

Distinctions in semantic and stylistic tasks performed by words with the same real meaning in different languages, as well as differences in the combinations of such words in different languages, are extremely important for both practice and translation theory. They often cause great practical difficulties and are of great theoretical interest, because they differ in the semantic and stylistic functions of words with the same real meaning in different languages, and the way such words enter different languages.

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JAZONI O‘TASHDAN MUDDATIDAN ILGARI OZOD QILISHNING DOLZARB MASALALARI

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***Annotatsiya:** Ushbu maqolada jazo tushunchasi va uning ahamiyati, jazodan o‘tashdan muddatidan ilgari ozod qilish tushunchasi, huquqiy ahamiyati hamda qo‘llanilish doirasi yuzasidan turli ilmiy qarashlar o‘rganilgan. Bundan tashqari, tadqiqot ishida rivojlangan xorijiy davlatlar qonunchiligida jazodan o‘tashdan muddatidan ilgari ozod qilishning o‘ziga xos tomonlari yoritilgan.*

***Kalit so‘zlar:** jinoiy jazo, jazodan o‘tashdan muddatidan ilgari ozod qilish, shartli ozod qilish, sud, amnistiya, afv.*

Ma‘lumki, davlat rivojlanib borishi bilan undagi mavjud tizim ham o‘zgarishni, islohotni talab qila boshlaydi. Sud va huquqni muhofaza qiluvchi organlar tizimi va ularning ishlashi mexanizmi ham bundan mustasno emas.

So‘nggi yillarda O‘zbekiston Respublikasi Jinoyat qonunchiligining jazo tizimida ozodlikdan mahrum qilish bilan bog‘liq bo‘lmagan jazo turlarida tub islohotlar amalga oshirildi. O‘zbekistonda dunyodagi eng liberal jinoiy jazo tizimlaridan biri yaratilib, Jinoyat kodeksiga mamlakatimiz parlamenti tomonidan 100 ga yaqin qo‘shimcha va o‘zgartirishlar kiritildi.

O‘zbekiston Respublikasi yangi Konstitutsiyasining 30 moddasiga ko‘ra, jinoyat uchun hukm qilingan har kim qonunda belgilangan tartibda hukmning yuqori turuvchi sud tomonidan qayta ko‘rib chiqilishi huquqiga, shuningdek afv etish yoki jazoni yengillashtirish to‘g‘risida iltimos qilish huquqiga ega ekanligi keltirilgan.

Shuni alohida ta‘kidlash joizki, bir qancha jinoyatlarga oid huquqiy normalar ham inson huquq va erkinliklariga bevosita daxldor ekanligini inobatga olib, ularni ham jinoyat qonunchiligini yanada liberallashtirish va insonparvarlik tamoyillariga muvofiqlashtirish nuqtai nazaridan isloh qilish maqsadga muvofiq.

Mamlakatimiz raxbari Sh.M.Mirziyoev boshchiligida amalga oshirilayotgan islohotlardan ham ko‘zlangan asl maqsad xalq farovonligi, qonun ustuvorligi ta‘minlangan demokratik davlat qurishdir. O‘zbekiston Respublikasi Prezidentining

joriy yilning yil 28 yanvardagi 2022 – 2026 yillarga mo'ljallangan Yangi O'zbekistonning taraqqiyot strategiyasining qabul qilinishi jinoyat va jinoyat-protsessual qonunchiligini takomillashtirish sohasidagi davlat siyosatining eng muhim yo'nalishlarini belgilab bermoqda va sud-huquq tizimini isloh qilishning tarixiy ahamiyatga ega bo'lgan muhim bosqichi bo'lib xizmat qilmoqda¹.

Bundan tashqari, O'zbekiston Respublikasini rivojlantirishning beshta ustuvor yo'nalishi bo'yicha Harakatlar strategiyasi asosida ham jamiyat va davlat hayotida eng muhim jabhalarni isloh qilish, yillar davomida to'plangan muammolarni yechimini topish vazifalari belgilandi.

Harakatlar strategiyasining aynan ikkinchi ustuvor yo'nalishi "Qonun ustuvorligini ta'minlash va sud-huquq tizimini yanada isloh qilishning ustuvor yo'nalishlari" masalalari belgilangan bo'lib, unga ko'ra, sud-huquq tizimini yanada isloh qilish vazifalari belgilandi.

Jazo nima, degan savol jinoyat huquqi nazariyasida eng murakkab va bahsli masalalar qatoriga kiradi. Jazoni keng, umumijtimoiy ma'noda shaxsga ta'sir ko'rsatish, uning xulq-atvorini tartibga solish usuli sifatida tushunish amalda e'tiroz uyg'otmasa-da, jinoyat-huquqiy kategoriya sifatidagi jazoning mazmun va mohiyati atrofida qizg'in bahslar uzoq yillardan beri davom etib keladi. Qolaversa, insonparvar, ezgulik, inson huquq va erkinliklariga sadoqat, jinoiy jazolar tizimini liberallashtirish, jamiyat hayotining barcha jabhalarida qonun ustuvorligini ta'minlash O'zbekistonda barpo etilayotgan erkin jamiyat poydevorini tashkil etadi. Deyarli barcha huquqshunoslar tomonidan qo'llab-quvvatlanadigan "jazo bu – davlat majburlovi chorasidir", degan fikr O'zbekiston Respublikasining Jinoyat kodeksi 42-moddasining birinchi qismida o'zining tegishli ifodasini topgan. Jinoyat qonunida jazo davlat majburlov chorasi sifatida ta'riflangani uning eng muhim belgilariga ishora qiladi.

Jinoyat uchun jazoning maqsadlarini ta'riflashda faqat ijtimoiy rivojlanish darajasi, jinoyat huquqining funktsiyalari va qonunda mustahkamlangan jinoyat-huquqiy vositalarni hisobga olish bilangina kifoyalanmaydilar. Maqsadni belgilash jarayonida konkret huquqiy hodisa – jazoning mohiyatidan ham kelib chiqadilar. Hodisaning mohiyati va uning maqsadlari o'rtasidagi aloqa, "maqsad hodisadan tashqarida yotadi, biroq unga faqat hodisaning mohiyatini belgilovchi xossalar yordamida erishish mumkin, ya'ni mohiyat loyihalananayotgan maqsadga erishish vositasi hisoblanishi" bilan belgilanadi. Jazoning mohiyati jazolashdan iborat bo'lgani bois, jazoning maqsadlariga jazolarning mazmunini tashkil qiluvchi muayyan huquqiy cheklashlarni mahkumga qo'llash yo'li bilan erishilishi mumkin.

¹O'zbekiston Respublikasi Prezidentining Farmoni, 28.01.2022 yildagi PF-60-son

Jazodan muddatidan ilgari ozod qilish muammosi jinoiy javobgarlikning mohiyati va undan ozod qilish turlari, jinoyat uchun jazoning maqsadlari va uning samaradorligi to'g'risidagi masalalar bilan uzviy bog'liq. Muddatidan ilgari ozod qilinganlar takroriy jinoyatchiligi darajasining pastligi jazodan ozod qilishning samaradorlik darajasini aks ettiruvchi asosiy ko'rsatkichlaridan biri hisoblanadi. Mahkumlarni jazodan ozod qilish masalalarini tartibga soluvchi jinoyat-huquqiy normalarning amaldagi tahriri avvalgi qonun hujjatlari va boshqa normativ hujjatlarning ma'lumotlari hamda ularni qo'llanish amaliyotini hisobga olish va tizimlashtirish natijalariga, shuningdek inson huquqlarini himoya qilish sohasidagi xalqaro-huquqiy hujjatlar, jinoyat va jinoyat-ijroiya qonunchiligi normalariga asoslanadi. Jazodan ozod qilish instituti va jazoni o'tashdan ozod qilish instituti sudning ayblov hukmini ijro etish jarayonini muddatidan ilgari tugatishning jinoyat huquqining mustaqil institutlari hisoblanadigan bir nechta turlarini o'z ichiga oladi. Ularni nomlari zikr etilgan ikki institutga birlashtirish ularning ijtimoiy vazifasi va aybdor uchun kelib chiqadigan huquqiy oqibatlarning yagonaligini hisobga olganda o'rinli hisoblanadi. Jazodan ozod qilish instituti keng ma'noda ulkan ijtimoiy ahamiyat kasb etadi. U konkret shaxsga berilgan jazoning maqsadlariga erishilganligi yoki erishilmaganligiga qarab, unga qo'llaniladigan jinoiy repressiya hajmiga tuzatish kiritish imkoniyatini beradi. Unda hozirgi jinoyat-huquqiy siyosatning insonparvarligi aks etadi. Ko'rib chiqilayotgan institutning muhimligini inobatga olib, qonun chiqaruvchi jazodan ozod qilish bilan bog'liq normalarni jinoiy javobgarlikdan ozod qilish masalalarini tartibga soluvchi normalardan alohida bobga ajratdi. Ushbu yechimni O'zbekiston Respublikasi JKning shak-shubhasiz afzalliklari jumlasiga kiritish mumkin. Mazkur normalar oldingidek turli qonun hujjatlari (JK, JPK)da emas, balki bitta qonun hujjati (JK)da jamlangani ham ulkan ahamiyatga egadir. O'zbekiston Respublikasi JKga bir-birini takrorlovchi normalar kiritilgani yo'q.

O'zbekiston Respublikasi JKning XIII bobi "Jazodan ozod qilishning turlari" deb nomlangan bo'lib, unga jazoni ijro etish muddati o'tib ketganligi munosabati bilan jazodan ozod qilish, shaxsning ijtimoiy xavflilik xususiyatini yo'qotishi munosabati bilan uni jazodan ozod qilish, aybdorni chin ko'ngildan pushaymon bo'lganligi munosabati bilan jazodan ozod qilish, shartli hukm qilish, jazoni o'tashdan muddatidan ilgari shartli ozod qilish, jazoni yengilrogi bilan almashtirish, kasallik yoki mehnat qobiliyatini yo'qotish oqibatida jazodan ozod qilish, amnistiya akti yoki afv etish asosida jazodan ozod qilish kiritilgan.

O'zbekistonlik va chet ellik olimlarning asarlari eng muhim huquqiy va kriminologik tushunchalar to'g'risidagi fundamental tasavvurlarning asosini tashkil qildi, bularning barchasi yangi jinoyat va jinoyat-ijroiya kodekslarini tayyorlash

jarayonida o'z aksini topdi. Ammo qonunchilikka ba'zi bir tuzatishlarni kiritishda shoshma-shosharlik rag'batlantiruvchi normalar o'rtasida raqobatga va jazoni o'tashdan muddatidan ilgari ozod qilishning ayrim turlari o'rtasida kolliziyaga olib keldi.

Jazodan ozod qilishning turlari vujudga kelish va huquqda mustahkamlanish davriga ko'ra farq qiladi. Masalan, afv etish tarixi asrlar bilan o'lchansa, homilador ayollarning va yosh bolasi bor ayollarning jazoni o'tash muddatini kechiktirish bir necha yillardan beri amal qilayotir. Binobarin, jazoni o'tashdan muddatidan ilgari ozod qilishning har bir turi haqidagi ilmiy bilimlarning o'rganilganlik darajasi ham bir xil emas.

Jamiyat rivojlanishining hozirgi bosqichida qonun hujjatlarida mustahkamlangan mahkumlarni jazodan ozod qilish turlarining muvofiqligini aniqlashdan, inson huquqlari va hamda huquqbuzarlar bilan muomalada bo'lish sohasidagi xalqaro normalar va standartlarni hisobga olgan holda huquqiy ko'rsatmalarni takomillashtirish yo'nalishlarini belgilashdan iborat.

Jazodan ozod qilish institutning tushunchasi, mohiyati, o'ziga xos belgilari, jazodan ozod qilishning jinoyat-huquqiy ahamiyati bilan bog'liq munosabatlari tadqiqot ob'ektini tashkil etadi.

O'zbekiston Respublikasi Jinoya kodeksida nazarda tutilgan jazodan ozod qilish turlarining barchasini nazariy, qonunchilik, huquqni qo'llash nuqtai nazarlaridan tizimli o'rganishga bag'ishlangan ilk kompleks monografik tadqiqotlardan biri hisoblanadi. Bundan tashqari, ishda jinoyat, jinoyat-ijroiya qonunchiligining mahkumlarni jazodan ozod qilishga doir qoidalarini takomillashtirish yuzasidan takliflar ilgari surilgan va jazoni o'tashdan muddatidan ilgari ozod qilinganlarga ijtimoiy yordam ko'rsatish amaliyotini o'zgartirish bo'yicha tavsiyalar ta'riflangan, shuningdek amnistiya, afv etish va ozod qilinganlarning ijtimoiy moslashuvi to'g'risida yangi qonun hujjatlarini ishlab chiqish zarurligi asoslangan.

Jumladan Jinoyat kodeksining 73-modda. Jazoni o'tashdan muddatidan ilgari shartli ozod qilishga bag'ishlangan.

Unga ko'ra:

Ozodlikdan mahrum qilish, intizomiy qismga jo'natish, xizmat bo'yicha cheklash, ozodlikni cheklash yoki axloq tuzatish ishlariga hukm qilingan shaxslarga nisbatan jazoni o'tashdan muddatidan ilgari shartli ozod qilish qo'llanilishi mumkin. Shaxs ijro etilmagan qo'shimcha jazodan ham ozod qilinishi mumkin. Jazoni o'tashdan muddatidan ilgari shartli ravishda ozod qilish ushbu moddaning birinchi qismida ko'rsatilgan jazo turlari uchun o'rnatilgan tartib-qoida talablarini bajargan va mehnatga halol munosabatda bo'lgan mahkumga nisbatan qo'llaniladi.

Jazoni o'tashdan muddatidan ilgari shartli ravishda ozod qilish mahkum:

a) ijtimoiy xavfi katta bo'lmagan yoki uncha og'ir bo'lmagan jinoyati uchun sud tayinlagan jazo muddatining kamida uchdan bir qismini;

b) og'ir jinoyati uchun, shuningdek qasddan sodir etgan jinoyati uchun, agar shaxs ilgari qasddan sodir etgan jinoyati uchun ozodlikdan mahrum etishga hukm qilingan bo'lsa, sud tayinlagan jazo muddatining kamida uchdan ikki qismini;

v) o'ta og'ir jinoyati uchun, shuningdek jazodan muddatidan ilgari shartli ozod qilingan yoki jazosi yengilrog'i bilan almashtirilgan shaxs jazoning o'talmagan qismi mobaynida qasddan yangi jinoyat sodir etganligi uchun hukm qilingan bo'lsa, sud tayinlagan jazo muddatining kamida to'rt dan uch qismini haqiqatda o'tab bo'lganidan keyin qo'llanilishi mumkin.

Jazodan muddatidan ilgari shartli ravishda ozod qilish:

a) umrbod yoki uzoq muddatga ozodlikdan mahrum qilishga hukm etilgan shaxsga;

b) o'ta xavfli retsivistga;

v) uyushgan guruh yoki jinoiy uyushmaning tashkilotchi va qatnashuvchilariga;

g) javobgarlikni og'irlashtiradigan holatlarda qasddan odam o'ldirganlik, o'n sakkiz yoshga to'lmagan jabrlanuvchining nomusiga tekkanlik yoki unga nisbatan zo'rlik ishlatib, jinsiy ehtiyojni g'ayritabiiy usulda qondirganlik, o'n sakkiz yoshga to'lmagan shaxsni jinsiy aloqada bo'lish yoki jinsiy ehtiyojni g'ayritabiiy usulda qondirish bilan bog'liq holda jinsiy aloqa qilishga majbur etganlik, o'n olti yoshga to'lmagan shaxs bilan jinsiy aloqa qilganlik yoki jinsiy ehtiyojni g'ayritabiiy usulda qondirganlik yoki unga nisbatan uyatsiz-buzuq harakatlarni qilganlik, voyaga yetmagan shaxs tavsiflangan yoki tasvirlangan pornografik mahsulotni tarqatish, reklama qilish, namoyish etish maqsadida O'zbekiston Respublikasi hududiga olib kirganlik, xuddi shuningdek uni tayyorlaganlik, tarqatganlik, reklama qilganlik, namoyish etganlik yoxud voyaga yetmagan shaxsni pornografik xususiyatga ega harakatlarning ijrochisi sifatida jalb etganlik, voyaga yetmagan shaxsni jalb etgan holda qo'shmachilik qilganlik, fohishaxonalarni tashkil etganlik yoki saqlaganlik, O'zbekiston Respublikasiga, tinchlikka va insoniyat xavfsizligiga qarshi jinoyat sodir etganlik, yadroviy, kimyoviy, biologik va boshqa xildagi ommaviy qirg'in qurollarini, shunday qurollarni ishlab chiqarish uchun foydalanish mumkinligi ayon bo'lgan material va uskunalarni, kontrabanda qilganlik uchun hukm qilingan shaxslarga nisbatan qo'llanilmaydi.

Jazoni o'tashdan muddatidan ilgari shartli ravishda ozod qilinib, jazoning o'talmagan qismi mobaynida qasddan yangi jinoyat sodir etgan shaxsga nisbatan sud

jinoyat kodeksining 60-moddasida nazarda tutilgan qoidalarga muvofiq jazo tayinlaydi.

Xorijiy mamlakatlarga diqqat qaratadigan bo'lsak, xorijiy mamlakatlarda ham jinoiy jazodan ozod qilish tajribalari O'zbekistonning qonunchiligida keltirilgan jazodan ozod qilishga o'xshab ketadi. Bunga sabab esa, har bir davlat o'z qonunchiligini yaratayotganda birinchi navbatda "Xalqaro huquqning" umume'tirof etilgan qoidalariga yuzlanadi. Bunda ular chet el tajribalarini o'rganadi va davlatning o'z milliy an'analariga asoslangan holda o'zi uchun kerakli bo'lgan qoidalaridan foydalangan holda, qonunchilikni yaratadi va unga o'zgartirishlar kiritadilar. Misol uchun xorijiy mamlakatlardan Germaniya, Frantsiya, Shveysariya, shuningdek, MDH mamlakatlaridan Rossiya Ukraina, Ozarbayjon va Belarussiya mamlakatlarining jinoyat huquqida jinoyat va jinoyat protsessual qonunchiligiga asosan, Jinoyat kodeksi maxsus qismining tegishli moddasida nazarda tutilgan jinoyatlarni sodir etgan shaxslar, amalda pushaymon bo'lsalar, ushbu shaxslarning javobgarlikdan va jazodan ozod bo'lishi mumkinligi to'g'risidagi qoidalar keltirib o'tilgan. Shunga asosan, davlatlarning qonunchiligi bir-birinikiga o'xshab ketadi. Farqli jihatlari ham bo'lishi mumkin, lekin ushbu farq unchalik ko'p bo'lmaydi. Ushbu o'xshashliklarni Germaniya qonunchiligi misolida ko'rib o'tamiz. Misol uchun Germaniyaning Jinoyat kodeksiga murojat qilinadigan bo'lsa, Germaniya Jinoyat kodeksiga asosan, mahkum agarda Jinoyat kodeksining tegishli moddasida nazarda tutilgan bir yildan ko'p bo'lmagan, ozodlikdan mahrum qilish jazosiga hukm qilinadigan bo'lsa, sud mahkumni ogohlantiradi va unga nisbatan jazo tayinlamasdan shartli sinov belgilashi va jazoning ijrosini to'xtatib qo'yishi mumkinligi aytib o'tilgan. Bunda mahkumning qancha jinoyat sodir etganligi, mahkumning shaxsiyati, uning o'tmishdagi hayoti, qilmishining holati, hozirgi qilgan harakatlaridan keyingi xatti-harakatlari, uning yashash sharoiti va to'xtatib turish natijasida kutilayotgan ta'sirlarni va boshqalarni inobatga olgan holda mahkumga nisbatan shartli sinov belgilanishi va jazoning ijrosini to'xtatib qo'yish mumkinligi haqida qoidalar keltirib o'tilgan.

Sud mahkumning qilmishi va shaxsi ayblanganidan keyin alohida holatlar mavjud bo'ladigan bo'lsa, ikki yildan oshmaydigan yuqori sud hukmning ijrosini to'xtatishi mumkin deb keltirib o'tilgan. Bunda yana qaror qabul qilinayotganda, mahkumning jinoyat oqibatida yetkazilgan zararni qoplashga qaratilgan harakatlari ham hisobga olinishi lozim hisoblanadi. Germaniyada mahkumlarga beriladigan sinov muddatining davomiyligi besh yildan oshmasligi va ikki yildan kam bo'lmashligi lozimligini sudlar belgilab berishi va ularning qancha muddat tayinlanishni ham sudyalarning mustaqil amalga oshirishlari aytib o'tilgan.

Germaniya Federativ Respublikasining Jinoyat kodeksi O'zbekiston Respublikasining Jinoyat kodeksida keltirilgan jazoni ijro etish muddatining o'tib ketganligi munosabati bilan jazodan ozod qilishga mosdir.

Jazodan ozod qilish muammosi, ayniqsa O'zbekiston Respublikasida jinoiy jazolarning liberallashtirilishi sharoitida moddiy va protsessual huquqning o'zaro munosabati doirasida tadqiq etilmagan. Shu bois, jazodan ozod qilish muammosini tadqiq etish hozirgi vaqtda jinoyat huquqi nazariyasi, qonunni qo'llash amaliyoti talablari va ehtiyojlari qondirilishiga imkon yaratadi. Mazkur muammoga oid masalalarning ko'p jihatlari O'zbekiston Respublikasining amaldagi qonuni asosida, O'zbekiston Respublikasi JKga kiritilgan so'nggi o'zgartish va qo'shimchalar hisobga olinib, ilmiy va amaliy jihatdan yetarlicha tadqiq etilmagan va o'rganilmagan. Ayni paytda shu kungacha jazoni o'tashdan ozod qilish muammosini o'rganishga bag'ishlangan kompleks tadqiqot hali o'tkazilgani yo'q.

Jinoyat uchun jazoning umumiy preventiv roli jazo qo'llash tahdidi bilan, shuningdek boshqa shaxslarni amalda jazolash va sodir etilgan jinoyat uchun javobgarlikning muqarrarligini ta'minlash orqali beqaror fuqarolarga ruhiy ta'sir ko'rsatishdan iboratdir.

Yuqorida aytib o'tilganidek, axloqan tuzatish xulq-atvorni ijobiy tomonga o'zgarishga rag'batlantirishni nazarda tutadi. Shu tufayli ham mahkumlar xulq-atvorini psixologik jihatdan tuzatish alohida ahamiyat kasb etadi. Bu ish bilan mutaxassislar shug'ullanishlari lozim. Shuning uchun ham axloqan tuzatish vositalari qatoriga mahkumlarga psixologik yordam ko'rsatish ham kiritilsa, bizningcha, maqsadga muvofiq bo'lar edi.

Maqolada ta'riflangan xulosalar, takliflar va tavsiyalardan qonunchilikni takomillashtirishda foydalanilishi mumkin va ular mahkumlarni jazoni o'tashdan muddatidan ilgari ozod qilishga tayyorlashning sifatini yaxshilashga, ularning takroriy jinoyatchiligiga qarshi kurashning samaradorligini oshirishga, bunday shaxslarning ijtimoiy moslashuviga ko'maklashishga nisbatan yondashuvlarni o'zgartirishga samarali yordam ko'rsatishga qodir.

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***Аннотация:** В статье говорится о творчестве классика русской словесности И. А. Крылова, которое охватывает самые разные жанры и направления литературы - среди которых проза, поэзия, драматургия.*

***Ключевые слова:** басни Крылова, творчество, особенность басен Крылова, поучительная мысль басен, заимствование басен крылатые выражения, написал более 201 басен*

Иван Андреевич Крылов написал 201 басню. Сюжеты 70 -ти из них заимствованы у Лафонтена и Эзопа, большая же часть остальных – оригинальны. По содержанию басни Крылова можно разделить на три части: 1) те, в которых осмеиваются общечеловеческие недостатки и пороки; 2) те, в которых автор обличает общественные недостатки современной ему жизни и 3) басни исторические.

Басня - один из наиболее древних видов поэтического творчества; вместе с тем она сохранила всё своё значение до нашего времени. По особенностям своего жанра вобравшего опыт многих народов и поколений, басня является наиболее лаконичной, ясной и обобщённой формой сатиры, любимой народом. Советские баснописцы унаследовали золотой фонд русской басни, в котором Особенно большое место занимают басни великого русского баснописца И.А.Крылова, с наибольшей полнотой его выразившие народную мудрость. Басни Крылова получили мировое признание, они явились вершиной мировой традиции.

У Крылова почти каждая басня имеет свой особый характер и манеру. Но главное, что отличает крыловские басни от басен его предшественников и современников - это реалистическая конкретность образов. В его баснях впервые появились живые звери наделенные людскими характерами. Мастерство Ивана

Андреевича Крылова по праву считаются высшими образцами этого жанра на русском языке. Именно басни, а не комедии принесли ему подлинную всенародную славу. Именно они занимают центральное место в творчестве Крылова.

В начале 1809 года вышла первая книга басен Крылова. С тех пор Крылов в течение четверти века всю свою энергию отдавал писанию басен. При жизни у Крылова вышло до десяти изданий басен, в которых принимал участие сам автор, начиная с первого издания 1809 года и кончая изданием басен в девяти книгах 1843 г., подготовленном им незадолго до смерти. Почти каждое из этих изданий включало новые басни и вносило изменения в расположение басен в прежних сборниках.

Крылов написал более 200 басен. Сюжеты многих басен заимствованы из Эзопа и Лафонтена, хотя немало и оригинальных сюжетов. Многие выражения из его басен вошли в русский язык как крылатые слова. Поразительно широк тематический охват басен Крылова - вся Россия от мужика до царя, представлена в них. Острые сатиры направлены против дворян-тунеядцев, вельмож, бюрократов, чиновников и судей. Басни Крылова - образец словесного мастерства. В них как бы сконцентрирован весь его творческий опыт как писателя-драматурга, поэта-лирика, сатирика и баснописца.

Крылов выражал не только мудрость народа, но и его нравственный идеал. В своих баснях он высмеивал и разоблачал все враждебные и чуждые нравственным представлениям русского человека.

Жанр басни вобрал в себя все стилевое разнообразие средств русского языка начала XIX века, смешав, объединив пласты, положив начало взаимодействию и сближению разговорного языка с языком письменной литературы. И работу эту начал Крылов.

На первый взгляд у Крылова почти нет архаизмов: так понятно все, о чем он пишет. Но на самом деле это не так.

Вот басня "Хозяин и Мыши" :

Коль в доме станут воровать,

А нет прилики вору,

То берегись клепать

Или наказывать всех сплошь и без разбору.

Если слово сплошь понятно всем, то три слова здесь нуждаются в объяснении: коль имеет значение "если" (это условный союз); существительное прилика означает "улика"; клепать - "Ложно обвинять кого-либо в чём-либо".

У Крылова этот глагол встречается и в другом значении: "клеветать, наговаривать на кого-либо":

А тут бесенок из-за печки:

" Не стыдно ли, - кричит, - всегда клепать на нас! "

Объясняя значения устаревших слов из басен Крылова, попробуем показать сложные процессы в жизни языка. Мы только что говорили о словах, которые сравнительно недавно вошли в литературный язык. Но ведь слова ей уходят из языка: и исчезают какие-то жизненные реалии и перестают быть понятными или нужными в активном словарном запасе слова, их обозначающие, такие слова называются историзмами. Собственно архаизмами считаются слова, которые перестали употребляются по внутренним языковым причинам, когда слово из языка было вытеснено синонимом или потеряло какое-то одно из своих значений. Язык басен Крылова отдаёт нам множество примеров, которым помогут рассказать об этих процессах, сделать их более зримыми.

Диалог в стиле Крылова достигает предельной лаконичности, драматической быстроты и реалистической естественности, приспособляясь к социальному облику в басенных персонажах. Например, в басне "Лягушка и волк". Основная цель басни - донести до читателя какую-либо мораль, то есть преподать урок. Мораль в баснях прослеживается чаще всего в конце рассказа и имеет завуалированную форму. Формат басни может быть стихотворным или повествовательным.

Басни Крылова - это художественная галерея ярких национальных портретов. По словам Белинского " басни Крылова, кроме поэзии, имеют ещё другое достоинство, которое вместе с первым заставляет забыть, что они - басни, и делает его великим русским поэтом: мы говорим о народности его басен".

В книгу входят известные басни Ивана Андреевича Крылова «Стрекоза и муравей», «Слон и Моська», «Ворона и Лисица», «Лебедь, рак и щука», «Волк и Ягненок», «Мартышка и очки», «Петух и жемчужное зерно»

Особенностью басен И. А. Крылова считается то, что главными героями являются животные, которым автор придал человеческие качества: они умеют разговаривать, у них есть характер, они могут думать и действовать как люди. Крылов олицетворяет животных для того, чтобы сатирически изобразить человеческие достоинства и пороки. Басни Ивана Андреевича Крылова учат нас: надеяться на свои силы и думать о будущем ("Стрекоза и Муравей"), не льстить ради своей выгоды и говорить правду ("Ворона и Лисица"), не быть невеждой, стараться становиться умней ("Мартышка и очки"), в благодарностью относиться к добрым поступкам со стороны ("Свинья под Дубом"), Самой любимой басней

Крылова для меня является "Лебедь, Щука и Рак". Она простая и несёт в себе ясный смысл - только действуя сообща мы можем добиться успеха. Я полностью согласна с баснописцем. Крылов, надолго остаются в памяти читателей, помогают развить мировоззрение, образное мышление, понять суть вещей и их скрытый смысл. Басни И. А. Крылова являются неотъемлемой частью современной детской литературы, имеют огромное познавательное, воспитательное, нравственно-этическое значение. Еще Николай Гоголь назвал Басни Крылова «книгой мудрости народа». Самой любимой басней Крылова для меня является "Лебедь, Щука и Рак". Она простая и несёт в себе ясный смысл - только действуя сообща мы можем добиться успеха. Я полностью согласна с баснописцем.

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UMUMIY O'RTA TA'LIM MAKTABLARDA TA'LIM TEXNOLOGIYASINI TAKOMILLASHTIRISH

Abdurazzoqova Dildora Otabek qizi

Qo'qon DPI 1-bosqich talabasi

ANNOTATSIYA

Ushbu maqolada O'zbekistondagi va jahondagi maktablarning dars jarayonlari, ta'lim sohasini takomillashtirish va maktablarni o'zidayoq yoshlarni oliy ta'limga tayyorlash, o'quvchilarga ta'lim texnologiyalari orqali o'quvchilarni dars jarayonlariga qiziqtirish, hozirgi kunda maktab tizimida zamonaviy texnologiyalarni o'rni qandayligi, maktab ta'limida raqamli texnologiyalarni qo'llanishi, ta'im tizimida zamonaviy pedagogik texnologiyalarni joriy etishga tahlil qilish, kamchiliklarni aniqlashdan iborat bo'lib, yoshlarni ta'lim sifatini oshirish va ularni yetuk mutasassis qilib tarbiyalashga qaratilgan.

Kalit so'zlar: *Mutaxassis kadrlarni tayyorlash, texnika, texnologiya, maqsadli motivlashtirish, tashkiliy ijrochilik funksiyasi, o'qitish metodikasi.*

Jahonda har bir mamlakat o'z mezonlari asosida ta'lim tizimini belgilaydi. Shuning uchun turli davlatlarda ta'lim olish turlicha bo'ladi. Ta'lim tizimiga asos solinayotganda mamlakatning tarixiy an'analari, bugungi kun talablari inobatga olinadi. Xorijiy davlatlarda o'qitish metodikalari juda murakkab va raqamli texnologiyalar takomillashgan. Dastur sifatleri ham puxta reja asosida tuzilgan hisoblanadi. Xorijiy davlatlar kabi biz ham o'qitish texnologiyalariga e'tibor berish orqali yosh avlodga beriladigan ta'lim sifatini oshirga qaratilgan aniq chora-tadbirlar belgilash lozim.

Joriy 2023-yil 2-noyabr kuni ta'lim to'g'risida Prezident Shavkat Miromonovich Mirziyoyev boshchiligida bo'lib o'tgan videoselektor yig'lishida mamlakatimizda ta'lim - tarbiya tizimini takomillashtirish, ilm-fan sohasi rivojini jadallashtirish masalalari muhokama qilindi. 2023-yil "Insonga e'tibor va sifatli ta'lim yili" deb e'lon qilindi. Davlatimiz rahbari taraqqiyotning tamal toshi ham, mamlakatimiz qudrati, millatni buyuk qiladigan kuch ham ilm-fan, ta'lim va tarbiyadir degan g'oyani ilgari surdi. Ilgari surilgan ushbu g'oyada "O'zbekistonda ta'lim tizimini kompleks rivojlantirish, malakali kadrlar tayyorlash maqsadlariga katta kuch va mablag'lar yo'naltirilmogda. Hammamiz aziz farzandlarimiz hayotini va taqdirini

o'qituvchi va murabbiylarga ishonib topshiramiz. Mana shunday beqiyos boylik posbonlar, kelajak bunyodkorlari bo'lgan bu mo'tabar zotlarga munosib hurmat-extirom ko'rsatishimiz kerak" dedi Prezidentimiz. Prezident tomonidan ta'kidlagandek, biz pedagoglar oldiga umumta'lim maktablarda raqamli texnologiyalarni qo'llashimiz, raqamli texnologiyalarni o'z o'rnida ishlatishni bilish lozimligini ko'rsatadi.

2023-yilda yurtimizda ta'lim sifatini oshirish bo'yicha ko'plab ishlar amalga oshirilmoqda. Jumladan, ikki smenali maktablar sonini qisqartirish, 70 ta yangi zamonaviy maktab qurilishi, 460 ta umumta'lim maktablarni kengaytirish masalasi ko'zda tutilgan. Bundan tashqari xususiy investitsiyalar ishtirokida 100 ta maktab qurish loyihalari boshlanadi, kelgusi besh yil ichida ularning soni mingtaga yetkaziladi. 2023-yildan maktab ta'limi xalqaro ta'lim dasturlari butunlay isloh qilish, kelgusi yildan boshlang'ich sinf o'quvchilari uchun bepul ovqatlanish Qoraqalpog'iston va Xorazm kabi boshqa viloyatlar va Toshkent shahri maktablarida ham joriy etiladi va uning uchun 2,3 trillion so'm ajratildi. Unga javoban maktablarda ta'lim sifatini oshirish uchun pedagoglarni ta'limiga e'tibor berish, yetuk kadrlar chiqarish sistemasi bo'yicha ishlab ularni texnologiya nimaligi o'rgatishimiz zarur deb o'ylaymiz. Umumta'lim maktablarda asosiy masala sifatida davomadga emas, balki ta'lim sifatini oshirishga qarashim lozim. Maktab darsliklarini yosh avlodga maktabda o'rgatishim, o'quv kurslarda emas, Prezidentimizni yaratib bergan sharoitlaridan oqilana foydalangan holda yurtimizga yetuk kadrlar tayyorlashga harakat qilishimiz biz pedagoglarni oldidagi dolzarb vazifa bolishi kerak. Ta'lim bo'yicha nazariyamizni kengaytirish va yana qanday usullarda foydalanishimiz mumkinligi haqida o'ylashimiz va uni yosh avlodlarga to'g'ri tadbiiq qilib berishimiz zarur. Maktablarda sinf xonalarga va shart-sharoitlarga ham e'tibor bergan xolda yosh avlodga sifatli ta'lim berishimiz lozimdir. O'quvchilarni o'quv kurslarda emas balki, maktablarni o'zida oliy ta'limga tayyorlashimiz maqsadga muvofiqdir. Oliy ta'limda o'qib borgan kadrlarni ma'sulyatligiga va o'z ustida ishlay oladigan kadrlarni ishga jalb qilishimiz, maktablarda o'tiladigan darslarni qiziqarli metotlardan foydalangan holda o'quvchilarimizni dars mashg'ulotlariga qiziqtirish asosiy vazifalardan hisoblanadi. Hozirgi kunda xorijiy davlatlar tajribasidan o'rganib, o'qitish texnologiyalarini o'zimizning ta'lim tizimiga joriy etish, maktablarda ta'lim sifatini oshirish bo'yicha islohatlar qilmoqdamiz.

Taklif sifatida shuni aytish mumkinki, o'quvchilarni darslarni o'z vaqtida o'zlashtirib borayotganligini ota-onalar ham kuzatib borishsa maqsadga muvofiq bo'ladi. Lekin buning o'rniga maktablarda dars sifati yaxshi emas deb o'quv kurslari bilan chalg'itib qo'yishmoqda. Shu bois biz avvalo maktab ta'limini yaxshilab

bersakgina ota - onalarimiz farzandlarini kurslarga emas maktabga yuborishadi deb o'ylaymiz. E'tiborimizni qaratgan holda shunday muammolarni bartaraf qilishga bor kuchimizi sarflashimiz zarur. Yangi O'zbekiston – maktab ostonasidan boshlanadi degan ezgu g'oya asosida bu sohada katta ishlar amalga oshirilmoqda. So'nggi yillarda yuzlab zamonaviy maktablar barpo etildi. Peezident maktablari, ijod maktablari hayotimizga kirib kelishi bilan ixtisoslashtirilgan maktablar tarmog'i kengaytirildi. Yangi darsliklar va o'quv qo'llanmalar yaratildi. Jumladan, chet tili, axborat texnologiyalari, matematika, kimyo, biologiya bo'yicha milliy va xalqaro sertifikati bor o'qituvchilarga ustama, chekka hududga borib ishlagan muallimlarga alohida to'lov joriy etildi. Tahlillar natijasida 6 million so'mdan 10 million so'mgacha maosh oladigan o'qituvchilar soni 23 mingga yetdi. 10 milliondan so'mdan yuqori oluvchi oqituvchilar soni 1mingdan oshdi. Shu bilan birga maktab ta'limi sohasida dolzarb masala sifatida bugungi kunda boshlang'ich sinflarga 11 ta, yuqori sinflarda 16 ta fan o'tiladi. Lekin o'quvchilar aniq bir yo'nalishda chuqur bilimga ega bo'lmay maktabni bitirmoqda. O'tgan o'quv yilida 220 ming muallimdan 86 ming nafari yoki 37 %ning bilim va ko'nikmasi "qoniqarsiz" deb baholangan. Bu esa hozir talab yuqori bo'lgan informatika, ingliz tili, fizika, matematika va kimyo fanlari o'qituvchilarida bo'lgani dolzarb masala sifatida ko'rish mumkin. Shu bois yuqori sinf o'quvchilarni darsliklari 16 tadan 11 taga qisqartirilgani bugungi kunda maktablarda ta'lim sifatini oshirish uchun kasb-hunar egallash istagidagi o'quvchilarga maktabning o'zida tayyor mutaxassis bo'lib yetishish imkoniyatini yaratish zarurati tug'ildi. Yana bir masala sifatida hozirgi kun maktablarda bola soni sinf xonalarida 20 ta 24 ta o'qilishi zarur bo'lgan bir paytda 40 ta 41 ta o'quvchi o'tiribdi shu masalalarni ham hal qilsak bolalarni bilim sifati oshadi degan fikrdamiz.

Davlatimiz rahbari mamlakatda kadrlar muammosi mavjudligini barcha sohalarda islohatlar sur'atiga mos zamonaviy mutaxassislar kerakligini aytgan edilar. Shu maqsadda butun ta'lim tizimini takomillashtirmoqda. Maktabgacha ta'lim rivojlantirilyotganini maktab saboqlari puxta zamin bo'lmoqda. Umumiy o'rta ta'lim sifati ilg'or xalqaro tajriba va zamon talablari asosida yuksaltirilmoqda. Yurtimizda matematika, fizika, kimyo va biologiya darslarining 10 % amaliy mashg'ulotga ajratilgan. Rivojlangan davlatlarda bu ko'rsatgich 30-50 %ni tashkil etadi.

Xorijiy davlatlarni biri Yaponiya oilalaridagi uy partalari diqqatga sazovordir. U mukammal yon tomonidan muhofazalangan qurilma bo'lib, parta ustida kitob javoni, yoritkich, soat, qalam, qog'oz, mikrokalkulyator va boshqa zaruriy ashyolar, shuningdek, kerak bo'lib qolgan taqdirda ota-onalarini chaqiradigan signal tugmachalarigacha o'rnatilgan. Yaponiya o'rta maktablarining saviyasi AQSH o'rta maktablari saviyasidan bir muncha yuqori turadi.

Yuqorida ko‘rinib turibdiki yaponiyada ta‘lim tizimi ham shaklan ham mazmunan ham yuksak uyg‘unlik kasb etgan. E‘tiborli yana bir tomoni – yaponiyada faqat milliy an‘analar bilan cheklanib qolmay jahondagi AQSH, Fransiya, Germaniya kabi taraqqiy etgan mamlakatlarning ilg‘or pedagogik ish tajribalari ham ijodiy o‘zlashtirilgan. Bunday tajribalar respublikamiz ta‘lim tizimini yanada yuqori pog‘onaga ko‘tarishda qo‘l kelishi shubhasizdir.

Amerika qo‘shma shtatlari ta‘lim tizimi; Amerikada o‘rta ta‘lim 12 ta bo‘lib boshlang‘ich o‘rta va quyi maktablarga bo‘linadi. Aksariyat qismi davlat maktablaridan iborat va ularda o‘quvchilarning 88 foizi o‘qiydi. Ta‘lim muassasalarini davlat va shahar byudjetlari moliyalashtiradi. qo‘shma shtatlarda yalpi ichki maxsulotning 7.5 % har yili ta‘limga sarflanadi. 12 % o‘quvchilar xususiy maktablarga boradi. Ularning moddiy resurslari ota-onalari turli mablag‘lar va xayriya mablag‘lari hisobidan shakllantiradi. Odatda har bir sinfdan televizor kompyuter mavjud bo‘lib, yuqori tezlikdagi internet bilan ta‘minlangandir. Amerika pedagoglari haftasiga bir marta 1-3 sinf o‘quvchilariga o‘yinchoq metotlarini qo‘llashadi. Bu metotda bolalar o‘yinchog‘ini ta‘riflaydi. Bu metodlarni qo‘llashdan maqsad bolalarni uyalchanglik va omma oldida nutqini rivojlantirishdan iborat. Amerikada ta‘lim haddan ziyod demokratlashuvi talabalar bilimlarini puxtaligi tekshirishga va nazorat qilishga qiyinchilik tug‘diradi. Shu sababli boy moddiy texnik baza va tajribaga ega bo‘lgan davlatda butunlay sovsiz bo‘lgan bolalar ham topiladi. Aqshda ta‘lim tizimining maqbul tomonlarining ijobiy qo‘llanishi muhim kasb etadi.

Yuqorida keltirilganda xorijiy davlatlarni texnologiyalarini o‘zimizning umumta‘lim maktablarda keng qo‘llash lozimdir. Qachonki biz pedagoglar ta‘limga ma‘suliyat bilan qarash, yosh avlod ham buni his qiladi. Yosh avlodga biz to‘g‘ri ta‘limga yo‘naltira bilishimiz zarur bo‘ladi. Qayd etilgan mazkur vazifalarga malaka oshiruvchi o‘qituvchilarni ilmiy dunyoqarashini yuksaltirishsiz erishib bo‘lmashligi bugungi kunda hech kimga sir emas. Shu sababli ham malaka oshiruvchi o‘qituvchilarni ilmiy dunyo qarashini kengaytirishda ilmiy izlanishlar haqidagi bilimlar va ko‘nikmalarni yangicha yondashuvda qilishlari maqsadga muvofiqdir. O‘quvchilarimizni maktabga chiqmasdan turib maktabgacha ta‘limlarda bolalarni kitobga mehr quyishga o‘rgatish lozimligi ko‘rinadi. Hozirgi kunda kitob o‘qiydigan yoshlarimiz soni kamayib ketmoqda. Shuni hisobga olgan holda keng ko‘lamli tadbirlar bellashuvlar o‘tkazib o‘quvchilarni bu tanlovlarda qatnashishlarni ta‘minlash zarur deb hisoblaymiz. Yosh avlodlarimizni o‘z yo‘lini topib olishlari, ularni bilim yo‘lida to‘g‘ri borishlarida biz pedagoglarni o‘rni juda kattadir. Shu bios pedagoglar o‘z ustida doimiy ravishda ishlab turishni taqazo etadi. Shu bilan birga bo‘lajak mutaxasislarni zamonaviy pedagogik va axborot texnologiyalaridan o‘quv-tarbiyaviy

ishlarning interaktiv usularidan foydalana oladigan qilib hamda o'zidagi pedagogik mahoratini va ko'nikmalarini yanada takomillashtirish, rivojlantirish ustidagi faoliyatini ilmiy tashkil qila oladigan bo'lishlari, shuningdek, ularni mustaqil ravishda o'z ilmiy dunyoqarashini yuksaltirishda ilmiy – pedagogik va kasbga doir qobiliyatining shakllanishida katta ahamiyat kasb etadi.

Xorijiy davlatlar singari o'quvchilarni ta'lim-tarbiyasini shu bilan birga madaniyatiga ham ahamiyat berishimiz zarurdir. Boshqa mamlakatlar ilmini o'rganaman deb ba'zi yoshlarni ularni madaniyatini ham ko'r-ko'rona qo'llamoqda. Shu bois ularga ta'lim nima? madaniyat nima? degan savollar bo'yicha alohida tushintirishlar olib borishimiz darkor. Yurtboshimiz tomonidan yaratilgan sharoitlarni biz bo'lajak pedagoglar yoshlardan mutaxassis kadrlar tayyorlab berishdek vazifalarni xal qilmoq lozim. Maktablarda ta'lim sifatini oshirish maqsadida olib borilayotgan tadbirlarda barcha o'quvchilarni muntazam qatnashi borishlarini ta'minlash va ularni o'zqtida rag'batlantirib borish lozimdir. Shu kungacha yurtimizdan yirik olimlar, faylasuflar, shoirlar, yozuvchilar chiqqan bunday sharoitda yana shunday allomalarni yetishtirish biz pedagoglarni qo'lida hisoblanadi. Biz peagoglar doim yangiliklar yo'lida maqsadli ishlarni olib borishimiz va ularni yoshlar bilan bo'lishib turishimiz kerakki, zero mazkur izlanishlar yosh avlod yangilik yaratuvchi, izlanuvchi o'quvchilar sirasidan bo'lsin.

Xulosa qilib aytish mumkinki, biz maktablarda bilim sifatini oshirish uchun raqamli texnologiyalarni to'g'ri va samarali qo'llashimiz, belgilangan vazifalarni barchasi O'zbekiston kelajagi bo'lgan yoshlarning bilim va tajribaga ega bo'lishi, psixologik yondashuvlar asosida maktabdagi dars jarayonlarini chuqurlashtirib, munosib kadrlar tayyorlashdan iboratdir. Maktab ta'lim sohasi uzluksiz ta'lim tizimining birlamchi bo'g'ini hisoblanib, u har tomonlama sog'lom va barkamol shaxsni tarbiyalab, oliy ta'limga tayyorlashda g'oyat muhim ahamiyat kasb etishini anglagan holda, mamlakatimizda mazkur sohani yanada taraqqiy ettirish, farzandlarimiz uchun barcha sharoitlarni yaratish yo'lida tizimli ishlarni amalga oshirilib borilishi maqsadga muvoffiq. Shu bilan birga o'quvchilarni maktablarga qamrab olishda nafaqat davlat, balkim nodavlat ta'lim tashkilotlar sonini yanada ko'paytirish, ularda olib borilayotgan ta'lim – tarbiya jarayonini qat'iy nazorat qilish, sohaga yetuk, malakali va tajribali kadrlarni jalb etish g'oyatda muhimligini ta'kidlamoqchimiz.

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СТИЛЕВЫЕ И ТЕМАТИЧЕСКИЕ ОСОБЕННОСТИ ТВОРЧЕСТВА Б.АКУНИНА

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***Аннотация.** В данной статье собраны мысли и комментарии об одном из лучших детективных писателей русской литературы и всего мира Борисе Акуnine, а также стилистические и тематические особенности его творчества.*

***Ключевые слова.** Борис Акунин, литературный критик, заместитель главного редактора журнала детективов, Азазель.*

Личность и художественное творчество Бориса Акунина феноменальны для современной русской прозы и литературного процесса начала XXI в.

Борис Акунин (настоящее имя Григорий Шалвович Чхартишвили) — российский писатель, драматург, японовед, литературный критик, переводчик и общественный деятель. Публикуется также под псевдонимами Анна Борисова и Анатолий Брусникин. Григорий Хартишвили (более известный как Борис Акунин) родился 20 мая 1956 года в Зестафони, Грузия. Отец писателя, Шалва Ноевич, был военным служащим, кавалером ордена Красной Звезды. Моя мама, Берта Исааковна, работала учителем русского языка и литературы. Когда Борису было 2 года, он с семьей переехал в Москву. Там он пошел учиться в 1 класс. Родители отдали сына в школу с английским уклоном. 17-летний мальчик, получив школьный аттестат, поступил на историко-филологический факультет Института стран Азии и Африки.

В 1994-2000 гг. Борис работал заместителем главного редактора издательства «Иностранная литература». Одновременно он был главным редактором 20-томной антологии японской литературы. Позже Борису Акунину доверили должность председателя крупного проекта – «Библиотека Пушкина» (Фонд Сороса). В 1998 году писатель начал публиковать художественную литературу под названием «Б». Называется он Акунин. Интересно, что слово

«Акунин» взято из японских иероглифов. В книге «Алмазная колесница» это слово конкретно переводится как «злой» или «нечестивый».

Работа Б. Акунина очень важна. Его писательская карьера приобрела известность и утвердилась за десять лет. Произведения Б. Акунина переведены на многие языки и пользуются широкой популярностью во всем мире, подвергаются критике на международном уровне, пользуются большим спросом в обществе. Его детективные романы вдохновляют учителей, студентов и читателей в целом. Значение Б. Акунина в писательском плане состоит в том, что он руководил, обладая творческим опытом. По всем этим причинам важность творчества Б. Акунина дает преподавателям, студентам и студентам в целом возможность подробно рассказать об исторической и экономической среде, повысить интерес к литературе и высказать свое мнение.

Следует отметить, что под псевдонимом «Борис Акунин» писатель публикует только художественные произведения, а под его настоящим именем публикуются документальные произведения. Цикл детективов «Приключения Эраста Фандорина» принес Акунину мировую известность и признание. При этом автор постоянно пробует разные жанры детективов. В одном случае, например, книгу можно представить как герметичный детектив (то есть все события происходят в ограниченном месте, с ограниченным числом подозреваемых). Таким образом, романы Акунина могут быть конспиративными, великосветскими, политическими и многими другими. Благодаря этому ученик может интуитивно понять, в какой плоскости будут развиваться действия. По произведениям Акунина снято множество фильмов, в том числе такие популярные фильмы, как «Азazelь», «Турецкий гамбит» и «Статский советник».

Сегодня Борис Акунин – самый читаемый писатель современной России. По данным престижного журнала Forbes, в 2004-2005 гг. писатель заработал 2 миллиона долларов. В 2013 году Акунин презентовал книгу «История государства Российского». Это произведение помогает человеку просто и понятно рассказать историю России. При написании книги Борис Акунин исследовал множество авторитетных источников, стараясь избавиться от какой-либо достоверной информации. Через несколько месяцев после выхода в свет «Истории государства Российского» автору была вручена антипремия «Абзац», которая вручается худшим произведениям в книгоиздании Российской Федерации.

Акунин продолжает писать. В настоящее время он живет в Лондоне со своей семьей. Писатель известен критикой действующей российской власти. В

интервью французским газетам он сравнил Владимира Путина с Калигулой, который "хотел, чтобы его больше боялись, чем любили". Борис Акунин неоднократно подчеркивал, что современная власть ведет к гибели государства. По его словам, сегодня российское руководство использует все возможные средства, чтобы вызвать ненависть к себе и государству во всем мире.

Б. Акунин – писатель, привнесший в свое творчество стилистические и тематические особенности. Б. Акунин прославился своими произведениями в жанре детективного, полицейского и публицистического романа, действие которых происходило в частях России, расположенных в историко-экономической среде. Его романы быстро завоевали популярность и стали широко читаться. Его переводные произведения изданы более чем на 40 языках и широко распространены в Южной Корее, Японии, Турции, Германии, США и др.

Стилистически характер Б. Акунина характеризуется выбором слов, словообразованием, самим словом, способами выражения эпизодов перевода и тем, как он воспринимает его в целом. Его стиль письма очень приятен, но эффективен, удобен и успешен, как и яркость его имени, которая действительно отражает его известность. Работы Бориса Акунина имеют стилистическое значение. Он известен своим уникальным и самобытным стилем письма. Он был популярен в жанре криминальных романов, но его специальность — писать другим языком и поддерживать исторические истины. Последнее логическое руководство Акунина в его первом личном сочинении характерно для стилистического подхода и литературы предшествующих периодов. В его произведениях стиль, слова, построение предложений и повествование отмечены тщательной секундой. Сочинение Акунина открывает печатные страницы речи и дает необходимый шрифт учителям и предметам. Его особенностью является то, что он не может забыть быть драматичным и романтическим с первого вздоха и ярко описывать персонажей. При этом стилистические элементы в творчестве Акунина проявляются главным образом в высокоразвитых фигурах, процессах движения, психологических распределениях и пространственных закономерностях. В его творчестве определяются его личности, существуют в них понятия, предпочтения и пути. Также одной из сильных сторон Акунина являются его романы об исторических тенденциях и событиях, а значит, на этой основе он использует свой стиль в написании истории.

Тематически Б. Акунин подчеркивает место детективных романов в развитии процесса соревнования в основной среде письма. Тематические

особенности творчества Бориса Акунина многочисленны и волшебны. Он открывает больше возможностей для исследования жанра криминального романа, и каждое из его произведений определяет свою тему и содержание. В произведениях Акунина особое внимание уделяется историко-культурной среде. В своих произведениях он неповторимо и неповторимо изображает исторические события. Историко-философская основа направляет последующую работу и включает в себя служение учителям духовности и исторических событий. Еще одна тематическая особенность творчества Акунина — обсуждение справедливости и падения. В своих произведениях он показывает трудности рухнувшей системы правосудия в целом. Эти переговоры приводят к напряженным отношениям и враждебным действиям в более поздних произведениях.

Все это вместе, в творчестве Бориса Акунина, высокий уровень разнообразных тем и комплекс, созданный с особой логикой и неповторимым стилем, заняли его достойное место. С этим связаны тематические особенности его произведений, но в полной серии они все объединяют одни и те же произведения. В то же время творчество Б. Акунина имело свои авантурные и стилистические особенности.

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TIBBIYOTDA SIMULYATSIYA MASHG'ULOTLARINING DOLZARBLIGI

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Sog'liqni saqlash sohasidagi ustuvor milliy loyihalarni amalga oshirish, sohani isloh qilish va modernizatsiya qilish jarayonlari tibbiyot xodimlarini kasbiy tayyorlash muammosini alohida aniqlik bilan ochib berdi. Zamonaviy voqelik tibbiyot xodimlarini kasbiy tayyorlash muammosini keskin belgilab berdi. Sanoatning hamma joylarida yuqori malakali mutaxassislarning keskin tanqisligi mavjud. Shu sababli, oliy tibbiy ta'lim sohasidagi asosiy yo'nalishlardan biri nazariy bilimlarning tegishli darajasini saqlab, kelajakdagi shifokorlarni tayyorlashning amaliy jihatini sezilarli darajada oshirish zarurati ekanligi tabiiydir. Bu talabaning klinik tayyorgarligi holati, bizning fikrimizcha, har qanday oily ta'lim muassasasi ishida juda murakkab va "kasal" savol sifatida tavsiflanadi. Bir tomondan, bitiruvchilarning kasbiy malakalariga yangi davlat ta'lim standartlarining ortib borayotgan talablari, boshqa tomondan, o'z ishlarida taniqli qiyinchiliklarga duch keladigan klinik bo'limlarning hal qilinmagan muammolari klinik ta'limning dastlabki bosqichlarida mutaxassislarni tayyorlashni qiyinlashtiradi.

Klinik fanlarni o'tkazishda har doim ham nazorat qilinadigan bemorlarning har biri to'liq tahlil qilinmaydi va bundan tashqari, har bir talaba tomonidan bemorni ob'ektiv tekshirish sifati ustidan o'qituvchi nazorati amalga oshiriladi. Haqiqiy klinikada bu holat talabalarning tematik bemorlar bilan individual ta'minlanmaganligi va guruhda majburiy ishlash tufayli yanada og'irlashadi. So'nggi yillarda klinikalarda bozor munosabatlarining keng joriy etilishi va Qonunchilik bazasidagi o'zgarishlar vaziyatni yanada og'irlashtirdi. Shu munosabat bilan, talabalarning xayoliy va simulyatsiya mashg'ulotlarini tashkil etishda imkoniyatlarning paydo bo'lishi biz uchun o'quv jarayonida oqilona va zarur yo'nalish sifatida qaraladi. Biz buni faqat rezident shifokorlar va stajyorlarning alohida guruhlari uchun emas, balki I kursdan boshlab talabalar uchun ta'kidlamochimiz.

Hozirgi vaqtda simulyatorlar yuqori xavflarni o'z ichiga olgan inson faoliyatining ko'plab sohalarida o'quvchilarni o'qitish va ob'ektiv baholash uchun ishlatiladi. Tibbiyotda simulyatsiya o'qitish usullari uzoq vaqtdan beri ma'lum bo'lgan, xususan, anesteziologiyada manekenlar XX asrning 80-yillaridan beri qo'llanilgan. Simulyatorlar, manekenlar, fantomlardan foydalanish ish paytida o'z vaqtida, batafsil professional ko'rsatmalarni taqdim etishda ma'lum mashqlar va harakatlarni qayta-qayta bajarishga imkon beradi. Bu muhim klinik stsenariylarni va o'quv holatini har bir o'quvchiga moslashtirish qobiliyatini qayta va aniq yaratishi mumkin bo'lgan simulyatorlar.

Yangi davlat ta'lim standartlari, "qonunosti" hujjatlari o'quv jarayonida simulyatsiya mashg'ulotlarining roli va o'rnini qisman belgilaydi, o'qitish metodikasi va didaktikasi to'loq aniqlanmagan. Ushbu yo'nalishda o'z "xavf-xatarlari" bilan harakat qilayotgan har bir oily ta'lim muassasasi simulyatsiya mashg'ulotlarini yollash va tashkil etish masalalarini hal qiladi, ko'pincha o'z jamoalarida ham qarshilikni boshdan kechiradi-simulyatorlardan foydalanish samaradorligining dalillar bazasi hali ham etarli darajada rivojlanmagan, ularning narxi yuqori, vaqt xarajatlari va o'zgarishlarga qarshilik sezilarli, ammo simulyatsiya o'quv markazlarini yaratish jarayoni amalga oshiriladi, shu jumladan tibbiyot oily ta'lim muassasasida.

Ushbu mavzuning dolzarbligi munosabati bilan jamoaning amaliy ko'nikmalar markazi faoliyatidagi dastlabki kamtarona qadamlar markazni tashkil etish g'oyasini amalga oshirishda moddiy resurslarni investitsiyalashning maqsadga muvofiqligini ko'rsatdi va institutimiz professor-o'qituvchilari tarkibining ko'plab vakillari tomonidan ijobiy javob oldi. Endi markazning roli faqat maxsus fantomlar bilan jihozlangan xonaga chegaralanmasligi aniq. Markaz o'quv-uslubiy bo'linma bo'lib, u erda nafaqat individual amaliy ko'nikmalar va manipulyatsiyalar ishlab chiqiladi, balki o'quv-uslubiy ishlar, ilmiy izlanishlar, o'qitish texnologiyalarida eksperimentlar klinik bazalar va paraklinik bo'limlarga kirish imkoniyati bilan amalga oshiriladi.

Shunday qilib, ideal holda, bu talabalar va yosh mutaxassislarni klinik tayyorlash uchun yagona o'quv-simulyatsiya markazini yaratish yo'lidir, bu erda ta'limning barcha bosqichlarida, shu jumladan oily ta'lim muassasasigacha bo'lgan mashg'ulotlarda aniq belgilangan amaliy o'quv klasterlari amalga oshiriladi.

Ushbu asosiy klasterlarni biz quyidagicha ko'ramiz: "shoshilinch tibbiyot", "hamshiralik ishi", "pediatriya-shoshilinch tibbiy yordam, bolalarni parvarish qilish", "anesteziologiya va reanimatsiya", "jarrohlik va laparoskopiya", "akusherlik va ginekologiya". Hozirgi vaqtda markaz yangi o'quv yilidan boshlab belgilangan reglament bo'yicha to'liq ish boshladi.

O'quv markazida talabalar o'tadigan birinchi bosqich-bu nazariy tayyorgarlik-bu tibbiyot sohalaridan biri bo'yicha maxsus ishlab chiqilgan maxsus kurs. Shundan so'ng, talabalar amaliy ko'nikmalarni o'rganish uchun o'quv zallariga o'tadilar, u erda individual tibbiy manipulyatsiyalarni mashq qilish uchun trenajyorlar mavzular bo'yicha yig'iladi: qon tomirlariga kirish, havo-desant yo'llarining o'tkazuvchanligini tiklash, yurak-o'pka reanimatsiyasi, pnevmotoraks ponksiyoni, immobilizatsiya va transport, siydik pufagini kateterizatsiya qilish, oshqozonni yuvish, stoma va kateterlarni parvarish qilish, auskultatsiya, ginekologik va akusherlik manipulyatsiya. Buning ortidan kompyuter simulyatsiyasi bosqichi bo'lib, unda sinf sharoitida talaba interaktiv o'quv dasturining ma'lum modullaridan o'tishi kerak (yurak tutilishi, nafas olish buzilishi, aritmiya, zaharlanish va dozani oshirib yuborish, metabolik kasalliklar va termoregulyatsiya). Va keyin nazariy tayyorgarlikka ega (birinchi bosqich), amaliy ko'nikmalarga ega (ikkinchi bosqich) va favqulodda vaziyatlarni davolashning virtual algoritmini ishlab chiqqandan so'ng, talaba markazning simulyatsiya qismiga (palatani taqlid qilish) kiradi, bu erda hozirgi sharoitga yaqin sharoitlarda (haqiqiy vaziyat, haqiqiy uskunalar, uning aralashuviga mustaqil ravishda javob beradigan qo'g'irchoq), xatolarni qayta-qayta takrorlash va tahlil qilish orqali u o'zining psixomotor ko'nikmalarini, asbob-uskunalar va bemor bilan ishlash ko'nikmalarini, jamoada ishlash ko'nikmalarini mukammallikka erishadi.

Hamshiralik amaliyotiga tayyorgarlik ko'rayotgan kichik kurs talabalari kasalxonada ishlashdan oldin nafaqat bemorni parvarish qilish ko'nikmalarini, balki asosiy tanqidiy sharoitlarda (bo'g'ilish, gipertonik inqiroz, hushidan ketish va boshqalar) asosiy reanimatsiya kompleksi va shoshilinch yordam ko'rsatish asoslarini ham o'zlashtirishlari kerak. Bu talaba bemorlar bilan ishlashda o'zini yanada ishonchli his qilishi uchun zarurdir, ya'ni, markazdagi o'quv jarayoni shunday qurilganki, talaba klinik bo'limlarga o'tish paytida nazariyada to'liq o'zlashtirilib, manekenlar va simulyatorlar bo'yicha manipulyatsiya va klinik usullarni "davolash" mutaxassisliklari bo'yicha davlat ta'lim standartlari talablariga muvofiq ishlab chiqadi.

Shunday qilib, biz oddiy talabalarni o'qitishda simulyatsiya texnologiyalarini nafaqat klinik tayyorgarlikning ajralmas qismi sifatida, balki klinik fikrlashni yuqori va motivatsion darajada qo'zg'atuvchi va shakllantiruvchi mexanizmlardan biri sifatida ko'rib chiqishni taklif qilamiz. Binobarin, ushbu ta'lim shakllari etakchi o'quv-uslubiy birlashmalar tomonidan deterministik uslubiy qo'llab-quvvatlash va nazoratga, ilmiy baholashga va qo'shimcha tadqiqotlar va takomillashtirishga muhtoj.

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THE IMPORTANCE OF FAMILY AND SCHOOL PARTNERSHIP IN THE EDUCATION OF STUDENTS WITH MENTAL DISABILITY

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***Annotation:** This article highlights the importance of family-school partnerships in the education of students with intellectual disabilities and some modern interactive methods.*

***Key words:** mental retarded child, parents, partnership, interactive, pedagog.*

Every child must be educated in school today. There are enough conditions for this. In particular, there are enough auxiliary schools and inclusive classes. But there is only one requirement, school and family should cooperate in order to provide high-quality and effective education for mentally retarded students. In order to get to know the parents of mentally retarded students well, work with parents will be planned in advance. Therefore, we start our work by analyzing the social composition of parents, their mood and the child's stay in our special school. We will conduct surveys and personal interviews on this topic, which will help to properly organize the work, make it effective, and choose interesting forms of interaction with families with mentally retarded children.[1]

In addition to traditional forms of work of specialized school educational organization and family, innovative forms and methods of work are actively used:

- "round discussion" on any topic;
- thematic exhibitions;
- social expertise, diagnostics, tests, inquiry on any topic;
- expert advice;
- family sports meetings;
- open classes for parents;
- competition of family talents;
- portfolio of family success;
- Open day;
- the site of the specialized assistant school.[2]

The advantages of the new system of interaction between the specialized special school and the family are indisputable:

- This is a positive emotional attitude of teachers and parents to work together in raising mentally retarded students.
- This is information about the individuality of a student with mental retardation.
- parents can independently choose and form this direction of development and upbringing of a school-aged child;
- This is to strengthen relationships within the family,
- This specialized special school is an opportunity to implement a unique program on education and family upbringing and development of a child.
- This is an opportunity to take into account the type of family and the style of family relations.

The teacher can determine the type of family of the student, find the right approach for interaction and work successfully with parents.

When implementing a new system of interaction with the family, it is important to avoid the shortcomings inherent in the old forms of working with the family.

Children of active parents increase their self-confidence, ask more questions about family and school, and students take initiative when they see the interest and activity of parents. The close communication between the teacher and his parents, emotional upliftment, the student who sees the participation of parents in all organizational activities, has a close and warm relationship with the teacher and his parents and feels like a member of the society. feels the need for And as a result, a new positive attitude of parents towards the specialized special school, a positive assessment of its activities was given. Thus, the use of various forms of work with families of students of specialized auxiliary schools gives positive results. In all their work, specialized assistant school employees prove to parents that their involvement in pedagogical activities, their interest in the educational process is important, not because the pedagogue (teacher) wants it, but because it is necessary for the development of their child.[3]

In order to solve the tasks set in the educational organization of the specialized special school, work is planned in three directions:

1. Organization of interaction with the family with the employees of the specialized special preschool organization, introducing teachers to the system of new forms of working with parents.
2. Improving the pedagogical culture of parents.
3. Involvement of parents in the activities of the specialized auxiliary school team, joint work on sharing experience.

A specialized auxiliary school is in development mode, considered a mobile system, and responds quickly to changes in the social structure of parents, their educational needs and educational requirements. Accordingly, the forms and directions of the specialized preschool education organization's work with the family should change.[4]

It was noted that one of the principles of the specialized special school is to organize work with the family, which is the basis of helping parents in raising mentally retarded children, protecting and strengthening their physical and mental health. development of individual abilities and necessary correction of disorders in their development. One of the requirements for psychological-pedagogical conditions is the requirement for psychological-pedagogical support and professional development of the family.

Paying attention to the purpose of cooperation with the family, if the upbringing and education of a mentally retarded child is corrected, a person who can contribute to society, can satisfy his own needs, and has a certain place in society. matures. The above is clearly visible when it comes to the role of the special school and the family in the education of mentally retarded students and is the basis of this current topic.[5] It is known that the environment is one of the main tools for the development of a child's personality, the source of his social experience and knowledge, and it not only provides a variety of activities for a preschool child, but is also a form of self-education. It also forms the basis of independent activity. The environment is the social, social, material and spiritual conditions that surround the child's existences.

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REARRANGEMENT OF CARBOCATIONS DERIVED FROM ALCOHOLS

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Introduction:

In the intricate realm of organic chemistry, the rearrangement of carbocations stands as a fascinating and pivotal phenomenon, offering profound insights into the dynamic nature of molecular structures. Among the myriad sources from which carbocations can be derived, alcohols emerge as a particularly intriguing starting point. This article delves into the captivating world of rearrangements involving carbocations originating from alcohols, exploring the underlying principles, mechanisms, and the consequential impact on reaction pathways.

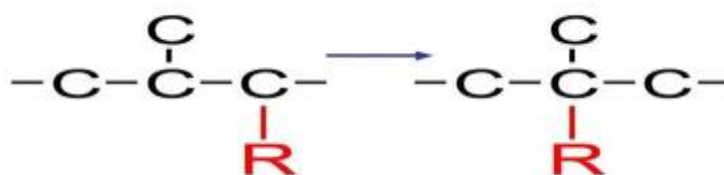
Carbocations, or positively charged carbon species, are transient intermediates that play a pivotal role in various organic reactions. The rearrangement of these species adds an additional layer of complexity, providing chemists with both challenges and opportunities for understanding and manipulating chemical transformations. When carbocations are derived from alcohols, the intricacies of their rearrangement processes become even more intriguing due to the unique structural features and electronic characteristics inherent to alcohol-derived carbocations.

This exploration aims to unravel the factors influencing the rearrangement of carbocations derived from alcohols, shedding light on the driving forces behind these transformations. As we journey through the molecular landscape, we will delve into key theoretical frameworks, experimental observations, and real-world applications, ultimately enhancing our comprehension of this captivating facet of organic chemistry.

Key words: carbocation, rearrangement, alcohol, major product, hydrogen chloride, hydride shift, alkyl shift, unimolecular elimination, unimolecular substitution.

Whenever alcohols are subject to transformation into various carbocations, the carbocations are subject to a phenomenon known as carbocation rearrangement. A carbocation, in brief, holds the positive charge in the molecule that is attached to three

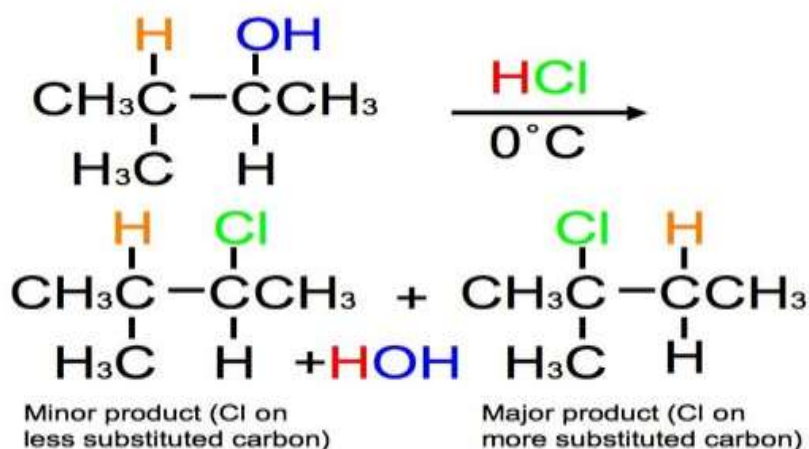
other groups and bears a sextet rather than an octet. However, we do see carbocation rearrangements in reactions that do not contain alcohol as well. Those, on the other hand, require more difficult explanations than the two listed below. There are two types of rearrangements: hydride shift and alkyl shift. These rearrangements usually occur in many types of carbocations. Once rearranged, the molecules can also undergo further unimolecular substitution (S_{N1}) or unimolecular elimination (E_1). Though, most of the time we see either a simple or complex mixture of products. We can expect two products before undergoing carbocation rearrangement, but once undergoing this phenomenon, we see the major product.



Hydride Shift:

Whenever a nucleophile attacks some molecules, we typically see two products. However, in most cases, we normally see both a major product and a minor product. The major product is typically the rearranged product that is more substituted (aka more stable). The minor product, in contrast, is typically the normal product that is less substituted (aka less stable).

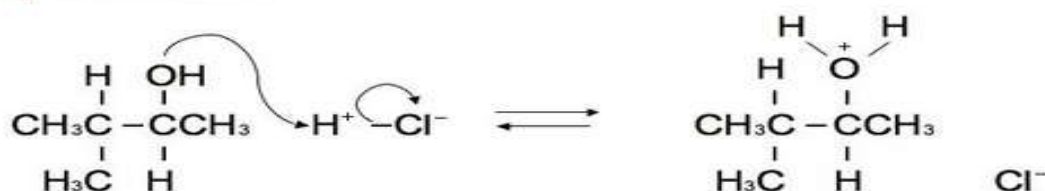
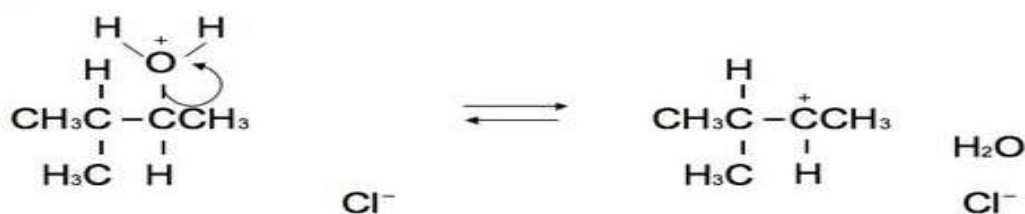
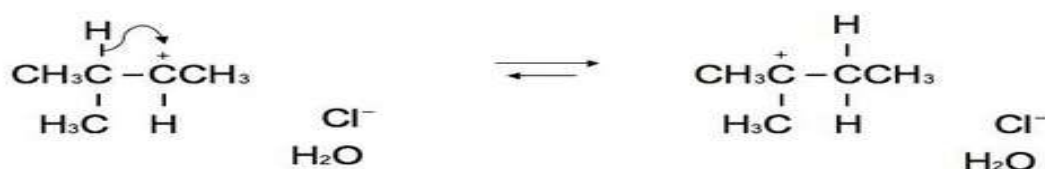
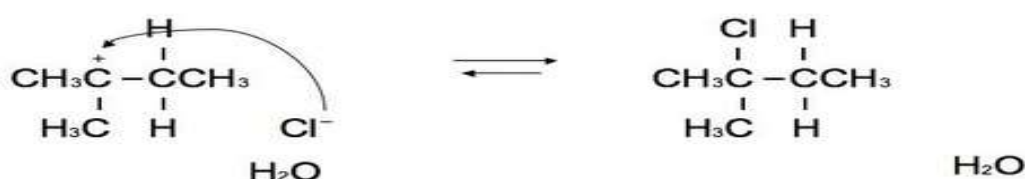
The reaction: We see that the formed carbocations can undergo rearrangements called hydride shift. This means that the two electron hydrogen from the unimolecular substitution moves over to the neighboring carbon. We see the phenomenon of hydride shift typically with the reaction of an alcohol and hydrogen halides, which include HBr, HCl, and HI. HF is typically not used because of its instability and its fast reactivity rate. Below is an example of a reaction between an alcohol and hydrogen chloride:



GREEN (Cl) = nucleophile; **BLUE (OH)** = leaving group;

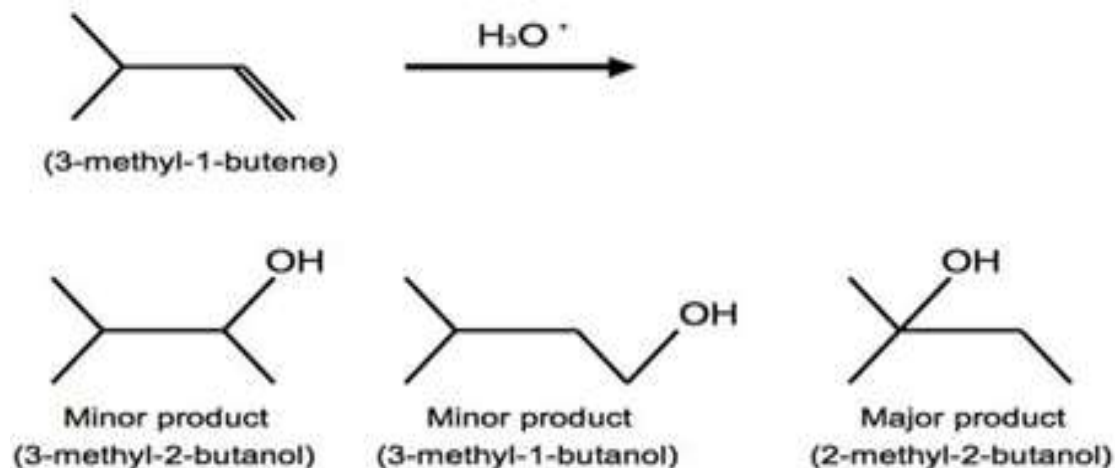
ORANGE (H) = hydride shift proton; **RED (H)** = remaining proton

The alcohol portion (-OH) has been substituted with the nucleophilic Cl atom. However, it is not a direct substitution of the OH atom as seen in S_N2 reactions. In this S_N1 reaction, we see that the leaving group, -OH, forms a carbocation on Carbon №3 after receiving a proton from the nucleophile to produce an alkyloxonium ion. Before the Cl atom attacks, the hydrogen atom attached to the Carbon atom directly adjacent to the original Carbon (preferably the more stable Carbon), Carbon №2, can undergo hydride shift. The hydrogen and the carbocation formally switch positions. The Cl atom can now attack the carbocation, in which it forms the more stable structure because of hyperconjugation. The carbocation, in this case, is most stable because it attaches to the tertiary carbon (being attached to 3 different carbons). However, we can still see small amounts of the minor, unstable product. The mechanism for hydride shift occurs in multiple steps that includes various intermediates and transition states. Below is the mechanism for the given reaction above:

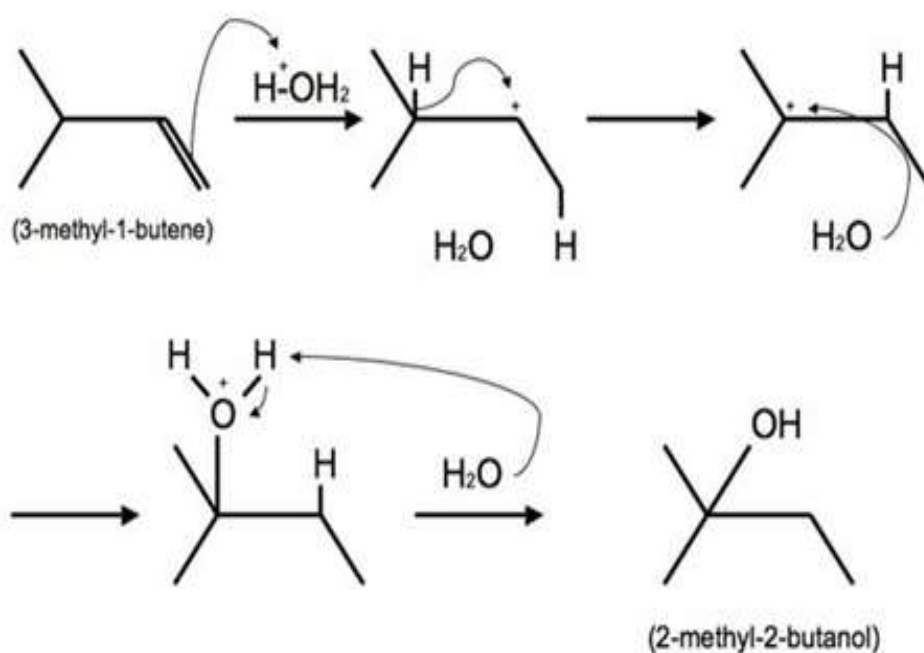
Step 1: Protonation**Step 2: Loss of H₂O****Step 3: Hydride Shift****Step 4: Chlorine Attacks**

Hydration of Alkenes: Hydride Shift

In a more complex case, when alkenes undergo hydration, we also observe hydride shift. Below is the reaction of 3-methyl-1-butene with H_3O^+ that furnishes to make 2-methyl-2-butanol:

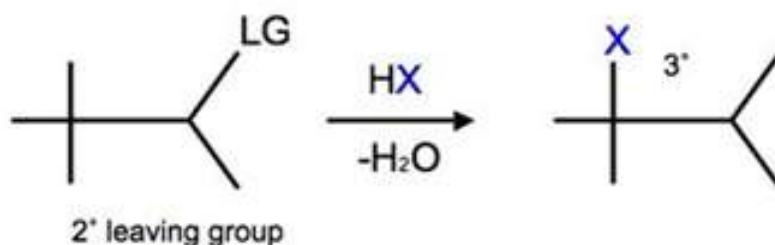
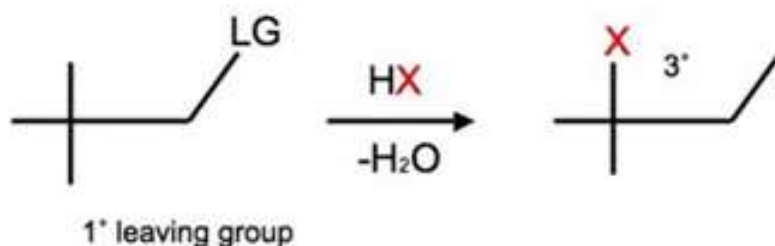


Once again, we see multiple products. In this case, however, we see two minor products and one major product. We observe the major product because the $-\text{OH}$ substituent is attached to the more substituted carbon. When the reactant undergoes hydration, the proton attaches to carbon №2. The carbocation is therefore on carbon №2. Hydride shift now occurs when the hydrogen on the adjacent carbon formally switch places with the carbocation. The carbocation is now ready to be attacked by H_2O to furnish an alkyloxonium ion because of stability and hyperconjugation. The final step can be observed by another water molecule attacking the proton on the alkyloxonium ion to furnish an alcohol. We see this mechanism below:



Alkyl Shift:

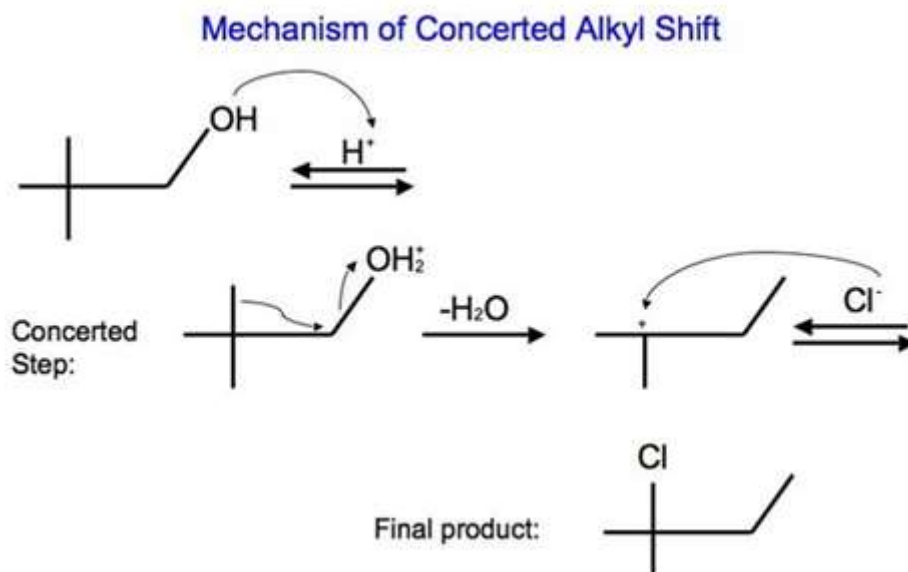
Not all carbocations have suitable hydrogen atoms (either secondary or tertiary) that are on adjacent carbon atoms available for rearrangement. In this case, the reaction can undergo a different mode of rearrangement known as alkyl shift (or alkyl group migration). Alkyl Shift acts very similarly to that of hydride shift. Instead of the proton (H) that shifts with the nucleophile, we see an alkyl group that shifts with the nucleophile instead. The shifting group carries its electron pair with it to furnish a bond to the neighboring or adjacent carbocation. The shifted alkyl group and the positive charge of the carbocation switch positions on the molecule. Reactions of tertiary carbocations react much faster than that of secondary carbocations. We see alkyl shift from a secondary carbocation to tertiary carbocation in S_{N1} reactions:

Reaction #1: Secondary Substrate**Reaction #2: Primary Substrate**

We observe slight variations and differences between the two reactions. In reaction №1, we see that we have a secondary substrate. This undergoes alkyl shift because it does not have a suitable hydrogen on the adjacent carbon. Once again, the reaction is similar to hydride shift. The only difference is that we shift an alkyl group rather than shift a proton, while still undergoing various intermediate steps to furnish its final product.

With reaction №2, on the other hand, we can say that it undergoes a concerted mechanism. In short, this means that everything happens in one step. This is because primary carbocations cannot be an intermediate and they are relatively difficult processes since they require higher temperatures and longer reaction times. After protonating the alcohol substrate to form the alkyloxonium ion, the water must

leave at the same time as the alkyl group shifts from the adjacent carbon to skip the formation of the unstable primary carbocation.



Conclusion:

In concluding our exploration of the rearrangement of carbocations derived from alcohols, we find ourselves at the intersection of fundamental understanding and practical application in organic chemistry. The journey through this intricate domain has unveiled the nuanced factors influencing the rearrangement processes and highlighted the significance of alcohol-derived carbocations in shaping reaction outcomes.

As we reflect on the mechanisms and driving forces behind these rearrangements, it becomes evident that the interplay of structural factors, electronic effects, and environmental conditions dictates the intricate dance of atoms within these transient intermediates. The dynamic nature of alcohol-derived carbocations not only enriches our comprehension of reaction mechanisms but also inspires the design of strategic synthetic pathways.

The implications of this exploration extend far beyond the laboratory bench. The knowledge gained from studying the rearrangement of carbocations derived from alcohols opens avenues for innovation in diverse fields, from drug discovery to materials science. Harnessing this understanding can empower chemists to fine-tune reaction conditions, optimize selectivity, and unlock new possibilities in the synthesis of complex organic molecules.

Furthermore, the insights gained contribute to the broader narrative of sustainable and efficient chemical synthesis. By deciphering the intricacies of carbocation rearrangements, researchers are better equipped to develop greener methodologies, minimizing waste and maximizing resource efficiency.

In essence, our journey through the rearrangement of carbocations derived from alcohols underscores the dynamic nature of organic chemistry, where molecular rearrangements serve as a testament to the profound interconnectedness of chemical species. As we look ahead, armed with newfound knowledge, we anticipate that continued exploration in this field will fuel discoveries that shape the landscape of organic synthesis, pushing the boundaries of what is chemically conceivable.

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YANGI O‘ZBEKISTONNING TARAQQIYOT STRATEGIYASIDA MA’NAVIY YANGILANISH MUAMMOLARI

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ANNOTATSIYA

Maqolada bugungi kunda O‘zbekiston taraqqiyotining yangi davri va bu rivojlangan yangi ma’naviy makonni shakllantirishni taqozo qilishi yoritilgan. Yangi O‘zbekiston strategiyasi bu boradagi ishlarning huquqiy va asosiy poydevori bo‘lib xizmat qilishi e’tiborga olingan.

***Kalit so‘zlar:** Yangi O‘zbekiston, taraqqiyot strategiyasi, ma’naviy islohotlar, milliy g‘oya, mafkuraviy jarayonlar.*

***Annotation.** The article examines nowadays new era of Uzbekistan’s development and the need to create a new developed spiritual space. It was noted that the strategy of New Uzbekistan serves as the legal and main foundation of work in this regard.*

***Key words:** New Uzbekistan, development strategy, spiritual development, national idea processes*

KIRISH

Maqolada Yangi O‘zbekistonning taraqqiyot strategiyasida ma’naviy yangilanish muammolari keltirib o‘tilgan. Ilmiy maqolada “Inson qadri uchun” tamoyiliga asoslangan ustuvor yo‘nalishdan iborat Yangi O‘zbekistonning 2022-2026 yillarga mo‘ljallangan taraqqiyot strategiyasi va ma’naviy yangilanishlar yoritib berilgan.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Ushbu maqolada muhtaram Prezidentimizning “Yangi O‘zbekiston strategiyasi” asaridan foydalanilgan. Asarda Yangi O‘zbekiston va Uchinchi Renessansni qurish bo‘yicha qilinayotgan ishlar va milliy taraqqiyot istiqbollari haqida fikr yuritiladi.

Bunda xalqimizning faravonligini yanada oshirish, iqtisodiyot tarmoqlarini transformatsiya qilish va tadbirkorlikni rivojlantirish, inson huquqlari va manfaatlarini

soʻzsiz taʼminlash hamda faol fuqarolik jamiyatini shakllantirishga qaratilgan islohotlarning ustuvor yoʻnalishlari belgilandi.

NATIJALAR VA MUHOKAMA

Yangi Oʻzbekiston strategiyasi har birimizdan yangicha tafakkur uslublari va zamonaviy dunyoqarash tamoyillarini shakllantirishga alohida eʼtibor qaratishimizni taqozo etmoqda. Shu bilan birga, jamiyat hayoti va davlat qurilishi takomillashib, hayotimiz va unga munosabatimiz oʻzgarib borayotgani ham bu boradagi tasavvurlarimiz yangilanishining maʼnaviy mezoniga aylanmoqda.

Strategiyadagi inson qadrini yuksaltirish, uning haq-huquqlarini himoyalash, orzu-umidlarini roʻyobga chiqarish borasida amalga oshirilishi koʻzda tutilayotgan ustuvor tamoyillar va dolzarb vazifalar esa bu yoʻnalishda ham ong va tasavvurlarimizni oʻzgartirishni, bir soʻz bilan aytganda, butun jamiyatimizning maʼnaviy yangilanishini zaruratga aylantirdi. Ushbu strategiya ana shu yoʻlda fuqarolarni birlashtiradi, yakdil va hamfikir boʻlishlariga xizmat qiladi. Jamiyat taraqqiyotining ustuvor yoʻnalishlarini qatʼiy belgilab olib, kuch va imkoniyatlarni jamlash, qayd etilgan ustuvor yoʻnalishlar boʻyicha taraqqiyotni taʼminlash uning maʼno-mazmunini tashkil etdi.

XULOSA

Milliy gʻoya paradigmasi asosida milliy masalani shakllantirish va hal qilish modelini ishlab chiqish dolzarb muammolardan hisoblanadi. Shu oʻrinda taʼkidlash kerakki, milliy gʻoyani tahlil qilish va uni muvaffaqiyatli ishlashi uchun xalq turmush tarzining maʼnaviy-axloqiy mezonlarini hisobga olganda holda ish tutish muhim ahamiyatga ega. Aynan taraqqiyot strategiyasida milliy gʻoyani milliy miqyosdagi gʻoyalar majmuasi sifatida tushunish va zamonaviy siyosiy jarayonda uning roli va ahamiyatini oʻrganishda ustuvor ahamiyat kasb etdi.

XXI asr insoniyat tarixida yangi davrni boshlab berdi. Bashariyat taqdirida inson va jamiyatni ozod etishning yangi bosqichi, yalpi yangilanishlar jarayoni amal qila boshladi. Bunday tarixiy oʻzgarishlar dunyo iqtisodiy, maʼnaviy hamda mafkuraviy jarayonlarining keng miqyosli yangilanishlar pallasiga kirganligining ifodasidir.

Umumjahoniy yangilanishlar jarayoni avval muayyan mamlakat, keyin bir guruh davlatlar, oxir-oqibatda barcha mamlakatlar taqdiriga, jamiyatlar va jamoalar, alohida insonlar hayotiga bevosita va bilvosita taʼsir koʻrsata boshladi. Dunyo yangilanishlari jarayoniga har bir davlat oʻz taraqqiyot koʻlami, ilmiy-maʼrifiy va maʼnaviy saviyasi, kamoloti darajasidan kelib chiqqan holda qoʻshila boshladi.

Yangilanayotgan Oʻzbekiston jahon hamjamiyatida oqimida oʻzining ijtimoiy-iqtisodiy, siyosiy-huquqiy, maʼnaviy-mafkuraviy yangilanishlar dasturini ishlab chiqqan mamlakat sifatida oʻziga xos va oʻziga mos mavqe egallab bormoqda.

Ijtimoiy-iqtisodiy, ma'naviy hayotni maqsadli takomillashtirish, bu muhitni umuminsoniy va milliy qadriyatlar uyg'unligi ruhida rivojlantirish, "Islohotlar xalq uchun" tamoyili asosida mamlakatimizda yangilanishlar jarayoni boshlanishiga nazariy poydevor qo'yildi. Davlat tizimi, jamiyat qurilishi va shaxs ma'naviy dunyosini tubdan isloh qilish yangilangan davlat, o'zgargan jamiyat va komil shaxsni yaratish imkonini bermoqda. O'zbekiston yangilanishlar jarayonini ikki o'zaro uzviy bog'langan yo'nalishlarda amalga oshirishga kirishdi, Birinchisi, mamlakatning ichki dunyosida, yani iqtisodiyog, ma'naviyat, siyosat, turmush tarzida amalga oshiriladigan yangilanishlar majmuidan iborat bo'lsa, ikkinchi yo'nalish, xalqaro hamjamiyatda Yangi O'zbekiston ma'naviy qiyofasini, ijtimoiy muhit manzarasini takomillashtirish, ya'ni qarama-qarshi kuchlar o'rtasidagi ziddiyatlarni barqarorlashtirish, hamjihatlik, tinchlik madaniyatiga o'tish, insoniyatga umumiy xavf tug'diruvchi terrorizm, narkobiznes, ekstremizmga qarshi xalqaro tashkilot tuzilmalari bilan hamkorlik va boshqa faoliyatlar majmuidan tashkil topadi.

O'zbekistonda ma'naviy-mafkuraviy islohotlar olib borish, milliy qadriyatlarni tiklash, yangi avlodni tarbiyalash konsepsiyasi amalga oshirilmoqda.

O'zbekiston Respublikasi Prezidenti Sh.M.Mirziyoyevning tomonidan ilgari surilgan "Yangi O'zbekiston strategiyasi" – mamlakatimizda "Yangi O'zbekiston", "Uchinchi Renesans poydevori" g'oyasini amalga oshirish, mamlakatni yangilash va modernizatsiya qilish va milliy g'oyani rivojlantirish omili ekanligidan dalolat beradi. O'zbekiston Respublikasining Prezidenti Shavkat Mirziyoyev o'z ma'ruzasida quyidagi g'oyani oldinga surdi: "Albatta, biz mustaqil fikrlaydigan, zamonaviy bilim va kasb-hunarlarni egallagan, mustahkam hayotiy pozitsiyaga ega bo'lgan yoshlarni tarbiyalash bo'yicha katta ishlarni amalga oshirmoqdamiz. Ammo xolisona tan olib aytadigan bo'lsak, bugungi kunda butun dunyoda aholining, birinchi navbatda, yoshlarning ongi va qalbini egallash uchun qanday keskin kurash borayotganini, diniy ekstremizm, terrorizm, giyohvandlik, «ommaviy madaniyat» kabi tahdidlar kuchayayotganini hisobga oladigan bo'lsak, farzandlarimiz tarbiyasi, ma'naviy-ma'rifiy sohadagi ishlarimizni bir zum ham susaytirmasdan, aksincha, ularni yangi bosqichga ko'tarishimiz zarur"[1]. Davlat rahbarining ushbu g'oyaviy qarashlari O'zbekiston davlatining ma'naviy-ma'rifiy siyosat sohasidagi kelgusidagi ustuvor yo'nalishini aniq belgilab berdi. Natijada 2017 yil 28 iyulda O'zbekiston Respublikasi Prezidentining «Ma'naviy-ma'rifiy ishlar samaradorliini oshirish va sohani rivojlantirishni yangi bosqichga ko'tarish to'g'risida»gi PQ-3160-sonli, 2019 yil 3 mayda "Ma'naviy-ma'rifiy ishlar samaradorligini oshirish bo'yicha qo'shimcha chora-tadbirlar to'g'risida"gi (PQ-4307-son)[3] qarorlari hamda «O'zbekiston

taraqqiyotining yangi bosqichida milliy g'oyani rivojlantirish konsepsiyasini ishlab chiqishga doir chora-tadbirlar to'g'risida»gi Farmoyishi qabul qilindi.

Ushbu strategiya ana shu yo'lda fuqarolarni birlashtiradi, yakdil va hamfikir bo'lishlariga xizmat qiladi. Jamiyat taraqqiyotining ustuvor yo'nalishlarini qat'iy belgilab olib, kuch va imkoniyatlarni jamlash, qayd etilgan ustuvor yo'nalishlar bo'yicha taraqqiyotni ta'minlash uning ma'no-mazmunini tashkil etadi.

Mamlakatimiz taraqqiyotining hozirgi davrida strategik rivojlanish bilan bog'liq yo'nalishlar Yangi O'zbekiston strategiyasida quyidagicha o'z aksini topgan:

- erkin fuqarolik jamiyatini rivojlantirish orqali xalqparvar davlat barpo etish, inson qadr-qimmatini va uning qonuniy manfaatlarini ta'minlash;
- adolat va qonun ustuvorligini mustahkamlash, inson qadr-qimmatini ta'minlash;
- milliy iqtisodiyotni rivojlantirish;
- adolatli ijtimoiy siyosat yuritish va inson kapitalini rivojlantirish;
- ma'naviy va ma'rifiy sohalarida islohotlarni amalga oshirish;
- global muammolarning milliy va mintaqaviy darajadagi yechimlarini topish;
- tinchlik va xavfsizlikni ta'minlash, xalqaro hamkorlikni rivojlantirishga qaratilgan ustuvor yo'nalishlardan iborat.

Ma'naviy hayotni yangilash, mafkuraviy tamoyillarni aniqlab olishda "inson – jamiyat – davlat" omili hozirgi davr zaruratini aks ettirmoqda.

Bu jihatdan Yangi O'zbekiston strategiyasining ustuvor yo'nalishlari, asosiy tamoyillari va mezonlarini quyidagilardan iboratdir:

birinchidan, Yangi O'zbekistonni barpo etish jarayonining dasturilamali bo'lgan taraqqiyot strategiyasini to'liq amalga oshirish jamiyat a'zolarining islohotlarga daxldorlik tuyg'usi, ijtimoiy-siyosiy faolligini oshirishga xizmat qiladi;

ikkinchidan, mamlakatda islohotlar va yangilanishlarning keng ko'lamda olib borilishi, raqobatbardosh va ochiq pragmatik makonni yaratish, barqaror rivojlanish maqsadlariga hamohang rivojlanishni ta'minlash kabi paradigmalarga asoslanadigan Yangi O'zbekistonni, Uchinchi Renessans poydevorini barpo etish g'oyasi millatni jipslashtiradi;

uchinchidan, jamiyat qurilishi va davlat boshqaruvining yangilanishi, inson huquq va erkinliklarining ta'minlanishi tamoyillariga amal qilinayotganligini ko'rsatadi;

to'rtinchidan, mamlakatda amalga oshirilayotgan islohotlarning bosh maqsadi inson, uning qadri, ehtiyojlari va manfaatlariga qaratilgani, ularning asl qadriyatga aylanayotgani o'zgarishlar hamda yangilanishlarning tub mohiyatini ifodalaydi;

beshinchidan, mulk huquqiga egalikning yangi shakli vujudga kelayotganligi, shaxs, jamiyat va davlat manfaatlarini uyg'unligi tamoyili e'tirof etilayotgan kuchli

fuqarolik jamiyati, demokratik boshqaruv, raqibatbardosh bozor iqtisodiyoti mamlakat va xalq ravnaqi asosiga aylanmoqda;

Strategiyadagi inson qadrini yuksaltirish, uning haq-huquqlarini himoyalash, orzu-umidlarini ro'yobga chiqarish borasida amalga oshirilishi ko'zda tutilayotgan ustuvor tamoyillar va dolzarb vazifalar esa bu yo'nalishda ham ong va tasavvurlarimizni o'zgartirishni, bir so'z bilan aytganda, butun jamiyatimizning ma'naviy yangilanishini zaruratga aylantirdi.

Bu borada Prezidentimiz tomonidan yaratilgan nazariy-metodologik asoslarga tayangan holda, ushbu yo'nalishda ro'y berayotgan jarayonlarni chuqur tahlil qilish va ba'zida uchrayotgan muammolarni zudlik bilan yechishning samarali yo'llari hamda usullaridan foydalanishni davrning o'zi taqozo etmoqda.

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TEACHING UNIVERSITY STUDENTS IN A FOREIGN LANGUAGE IN MODERN CONDITIONS: TRADITION AND INNOVATION

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ABSTRACT:

This thesis looks at how foreign language instruction is changing for University students in contemporary classrooms and examining the evolving landscape of teaching within modern educational settings. The study explores the relationship between innovative approaches and standard pedagogies and how it affects language learning and academic advancement. With an emphasis on communicative approaches, immersive experiences, technological integration, and the role of educators, this research attempts to give higher education institutions a thorough grasp of modern, efficient language teaching methods.

Keywords: *Immersive learning, educator role, modern pedagogies, innovation, traditional methods, technology integration, language acquisition, higher education, and communicative approaches.*

INTRODUCTION:

Teaching foreign languages to university students in today's educational environments requires a sophisticated approach that combines cutting-edge techniques with conventional pedagogies. This thesis provides an explanation of the changing nature of language instruction in higher education through a thorough investigation of technological integration, immersive experiences, communicative techniques, and the critical role of educators. The aforementioned research highlights the importance of achieving equilibrium between conventional bases and innovative methods in order to facilitate efficient language learning and comprehensive academic growth.

These days, there are many resources available thanks to technology breakthroughs that make language learning easier. Students can connect with the language outside of the classroom thanks to interactive software platforms, internet resources, virtual classrooms, and language learning apps that support traditional lectures.

Naturally, of course! Teaching foreign languages to university students in today's educational settings requires a dynamic fusion of traditional methods and innovative approaches. These elements come together to create a comprehensive framework for academic progress and language development.

Language acquisition in higher education has traditionally been controlled by textbooks, planned classroom sessions, and instruction that is grammar-focused. However, contemporary teaching methods have embraced innovation and included communicative approaches, immersive experiences, and technology to enhance language learning.

Thanks to technological advancements, there are a lot of materials available these days that facilitate language acquisition. Thanks to interactive software platforms, online materials, virtual classrooms, and language learning applications that supplement conventional lectures, students can stay in touch with the language outside of the classroom.

CONCLUSION:

The study shows that for comprehensive language learning, university students must be taught a foreign language using a combination of traditional and new methods. Technology is essential for improving educational experiences, and immersive learning offers unmatched chances to develop language and cultural awareness. Furthermore, teachers' flexible role as facilitators who blend conventional pedagogies with contemporary techniques has a big impact on students' language learning experiences. As a result, it is critical for language teachers to balance tradition with innovation in order to adequately prepare their pupils for life in a worldwide society and provide them with the language skills and cultural sensitivity needed to succeed in a variety of professional fields.

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PEDAGOGIKA VA PSIXOLOGIYA YO‘NALISHIDA IXTISOSLIK MODULLARI MAZMUNIDA INTEGRATSIYANING DIDAKTIK IMKONIYATLARI

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Annotatsiya. Ushbu maqolada zamonaviy ilmiy bilimlarning integratsiyalashuv tendentsiyasining rivojlanish xususiyatlarini o‘rganish asosida uning asosiy qonuniyatlarini aniqlash, ixtisoslik modullarining asosiy tarkibiy qismlarining eksponensial o‘shishiga mos keladigan integratsiya jarayonlari tezligi va murakkabligining oshishi, integratsiyalashuv jarayonining notekisligi, aniq integratsiya qiluvchi omillarning o‘zgarishi, ilmiy-texnikaviy va ijtimoiy taraqqiyotni rivojlantirishda integratsiyaning progressiv rolini oshirish kabi dolzarb masalalar yoritib berilgan.

Kalit so‘zlar. Integratsiya, pedagogika, psixologiya, ixtisoslik modullari, didaktik imkoniyatlari.

Аннотация. В данной статье на основе изучения особенностей развития тенденции интеграции современных научных знаний, выявления ее основных закономерностей, увеличения скорости и сложности интеграционных процессов, соответствующих экспоненциальному росту основных выделены компоненты модулей специализации, неравномерность интеграционного процесса, смена конкретных интегрирующих факторов, научно-актуальные вопросы, такие как повышение прогрессивной роли интеграции в развитии технического и социального развития.

Ключевые слова. Интеграция, педагогика, психология, модули специализации, дидактические возможности.

Abstract. In this article, based on the study of the characteristics of the development of the trend of integration of modern scientific knowledge, the identification of its main laws, the increase in the speed and complexity of the integration processes corresponding to the exponential growth of the main components of the specialization modules, the unevenness of the integration process, the change of specific integrating factors, scientific-current issues such as increasing the progressive role of integration in the development of technical and social development are highlighted.

Keywords. Integration, pedagogy, psychology, specialization modules, didactic possibilities.

Integratsiya to'laqonli ilmiy tushuncha sifatida pedagogikada 80-yillarning birinchi yarmida ijtimoiy hayotning iqtisodiy, siyosiy, axborot, madaniy va boshqa sohalarida jadal rivojlanayotgan o'zaro bog'liq jarayonlar fonida paydo bo'ldi. Bu vaqtga kelib u falsafiy va ilmiy adabiyotda allaqachon mustahkam o'rin olgan edi. Shunga qaramay, fanimizda integratsiya o'qituvchilarning zamonaviy zamon bilan hamnafas bo'lish istagi tufayli kontseptsiyani ilmiy faoliyatning boshqa sohalaridan oddiygina ko'chirish natijasida vujudga keldi, deb taxmin qilish noto'g'ri bo'ladi.

Integratsiya muammosi na faylasuflar, na metodistlar, na siyosatchilar jiddiy qiziqmagan paytda ham o'qituvchilar tomonidan faol muhokama qilindi. Pedagogikadagi bu kategoriya ilmiy ongning murakkab dialektik o'zgarishlar mahsuli bo'lib, u ba'zi opportunistik intilishlarga bo'ysunmaydi. Ammo u jahon madaniyati yutuqlarini va ba'zan mahalliy ta'limni rivojlantirishning dramatik tajribasini o'zlashtirdi.

Yigirmanchi asr ta'limida integratsiya tarixi, albatta, uchta sifat jihatidan farq qiladigan bosqichlarga tuzilgan[2]:

- asr boshi – 20-yillar – fanlararo asosda muammoli va kompleks ta'lim (mehnat maktabi);
- 50-70-yillar - fanlararo aloqalar;
- 80-90 yil - haqiqiy integratsiya.

Ta'lim tizimini muammoli-kompleks, yaxlit asosda yaratishga birinchi amaliy urinishlar asr boshlarida AQSHda J.Dyui, 20-yillarda Sovet Rossiyasida S.T.Shatskiy, M.M.Rubinshteyn va boshqalar tomonidan amalga oshirilgan. Bu yangi mamlakatimizda qabul qilingan yo'nalish, mehnat maktabi nomi bilan pedagogika tarixiga kirgan tajriba uchun mumkin bo'lgan amaliy amalga oshirishning barcha to'liqligi. Unda o'quv jarayonini tashkil etishning asosiy printsipti "hayot komplekslari usuli" edi. Integratsiyalashgan usul (yoki loyiha usuli) ma'lum bir umumiy muammo atrofida turli mavzulardagi bilimlarni birlashtirishni o'z ichiga oladi. Bu o'quv jarayonini fanlararo asosda tashkil etishning birinchi amaliy tajribasi edi.

1931 yilda bu katta tajriba yopildi va qattiq tanqidga uchradi. Mehnat maktabida ta'lim mazmunini tashkil etishning yangi tamoyili amalga oshirildi. An'anaga ko'ra, sub'ekt-sentrizm shunday harakat qildi: bilimlar har biri u yoki bu didaktik qayta ishlangan fan sohasini ifodalovchi sub'ektlarga tizimlashtirildi. Integratsiyalashgan ta'lim muayyan muammolar atrofida ko'p tarmoqli bilimlarni birlashtirishni va qat'iy qarama-qarshi bo'lgan sub'ekt-sentrizmni o'z ichiga oladi. O'sha yillardagi inqilobiy ruhdagi "eski"[3] ta'limning kamchiliklarini tanqid qilish uning tubdan inkor etilishiga olib keldi. Yangi maktab mafkurachilarining e'tiqodiga ko'ra, "eski emas, yangisi bilan to'ldirilishi kerak, balki pedagogik hayotda saqlanib qolgan narsa tabiiy

ravishda yangi tuzilishga kiritiladi". Fanlararo integratsiyaning amalda isbotlangan muvaffaqiyatsizligi aslida eski va yangi maktablarni, predmet-sentrizm va murakkablikni (fanlararo integratsiya) aniq qarama-qarshi qo'ygan pedagogik tafakkurning inqilobiy uslubining hayotiy emasligining ifodasi edi.

1958 yilda "Maktabning hayot bilan aloqasini mustahkamlash va SSSR xalq ta'limi tizimini yanada rivojlantirish to'g'risida" qonun qabul qilindi. Shu vaqtdan boshlab integratsiyaning yangi bosqichi - fanlararo aloqalar bosqichi boshlanadi. 50—60-yillarda ular asosan fan va kasbiy bilimlar o'rtasidagi munosabatlarni mustahkamlash nuqtai nazaridan ko'rib chiqildi. 70-yillarda fanlararo aloqalar muammosini tushunish yangi yo'nalish kasb etadi. Sovet o'qituvchilarining asosiy e'tibori endilikda maktab fanlari ta'limini ishlab chiqarish ta'limi bilan muvofiqlashtirish imkoniyati emas, balki mazmunli, tizimli, didaktik ta'limni yo'lga qo'yish va rivojlantirish istiqboliga qaratilgan. maktab o'quv fanlari o'rtasidagi munosabatlar[1].

Fanlararo aloqalar yordamida hal qilinishi kerak bo'lgan vazifalar mehnat maktabining vazifalaridan printsipial jihatdan farq qilmadi: o'quvchilarning yaxlit dunyoqarashini shakllantirish, bilimlarni ularning hayoti jarayoniga kiritish, modellashtirish. tabiat va ijtimoiy hayotning ta'lim tizimi ularning tabiiy organik yaxlitligi, bolaning madaniyat olamida faol va ongli ishtiroki va boshqalar. Shu bilan birga, 50-70-yillar pedagogikasi mehnat maktabining asosiy kamchiligini bartaraf etdi, bu uning amaliy nomuvofiqligini aniqladi: u sub'ekt-sentrizm va fanlararo (integratsiya) qarama-qarshiligidan butunlay voz kechdi. Ikkinchisi mavjud ta'lim tizimini yo'q qilmadi va sub'ekt-sentrizm tamoyiliga yaxshi didaktik qo'shimcha bo'lib xizmat qildi.

Biroq, 70-yillarda bu muammo yanada tizimli va chuqurroq o'rganilgach, fanlararo pedagogik ongda hayratlanarli o'zgarishlar yuz berdi. Bu ko'pchilik tadqiqotchilar tomonidan didaktikaning printsipi sifatida tushunila boshlandi: "Ta'lim jarayonida voqelik aloqalarini aks ettiruvchi fanlararo aloqalar ob'ektiv dunyo qonuniyatlarining ifodasi bo'lib, o'zining falsafiy va didaktik ahamiyatiga ko'ra o'ziga xos xususiyatni belgilaydi. o'qitishning mazmuni, usullari va shakllari. Shuning uchun fanlararo aloqalarni sovet pedagogikasi (didaktika) tamoyillaridan biri deb hisoblash uchun barcha asoslar mavjud" (Loshkareva N.A.). Ya'ni fanlararo aloqa (didaktik tamoyil sifatida) o'z ta'sirini ta'lim jarayonining barcha tarkibiy qismlariga va ta'lim-tarbiya jarayonining barcha tarkibiy qismlariga kengaytiradi. ta'lim jarayonini qurish asosini yotadi va oldindan belgilab beradi[3].

Ushbu maqola ta'lim haqiqatiga mos kelmaydigan ko'rinishi mumkin, chunki amalda fanlararo aloqalar o'rnatiladi. Biroq, uning paradoksal tabiatida mantiqiy chuqurlik va tarixiy haqiqat bor.

Intersub'yektivlik printsipli oqilona kuchni o'z ichiga oladi: u yaxlit ta'lim jarayonini tashkil etishga intiladi, lekin sub'ekt-sentrizmni inkor etish bilan emas, balki uning asosidir. Subyektivlik sub'ektivlikni rivojlantirish vositasi, ta'limni sifat jihatidan yaxshilash istagi va shu bilan birga o'tmishdagi ijobiy narsalarni yo'qotmaslikdir. Biroq intersub'ektivlikni didaktika tamoyili sifatida tushunish pedagogik tafakkurning tabiatini sezilarli darajada o'zgartirdi: hodisa asosga aylandi, hosila hosil bo'ldi, vosita sababga aylandi. "Fanlararo aloqalar" tushunchasining o'zi o'zining shakli va unga kiritilgan yangi mazmun o'rtasida halokatli ziddiyatga kirdi. Agar fanlararo didaktika tamoyili bo'lsa, fanlararo aloqalar unga bog'liq bo'la olmaydi. bu endi dominant didaktik tamoyil emas - ob'ektivlikdan. Shakl (fanlararo aloqalar) va yangi mazmun (didaktika tamoyili) o'rtasidagi ziddiyat tabiiy ravishda shaklning o'zgarishiga olib keldi: 80-yillarda fanlararo aloqalar tushunchasi o'z o'rnini integratsiya tushunchasiga bo'shatib berdi.

80-90 yillar mahalliy pedagogikada integratsiya jarayonlari rivojlanishining uchinchi bosqichi - integratsiyaning o'zi bosqichini tashkil etadi. 90-yillarda integratsiyalashgan kurslarni yaratish bo'yicha ommaviy harakat o'zining eng yuqori cho'qqisiga chiqdi. 90-yillarning integratsiyasi - asrning boshidan boshlab integratsiyalashgan ta'limning ilmiy jihatdan yanada rivojlangan g'oyasi. Fanlararo ishning zamonaviy tadqiqotchilarining aksariyati uning didaktik tamoyil sifatida ta'riflanishiga rozi bo'lishadi. Shu bilan birga, tarixiy tajriba integratsiyani ob'ektivlikdan ajratishga, ularni bir-biriga qarama-qarshi qo'yishga imkon bermaydi. Integratsiya - bu ob'ektivlik bilan bog'liq bo'lgan narsa, uni boshqasi sifatida nazarda tutadi[2].

Integratsiyani eng muhim didaktik tamoyillardan biri sifatida e'tirof etish o'rinli bo'lar edi, u umuman ta'lim tizimini tashkil etishni belgilaydi. Shunda xolislik pedagogik jarayonda integratsiya usulini amalga oshirishning eng umumiy shakliga aylanadi. Bunday holda, "akademik fan" va "fan ichidagi integratsiya" tushunchalari bir xil bo'ladi. Bunday yondashuv fan ichidagi tizimli aloqalar darajasida ilmiy tadqiqot olib borish, o'qitishning individual protsessual va funksional komponentlarini tahlil qilish va sintez qilish imkonini beradi. Har qanday fanni murakkab tizim sifatida ko'rib, biz o'quv predmeti doirasida sodir bo'ladigan jarayonlarni avtonom didaktik tizim sifatida modellashtirish uchun zarur shart-sharoitlarni yaratamiz. Modellashtirish ilmiy-nazariy (empirikdan farqli ravishda) tafakkurning belgisidir. Demak, integrativ

metod pedagogikada nazariy tadqiqotning umumiy ilmiy usullaridan foydalanish istiqbollari ochadi.

Shunday qilib, biz integratsiyani an'anaviy fan ta'limi tizimini umuman belgilaydigan genetik printsip sifatida tushuna boshlaymiz. Ushbu tamoyilning yanada rivojlanishi sifat jihatidan yangi tizimni - bu tizimga qarshi turmaydigan, balki uning ustiga quriladigan va uni o'zining funktsional asosi sifatida to'liq saqlab qoladigan yaxlit ta'lim maydonini shakllantirishi mumkin. Bunda matematik nazariyalar son tushunchasidan kelib chiqqanidek, integratsiyadan yangi nazariy didaktika ham olinishi mumkin.

Ehtimol, inson tabiati o'z mohiyatiga ko'ra yaxlitdir va insondagi bu yaxlitlik birlamchidir: ham moddiy qobiq darajasida (o'zaro ta'sir qiluvchi kimyoviy, fiziologik, ruhiy jarayonlar); va shaxsiy xabardorlik darajasida; fikrlash darajasida esa - mantiqiy, obrazli, assotsiativ. Binobarin, integratsiya estetik, kognitiv, tarixiy-genetik, ijtimoiy-funksional jihatlar uyg'unligida ifodalangan o'zini va o'zini o'rab turgan olamni bilishning tabiiy usulidir.

Darsda turli mavzularni birlashtiradigan o'qituvchi bilim mohiyatidagi ziddiyatlarni hisobga olishi va fikrlash me'yorlarini yengish jarayonida o'z ishida o'zgaruvchan va doimiy, takroriy va noyob, tasodifiy va tabiiy, aniq va aniq narsalarga tayanishi kerak. intuitiv, ularning bir mavzu doirasida ham, bir nechta o'rtasidagi o'zaro ta'sirining o'lchovini toping. Atrofimizdagi dunyo haqidagi umumlashtirilgan g'oyalargina uni to'g'ri yo'naltirishga imkon beradi. Integratsiya shaxsni modellashtirishni tezlashtiradi, o'rta maktab o'quvchilarida sog'lom munosabat uchun turtki bo'lib xizmat qiladi, ular ongida falsafiy tamoyillarni tarbiyalaydi.

Bugungi kunda adabiyotda ta'limda integratsiya tamoyilini amalga oshirishning mumkin bo'lgan yondashuvlarini tahlil qilganda, mualliflar ta'lim maqsadlari va natijalarini belgilashda bir ovozdan: bir nechta o'quv fanlarining aloqa sohalarini ko'rsatish uchun emas, balki ularning organik real aloqasi orqali. o'quvchilarga atrofimizdagi dunyoning birligi haqida kerakli g'oyani berish. Integratsiyalashgan ta'lim natijalari o'quvchilarning ijodiy tafakkurini rivojlantirishda namoyon bo'ladi. Bu nafaqat o'quv va kognitiv faoliyatni faollashtirish, tizimlashtirish, optimallashtirish, balki madaniy savodxonlikni (lingvistik, axloqiy, tarixiy, falsafiy) o'zlashtirishga yordam beradi. Madaniyat turi inson ongining turini belgilaydi, shuning uchun zamonaviy maktabda integratsiya juda dolzarb va zarurdir.

Integratsiyaning ijtimoiy ahamiyati bolalarni rivojlanishning bir xilligidan qutqaradigan jamlangan bilimlarni o'zlashtirishidir. Integrallarning yo'qligi faqat tor idoraviy qarorlar qabul qilishga qodir bo'lgan tor mutaxassislarni keltirib chiqaradi, ular allaqachon xalq xo'jaligi, iqtisodiyot va ekologiyaga katta zarar yetkazgan.

Xulosa o‘rnida shuni aytish mumkinki, ta’lim tizimini tubdan isloh qilish va uni zamon talablariga to‘laqonli mos ravishda o‘zgartish hamda integratsiyalashgan ta’lim muhitida ixtisoslik modullarining didaktik ahamiyati muhim masala sifatida o‘z o‘rnini yo‘qotgani yo‘q. Bugungi kunning har qanday o‘zgarishi albat, rivojlanish va o‘sish uchundir.

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MYOMA DISEASE, ITS SYMPTOMS AND PREVENTION

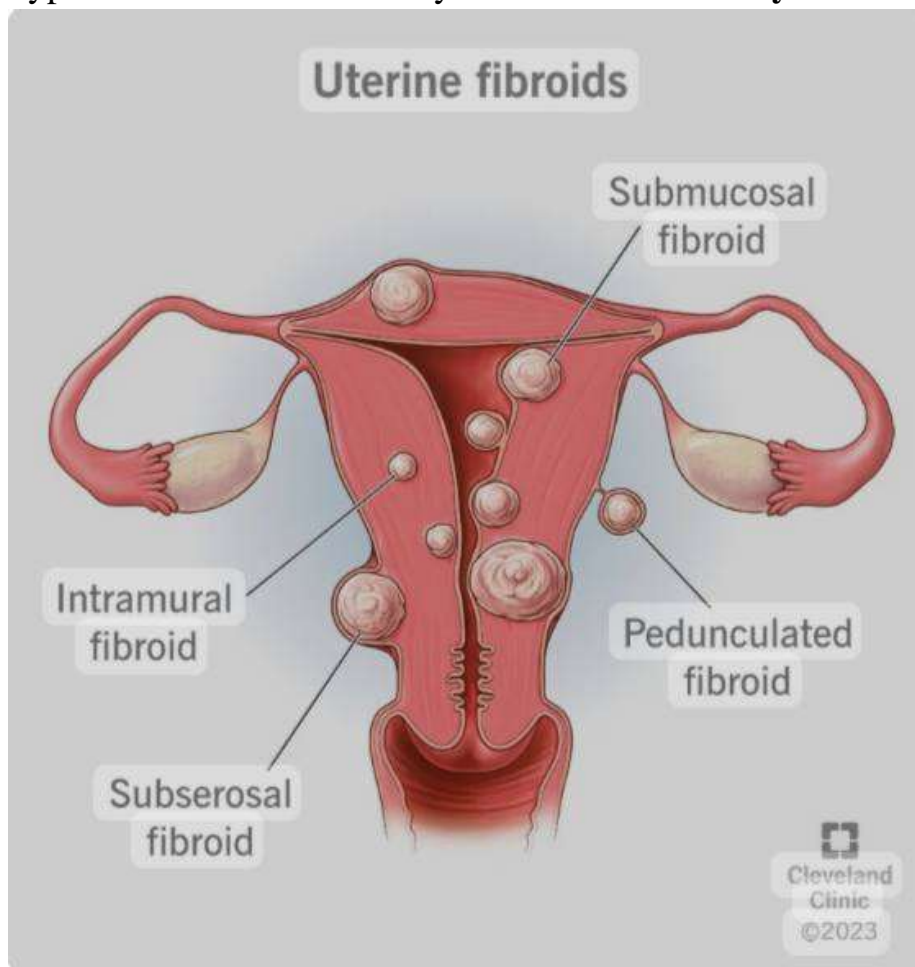
Khamrayeva Marjona

Student of Samarkand State Medical University

Abstract. *This article provides information about myoma, its causes, and its prevention.*

Key words: *myoma, uterus, heredity, hormones, ultrasound, hysteroscopy, magnetic resonance imaging.*

Uterine myoma is a tumor growth of the connective tissue and muscle fibers of the uterus. Uterine fibroids are common growths of the uterus. They often appear during the years when you can get pregnant and give birth. Uterine fibroids are not cancerous and they rarely become cancerous. They are also not associated with a higher risk of other types of uterine cancer. They are also called **leiomyomas or fibroids**.



Symptoms of the disease:

- **Heavy menstrual bleeding or painful periods.**
- **Longer or more frequent periods.**
- **Pressure or pain in the pelvic area.**
- **Frequent urination or trouble urinating.**
- **Stomach area increases.**
- **Constipation.**
- **Pain in the stomach area or lower back, or pain during sex.**

Gene change. Many fibroids have gene changes that differ from normal uterine muscle cells.

Hormones. Two hormones called estrogen and progesterone cause the lining of the uterus to thicken during each menstrual period in preparation for pregnancy. These hormones also promote fibroid growth.

Risk factors

In addition to a person of reproductive age, several risk factors for uterine fibroids are known. These include:

- For racial reasons. All women of reproductive age can develop fibroids. But blacks are more likely to develop fibroids than other racial groups. Blacks have younger fibroids than whites. They are also more likely to have more or larger fibroids with worse symptoms than whites.



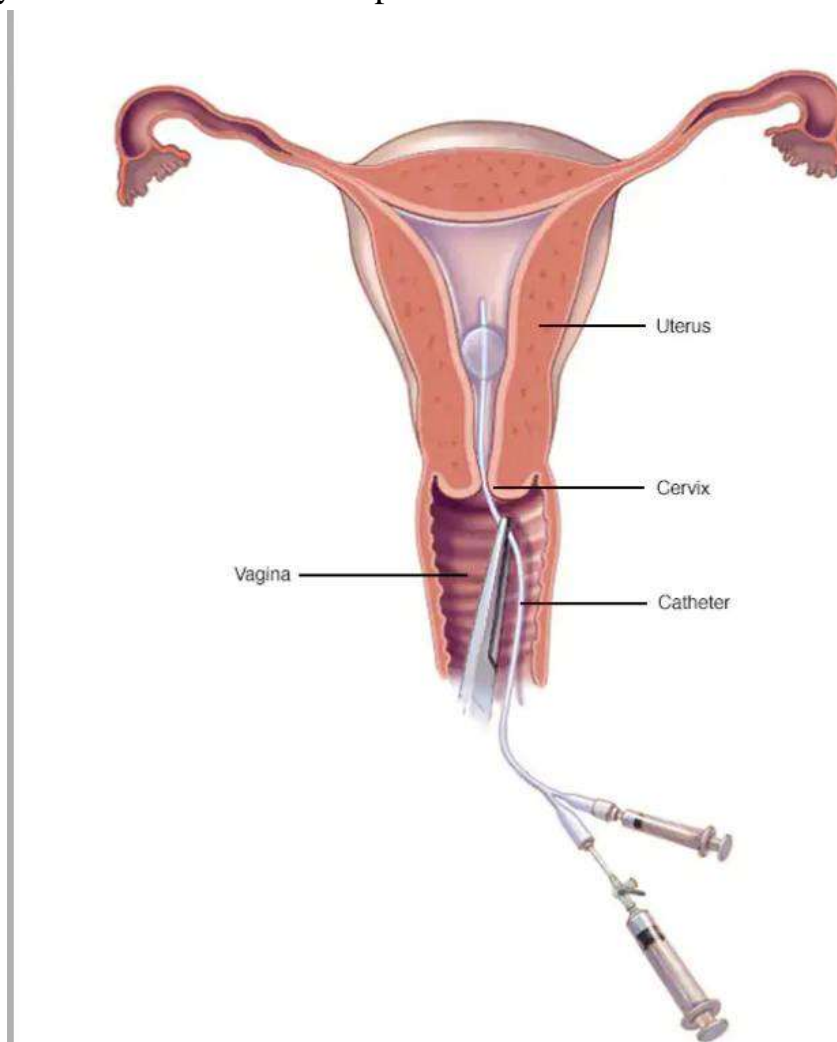
- Family history. If your mother or sister had fibroids, you are at a higher risk of getting them.

- Other factors. Starting menstruation before the age of 10; obesity; lack of vitamin D; the diet contains more red meat and less green vegetables, fruits and dairy products; and drinking alcohol, including beer, increases the risk of fibroids.

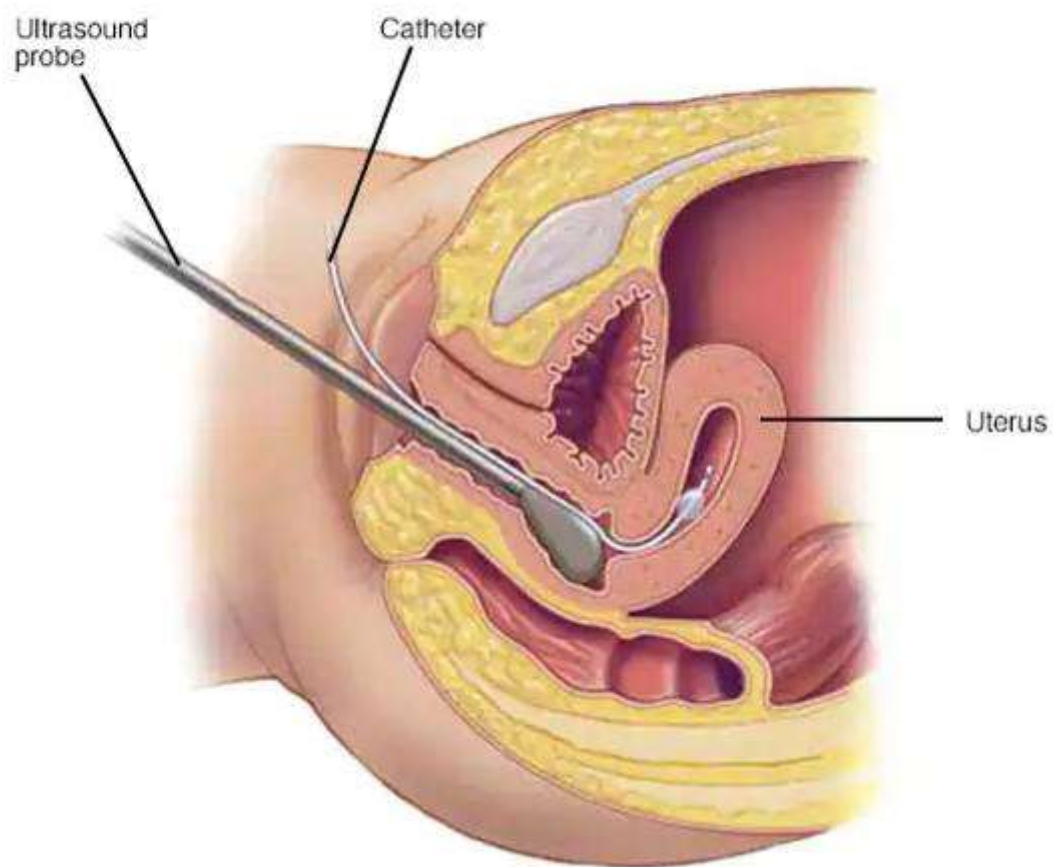
Uterine fibroids are often found incidentally during routine pelvic examinations. The doctor may notice irregular changes in the shape of the uterus, which indicates the presence of fibroids.

If you have symptoms of uterine fibroids, you may need the following tests:

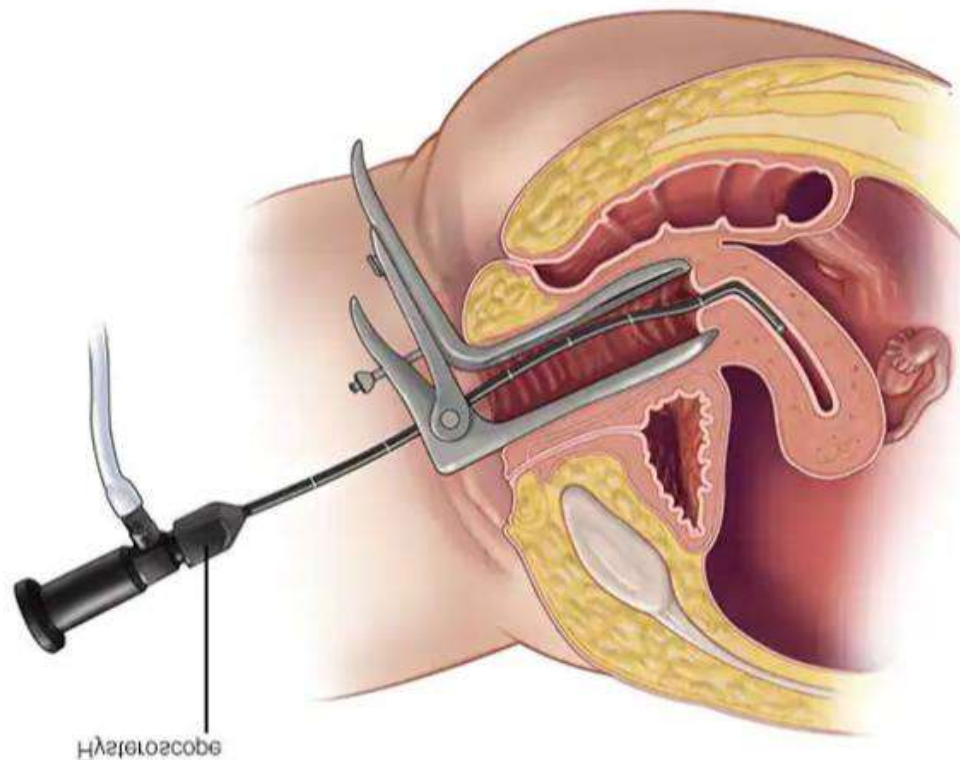
- Ultrasound. This test uses sound waves to take a picture of the uterus. He can confirm if you have fibroids and map and measure them.



- Hysteroscopy. For this test, your doctor will insert a small, lighted telescope called a hysteroscope through your cervix into your uterus. Then a physiological solution is injected into the uterus. This expands the uterine cavity and allows the doctor to examine the walls of the uterus and the opening of the fallopian tubes.



- Hysteroscopy. Hysterosalpingography (his-tur-o-sal-ping-GOG-ruh-fee) uses dye to highlight the uterine cavity and fallopian tubes on X-ray images. If infertility is a concern, your doctor may recommend it. This test can help determine whether the fallopian tubes are open or blocked and can show some submucosal fibroids.
- Hysterosonography. Hysterosonography (his-tur-o-suh-NOG-ruh-fee) uses sterile saline, called saline, to dilate the space inside the uterus, called the uterine cavity. This makes it easier to image submucosal fibroids and the lining of the uterus if you are trying to get pregnant or have heavy menstrual bleeding. Another name for hysterosonography is saline infusion sonogram.



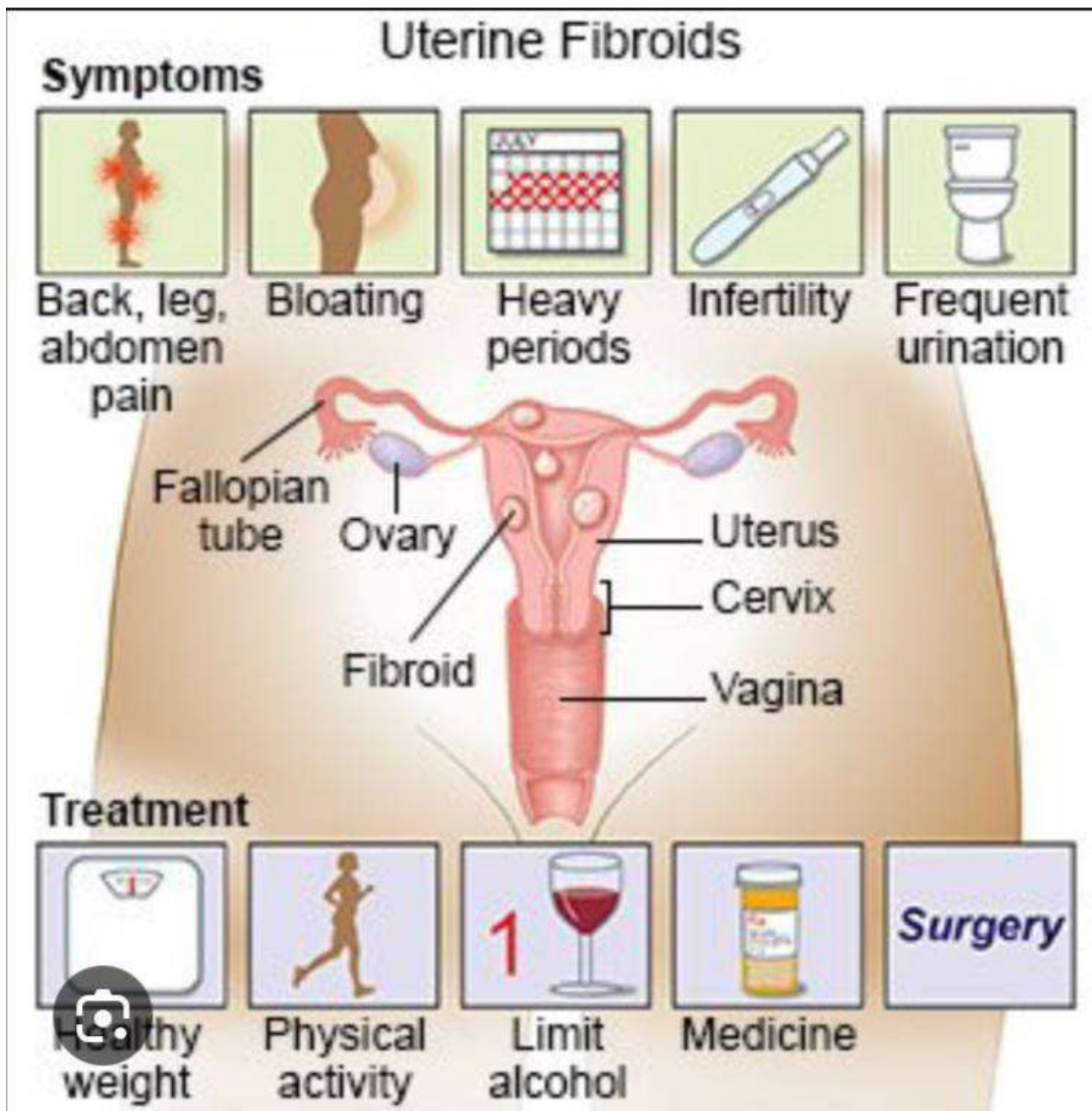
- Magnetic resonance imaging (MRI). This test can show the size and location of the fibroid in more detail. It can also detect different types of tumors and help determine treatment options. MRI is often used in people with larger uteruses or those approaching menopause, also known as perimenopause.

Disease treatment measures:

For women with symptomatic fibroids, hormonal drugs can regulate the menstrual cycle and reduce bleeding, but they do not prevent the growth of fibroid cysts. Other procedures are invasive surgery such as uterine artery embolization.

Medicines. Medicines for fibroids treat the patient's symptoms. Fibroids don't go away, but they can shrink with some medications. They can also help with symptoms such as pain and bleeding.

If the patient has mild symptoms or no symptoms at all, the doctor may recommend waiting and seeing the patient. Fibroids are not cancerous and may grow slowly or not at all. They may also shrink or disappear after menopause.



Like all diseases, fibroid disease is caused by wrong lifestyle. Therefore, a person should pay attention to his health and follow a healthy lifestyle.

ISSUES OF FORMING ARTISTIC CULTURE, PICTURE LITERACY

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Abstract: *The article is written about the nationality of fine art and the importance of design art, photo art, and practical skills of Ikebana compositions in students' artistic perception of art.*

Keywords: *Fine art, reader, design art, Ikebana composition, photo art, fine art, composition*

INTRODUCTION

The subject of visual art serves to develop visual literacy in students, creative thinking in the process of mastering other subjects, acquiring knowledge necessary in social life by developing artistic-aesthetic thinking and emotional sensitivity during the lesson. Drawing develops not only the speed of visual perception, but also a good visual memory. Art is the expression of events in nature and society in artistic images. In addition to reflecting the general state and development of the material world, and being an important tool for communicating it to people, art serves as a powerful factor in educating people politically, morally, and artistically. Art is divided into such types as visual arts, architecture, literature, music, circus, theater, cinema, radio and television, according to the way of expressing reality, character, and content. The positive and most important feature of art is that, unlike science, it expresses events not in concepts, but in forms perceived by intuition and feeling, in typical artistic images.

It is known that each society creates certain conditions for the development of art based on its economic and political situation. Therefore, the art of each society serves its time. If the art of every society is created on the basis of freedom, this art promotes the advanced idea of humanity, patriotism and nationalism. Art reflects people's goals and hopes.

METHODS

Art fully expresses the good intentions of mankind, their dreams and hopes. Therefore, as much as our nation respects and respects its art, the nations of the world look at Uzbek art with the same sincerity and respect. Based on these requirements and principles, Uzbek artists in their works reflect the things and events that interest them and excite them on the basis of nationality.

The nationalism of the visual art of our independent country requires it, first of all, to stand in a realistic position and depict the objective laws of the material world. This requires the artist to express things and events clearly, like himself, realistically, and to create works of art that are directed towards a specific goal and meet high artistic requirements. World realistic visual art is a real mirror that represents the past, present and future life of peoples of the world, as well as nature and society. We see the past, present and future in it. For this reason, masters of realistic visual arts should know the history of the past, matter and development, mathematics, nature, geography and biology. Art has a long history, it was formed on the basis of the development and improvement of labor activity in society and the progress of social activity.

Development of the skills of perception of an artistic image is the basis of learning works of art. Pupils should be able to think and perceive the work, to express its content using special expressions, and also to notice and emphasize the visual means used in the work. Special hours are not allocated to the perception of art in elementary grades. It is carried out in the classes of painting composition, drawing according to nature. Educational materials on the perception of works of visual art in primary grades are related to the practical work of students. Fine art - helps to facilitate easy, short and reasonable teaching of all academic subjects taught at school and has long been recognized as a science that creates conditions for the implementation of all types of education, both theoretically and practically. will be done. [1; 47]

RESULTS

Showing copies of works of art and talking about them increases children's interest in art and leads them to work in this field. During the presentation of the works, children are introduced to the main idea expressed in it and the artistic and visual tools used. The importance of design art in the perception of an artistic image.

Design art consists of applied, artistic and graphic arts. This art mainly serves technology and its development. Therefore, it is also called "industrial aesthetics" or "technical art". It is known that technology is an important factor in easing people's work and creating comfortable opportunities for them. [2;33]

The simplicity, convenience and beauty of the technique improves the working conditions of the worker and improves his mood. Therefore, the creation of new forms and types of tools, household items, technical tools, plays an important role in managing the economy and material and spiritual life of society. It is known that all generation of industrial products, starting from household goods, material and spiritual goods, labor tools, transport, equipment, means of production and mechanization. Because all of them are made in factories, workshops and shops.

DISCUSSION

Design art is one of the newest types of fine art, which consists of artist-constructor art. This science of art mainly studies issues such as the theoretical basis of industrial art design, the laws of its socio-economic and historical development, as well as the principles and methods of art design, the creative activities of designer artists. The art of design consists of the art of general and artistic design, which creates new types of machines, technical tools, building facades, walls, hand tools, household items, clothes. The art of design carries out this creation by juxtaposing human labor and beauty. In its place, it teaches people to live comfortably, comfortably, to work effectively, and educates them with high taste, love for work, spiritual culture, and high passion for the beauty of nature and society.

Photo art. Photography. The art of photography is the art of expressing reality clearly, as it is (in nature), without any additions, using scientific and technical tools. [2;34]

In recent years, due to the high development of photography techniques and the creativity and skills of the representatives of this field, the works of photography attract people's attention. The art of photography can be considered a type of fine art. Because this art also satisfies certain needs of people. The art of photography, like fine art, has its own types and genres. He has portrait, landscape, life, and historical genres. Despite the fact that the art of photography has been developed since the 1930s, today it is an effective tool in film, television, book printing, newspaper and magazine publishing, in studying our ancient history and finding lost traces, in creating our present history.

The art of Ikebana. Ikebana is a type of fine art, which means "artistic arrangement of living flowers" in Japanese. The art of Ikebana gives people a positive mental mood. It educates humanity in the spirit of love for existence, nature, work. It develops people's aesthetic and artistic taste, inspires work and creativity. [2;35]

The art of Ikebana differs from other arts in terms of its structure and content, and it is closer to the art of sculpture. Because it is possible to see and watch this composition of art not from one side, but from all sides. The art of Ikebana brings people to places of residence (such as rooms, hotels, shared dormitories), rooms of educational and scientific institutions (children's institutions, classrooms of schools, auditoriums, scientific laboratories, offices, department rooms), work and workplaces (It is the most convenient and lively, educational art tool widely used in the decoration of factories, workshops, their halls and corridors), cultural institutions, health care institutions and rest houses, cinema theaters, etc. This art is not only a means of decoration, but according to the Japanese definition, it is to build or create a small part of nature with the high skill of a skilled artist at any place, at any time, under any

conditions. Ikebana is made in different styles, using different materials, depending on the place or object of use.

Ikebana composition consists of three elements - flower, leaf, branch, and the three positions of these elements express the wholeness, integrity, meaning and beauty of the composition. The first of the elements of the composition is the longest, high-volume branch in the composition, which expresses the content and character of the entire composition; the second is a medium-length branch or flower (leaf) in the composition, which provides unity of color and proportion while filling the content of the composition; the third is the smallest among the elements, and it is an auxiliary element in ensuring color harmony by equalizing the theme, character, content, color and proportions of the composition. The composition of Ikebana, pleasant and beautiful, depends on the correct choice of colors, the shape, color and material of the container chosen for the composition, as well as how well it is adapted to the place and object of the composition.

CONCLUSION

Special dishes made of porcelain, crystal, glass, ceramics, plastic, metal, and wood are used for ikebana. These dishes consist of tall vases, low plates, plates, and basket-shaped dishes. Although the art of Ikebana was formed in Japan 600 years ago, and there are about 60 types and styles of it, its representatives such as Ikenoba, Nageira, Moribana, Ohara, Sogesu created a school with its own style and direction. contributed to the development of this art. Today, when the art of Ikebana is gradually entering the art of the peoples of the world, another new type of this art - the art of Akobana - has appeared in Japan. This art feature consists in creating an artistic composition in a special frame based on the processing of dried flowers, leaves, twigs, fruits, animals and other natural materials.

Fine art works invite people to philosophical observations and serve as the backbone of our spirituality. Fine art educational subject has a wide opportunity to form and develop aesthetic taste, artistic thinking, intellectual potential, and most importantly, general worldview in the young generation.

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USING ACTIVE METHODS IN FINE ARTS LESSONS

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Summary: *The state speaks of the use of active teaching methods in teaching fine arts, the development of the student's ability to actively learn, conducting such classes in the art of stimulation.*

Keywords: *visual arts, student, active teaching methods, lessons, heuristic conversation.*

Rezyume: *Maqolada tasviriy san'at darslarida o'qitishning faol usullaridan foydalanish, ta'lim oluvchilarda faol o'rganish qobiliyati, ya'ni ta'lim oluvchilarning ijod qilish va o'rganishga qiziqishini yuzaga chiqaruvchi faoliyat haqida yozilgan*

Kalit so'zlar: *Tasviriy san'at, o'quvchi, o'qitishning faol usullari, dars, evristik suhbat.*

Резюме: *В статье говорится о применении активных методов обучения в преподавании изобразительного искусства, о развитии у учащихся способности активно учиться, то есть проведении таких занятий, которые стимулируют интерес учащихся к творчеству и обучению.*

Ключевые слова: *изобразительное искусство, студент, активные методы обучения, уроки, эвристическая беседа.*

In our country, there are many opportunities for a radical reform of the education system, the widespread use of communication tools, as well as the development of the intellectual and creative potential of young people. It is very important to acquaint students with the values of our country, its rich culture, improve their skills, enrich them, form aesthetic concepts, form requirements for gaining knowledge about culture and art.

Without a deep knowledge of the centuries-old values, the vast, rich and cultural heritage of our people, it is impossible to understand national identity, a sense of national pride. The cultural wealth they create serves as an important tool in educating young people. Through the writings of great thinkers, students gain a broad understanding of the rules of good morality, happiness, honesty, purity, kindness, and respect for parents. The teacher's contribution to the upbringing of the younger generation is invaluable.

In particular, in the implementation of the educational process, a specific goal is set, laws are adopted, programs and activities are developed, plans are established that are implemented at the current level of demand. So, design before education is a project, construction, pedagogical technology of a certain pedagogical system. From this point of view, “personality formation” is also a project of a certain pedagogical system.

There is a goal, content, methods, forms and means of upbringing a harmoniously developed person, which is also a unique technology. Today, the state pays special attention to educating the younger generation in educational institutions, as well as creating the necessary conditions for all teachers to work on themselves, conducting research and organizing the educational process at the level of modern requirements on a scientific basis. Increasing the level of knowledge, experience and level of teachers, a condition for awareness of innovations in their field is their attitude to independent work.

Educational innovations are forms, methods and technologies that can be used to solve a problem in the field of education or the educational process on the basis of a new approach and guarantee a more effective result than before. [1;10]

One of the most important problems in teaching fine arts today is the establishment of targeted education. In the field of visual arts, the goal is to accelerate the development of students' intellectual abilities through the acquisition of historical knowledge, concepts and ideas about the visual arts, their interpretation, and the formation of skills and competencies. Intellectual potential requires joint actions of teacher and student.

That is, they have a choice of which technology to use to achieve the goal, because the main goal of both parties is to achieve a clear result, depending on the level of knowledge of the students, the nature of the group, the technology used, for example: a film, handouts, drawings and posters, various publications, information technology will be needed, it depends on the teacher and the student.

The teacher must design the educational process in advance, in which the teacher must take into account the specifics, location and conditions of the subject, and, most importantly, the abilities and needs of the student, as well as the ability to organize joint activities so that the desired guaranteed result can be achieved. Achieving such a result requires the use of innovative and information technologies in the educational process in practice. [1;64]

Interactive learning, interactive methods of regular communication it is a system of methods based on the collaborative and active learning of students it is a system and methods of collaborative learning. In other words, interactive teaching methods -

cognitive and communication activities it is a special form of organization in which students know are involved in the process, know and think they will be able to understand and think. [2;11]

They are very different. These include new interactive teaching methods and methods, as well as modern technologies currently used in the educational process. At the same time, it should be noted that with the widespread use of the aforementioned modern methods or technological trainings, which help to increase the effectiveness of learning, students develop logical, intellectual, creative, critical and independent thinking.

In particular, it helps students develop their skills, become competitive, mature professionals and develop the professional qualities required by a specialist. Active learning is a systemic pedagogical process that ensures conscious and active participation, independence and creativity of teachers and students in the educational process. The methods of cognition and action acquired in an active learning environment are ideally structured in content, logically complete and suitable for use in various work situations.

The following teaching methods are mainly used:

- discussion - discussion; participation in thinking; reinforcement on the board;
- introduction of various educational and professional games, etc.

The ability to actively learn from students studying the visual arts, that is, an active approach that stimulates students' interest in research (creativity) and learning (aspiration), can be the main didactic basis for activating teaching methods.

Active learning methods are methods that encourage students to think and practice as they learn the material. Active learning involves the use of a method that is focused primarily on the teacher's presentation of ready-made knowledge, and not on memorizing and retrieving them by students, but on the students' independent acquisition of knowledge and skills in the process of active perception and practice.

The characteristics of active teaching methods are to encourage students to actively perceive and practice, without which it is impossible to move forward in the acquisition of knowledge. The educational process was preceded by the emergence and development of active teaching methods. It is characterized not only by the transfer of knowledge to students, but also by new tasks, including cognitive interests and abilities, creative thinking, as well as the formation and development of skills of independent mental work.

The emergence of new tasks is based on the rapid development of information. Active teaching methods are used at different stages of the educational process: the initial acquisition of knowledge, consolidation and improvement of knowledge, the formation of skills.

When choosing a teaching methodology, first of all, it is important to analyze the content of the educational material and the creative thinking of students using active methods, their cognitive abilities, life experience, the ability to adapt to real activities.

Informative learning methods include the ways in which students receive instructional information in a finished form or in which the teacher can narrate: lecture, storytelling, explanation, conversation, independent work with a book. A distinctive feature of problem-based teaching methods is the addition of questions for students to which they need to find independent answers, create new knowledge for themselves, “discover” and formulate theoretical conclusions.

Education - for purposeful personal improvement is an organized pedagogical process that allows you to systematically and systematically influence the teacher. [3;63]

These include: problem report, heuristic dialogue, research report, search lab, research method. The essence of active skills-building methods is to get students to complete tasks that they can take on in the solution process. The science of fine arts education provides the younger generation with a wide range of opportunities for the formation and development of aesthetic taste, artistic thinking, intellectual potential and, most importantly, a general outlook.

Thus, the introduction of promising innovative approaches based on historical experience, analysis of modern situations over a certain period of time, will ensure the development of the industry, the correspondence of art education to the educational needs of society.

So, you need to understand that the creative thinking of students, the new formation of artistic thinking allows you to achieve positive results only with the help of modern approaches. The educational task of visual arts is to convey the rich cultural, artistic and aesthetic heritage created by humanity to future generations, to satisfy the needs of people, to control their emotions, to change the world based on the laws of beauty. Our experienced teachers will achieve the desired results with a positive approach.

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ШӘРТЛИ ЭКСТРЕМУМ МӘСЕЛЕЛЕРИН ЛАГРАНЖДЫҢ КӨБЕЙТИҰШИЛЕР УСЫЛЫ МЕНЕН ШЕШИҰ

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АННОТАЦИЯ

Мақалада Лагранж көбейтiушiлер усылы хам Лагранждыҗ улыу маласқан көбейтiушiлер усылы алгоритмлери берилген хам усылды қолланылыу жолы мысалда көрселген.

В статье дано алгоритмы метода множителей Лагранжа и метода обобщенного множителей Лагранжа и показаны пути применения метода на примере.

The article provides algorithms for the Lagrange multiplier method and the generalized Lagrange multiplier method and shows ways to apply the method by example.

Шәртли экстремум мәселелерин қарағанда Лагранждың көбейтiушiлериниң тутатуғын орнын анық түсиниу үлкен әхмийетке ийе болады. Әдетте Лагранждың көбейтiушiлерини шеклеулерини теңлемелер болған шәртли экстремум мәселелерине байланыслы киргизиледи.

Усыларды есапқа алып, шеклеулерини теңсизликлер ямаса теңлемелер хам теңсизликлер болған шәртли экстремум мәселелерин шешиу усылларын үйрениуди жеңиллестириу мақсетинде, дәслеп Лагранждың көбейтiушiлер усылының тийкарлары баянланады. Соңынан Лагранждың көбейтiушiлерин, мәселениң $x^* = (x_1^*, x_2^*, \dots, x_n^*)'$ оптималлық шешиминиң, оның шеклеулериниң қәтелигин сезиу коэффицентлери есабында түсиниуге болатуғынлығы көрсетиледи. Буннан тысқары, Лагранж көбейтiушiлерине, дәслепки берилген мәселеге қосарлы мәселениң өзгериушiлерини есабында қарайға болады. Бул жағдайлар Лагранж көбейтiушiлерине экономикалық мәнис бериуге мүмкиншилик туудырады.

1. *Шеклеулерини теңдиклер түриндеги мәселелерди Лагранждың көбейтiушiлер усылы менен шешиу.*

Бул жерде дәслеп Сызықты емес программадастырыу (СЕП) тиң улыўма мәселесиниң дара жағдайы болған, шеклеўлер системасы тек теңлемелерден дүзилген хәм өзгериўшилериниң терис болмаў шәртлери берилмеген мына мәселени қараймыз:

$$f(x_1, x_2, \dots, x_n) \rightarrow \min, \quad (1)$$

$$g_i(x_1, x_2, \dots, x_n) = b_i, i = \overline{1, m} \quad (2)$$

Бунда $f(x) = f(x_1, x_2, \dots, x_n)$ хәм $g_i(x) = g_i(x_1, x_2, \dots, x_n)$ өзлериниң керекли тәртипли дара туўындылары менен бирге үзликсиз функциялар деп уйғарылады, ал $b_i (i = \overline{1, m})$ алдын ала берилген санлар.

Математикалық анализ курсында (1)-(2) мәселесин *шәртли экстремум мәселеси* ямаса *оптимизациялаўдың классикалық мәселеси* деп атайды. Себеби бул мәселениң шеклеўлери тек теңлемелерден ибарат болғанлықтан, оны көп өзгериўшили функцияның шәртли экстремумын табыўдың классикалық усулларынан пайдаланып шешиўге болады. Мәселен, Лагранждың көбейтиўшилер усылы (1)-(2) шәртли экстремум мәселесин шешиўге мүмкиншилик береді. Бул усулдың тийкарғы мәниси, арнаўлы жасалған Лагранж функциясынан пайдаланып, шәртли экстремум мәселесинен шәртсиз экстремум мәселесине өтиў болады. Буның ушын, (1)-(2) мәселесиниң шеклеўлериниң санына байланыссы, *Лагранж көбейтиўшилері* деп аталатуғын $\lambda_1, \lambda_2, \dots, \lambda_m$ өзгериўшилерин киргизип, *Лагранждың мына функциясын дүзеди*: $L(x_1, x_2, \dots, x_n, \lambda_1, \lambda_2, \dots, \lambda_m) = f(x_1, x_2, \dots, x_n) + \sum_{i=1}^m \lambda_i [b_i - g_i(x_1, x_2, \dots, x_n)]$ (3)

Лагранж функциясының ис жүзинде үлкен әхмийетке ийе болған мынадай жақсы қәсийети бар. Егерде $x = (x_1, x_2, \dots, x_n)$ ноқаты (1)-(2) мәселесиниң мүмкин болған D областына дерек болса, онда (3) деги екинши қосылыўшы нольге тең болады. Сонлықтан, егерде $x \in D$ болса, онда $L(x, \lambda) = f(x)$ болады. Демек, (1)-(2) мәселесиниң мүмкин болған шешимлериниң D областындағы $f(x)$ функциясы қандай мәнислерге ийе болса, Лагранж функциясы да тап сондай мәнислерге ийе болады. Ал, бул областың сыртында $L(x, \lambda) \neq f(x)$ болады. Буннан, (1)-(2) шәртли экстремум мәселесин шешиўди Лагранждың (3) функциясының шәртсиз экстремумын табыў мәселеси менен алмастырыўға болатуғынлығы келип шығады. Соңғы мәселени шешиў ушын Лагранждың (3) функциясының шәртсиз экстремумға ийе болыўының биринши тәртипли зәрүрли шәртлеринен пайдаланып, $x_1, x_2, \dots, x_n, \lambda_1, \lambda_2, \dots, \lambda_m$ $n + m$ белгисизли $n + m$ теңлемелердиң мына системасына ийе боламыз:

$$\frac{\partial L_i}{\partial x_j} = \frac{\partial f}{\partial x_j} - \sum_{i=1}^m \lambda_i \frac{\partial g_i}{\partial x_j} = 0, j = 1, 2, \dots, n, \quad (4)$$

$$\frac{\partial L}{\partial \lambda_i} = b_i - g_i(x) = 0, i = 1, 2, \dots, m$$

Солай етип, (1)-(2) шәртли экстремум мәселесин шешиўди, Лагранж функциясынан пайдаланып, улыўма жағдайда сызықлы емес теңлемелердин (4) системасын шешиўге келтириў *Лагранждың көбейтиўшилер усылы* деп аталады.

Теңлемелердин (4) системасының шешимлерин табыў ушын, улыўма жағдайда, итерациялық усыллардан пайдаланыў мүмкин. Гейпара мәселелер ушын (4) системасы шешимлерге ийе болмаўы мүмкин. Бундай жағдайларда берилген мәселени Лагранждың көбейтиўшилер усылы менен шешиў мүмкин болмайды. Бирақта бундай мәселелер есаплаў практикасында оғада сийрек ушырасады.

Соңғы системаның хәр қандай $\bar{x} = (\bar{x}_1, \bar{x}_2, \dots, \bar{x}_n)$ шешими $f(x)$ функциясының *шәртли стационарлық ноқаты* деп аталады. Шәртсиз экстремум мәселеси жағдайындағы сыяқлы, биринши тәртипте зөрүрли шәртлер шәртли-стационарлық ноқатлардың сыпатын анықламайды. Сонлықтан (1)-(2) мәселеси ушын шәртли экстремумның жеткиликли шәртлерин келтиремиз.

Мейли $\{\bar{x}, \bar{\lambda}\} (\bar{x} = (\bar{x}_1, \bar{x}_2, \dots, \bar{x}_n), \bar{\lambda} = (\bar{\lambda}_1, \bar{\lambda}_2, \dots, \bar{\lambda}_m))$ (4) системасының шешими хәм $g_i(x) (i = 1, \bar{m})$ функцияларының Якоби матрицасының анықлаўшысы \bar{x} ноқатында нольден өзгеше болсын:

$$J(\bar{x}) = \begin{vmatrix} \frac{\partial g_1}{\partial x_1} & \dots & \frac{\partial g_1}{\partial x_n} \\ \dots & \dots & \dots \\ \frac{\partial g_m}{\partial x_1} & \dots & \frac{\partial g_m}{\partial x_n} \end{vmatrix}_{x=\bar{x}} \neq 0 \quad (5)$$

Бул мағлыўматлардан пайдаланып, $f(x)$ функциясының \bar{x} ноқатындағы хәм оған жақын мүмкин болған $\bar{x} + h$ ноқатындағы мәнислериниң арасындағы қатнастарды анықлаймыз. Уйғарыўымыз бойынша, \bar{x} ноқаты менен салыстырылатуғын $\bar{x} + h$ ноқатлары (2) теңлемелериниң системасын қанаатландырыўы керек ($g_i(\bar{x}) - b_i = 0, g_i(\bar{x} + h) - b_i = 0, i = 1, \bar{m}$). Енди $f(x)$ функциясының өсимин Лагранж функциясының өсими менен алмастырамыз. Сонда мына теңликке келемиз:

$$f(\bar{x} + h) - f(\bar{x}) = L(\bar{x} + h, \bar{\lambda}) - L(\bar{x}, \bar{\lambda}) = \sum_{i=1}^n \frac{\partial L}{\partial x_i}(\bar{x}, \bar{\lambda}) h_i + \frac{1}{2} \sum_{i=1}^n \sum_{j=1}^n \frac{\partial^2 L}{\partial x_i \partial x_j}(\bar{x}, \bar{\lambda}) h_i h_j + o(\|h\|^2) \quad (6)$$

Бунда $h = (h_1, h_2, \dots, h_n)$ – нөлшемли вектор. Соңғы теңликтин оң жағындағы биринши қосылыўшы (4) ниң биринши теңлемеси бойынша нольге тең. Сонлықтан (6) төмендеги көринисте жазылады:

$$f(\bar{x} + h) - f(\bar{x}) = \frac{1}{2} \sum_{i=1}^n \sum_{j=1}^n \frac{\partial^2 L}{\partial x_i \partial x_j}(\bar{x}, \bar{\lambda}) \bar{h}_i \bar{h}_j + o(\|h\|^2) \quad (7)$$

Сондай-ақ, h ноқаты да теңлемелердің (2) системасын қанаатландыратуғынлықтан $(g_i(h) - b_i = 0, i = \overline{1, m}), g_i(x) (i = \overline{1, m})$ функцияларының \bar{x} ноқатының дөгерегинде Тейлор қатарына жиклениўин төмендегише жазыўға болады:

$$\sum_{i=1}^n \frac{\partial g_k(\bar{x})}{\partial x_i} h_i + O(\|h\|^2), k = 1, 2, \dots, \bar{m}$$

Бундағы екінши киши қосылыўшыны есапқа алмай, мына сызықлы жуўықласыўға ийе боламыз:

$$\sum_{i=1}^n \frac{\partial g_k(\bar{x})}{\partial x_i} h_i = 0, k = 1, 2, \dots, m \quad (8)$$

Бул теңleme ҳәр бир k ушын $g_k(x) - b_k = 0$ шеклеўиниң бетине \bar{x} ноқатында урынатуғын гипертегисликти анықлайды. Сонлықтан (1)-(2) мәселесинде экстремумның екінши тәртипли зәрүрли ҳәм жеткиликли шәртлири

$$\sum_{i,j=1}^n \frac{\partial^2 L}{\partial x_i \partial x_j}(\bar{x}, \bar{\lambda}) h_i h_j \quad (9)$$

квадратлық формасының белгисиниң анықланыўы менен байланыслы болады. Шәртли стационарлық ноқат локальлық шәртли минимум ноқаты болыўы ушын (9) квадратлық формасының терис емес анықланыўы зәрүрли ҳәм бул форманың оң анықлаўы жеткиликли болады.

Солай етип, (1)-(2) шәртли минимум мәселесин Лагранждың көбейтиўшилерин усылы менен шешиў төмендегише иске асырылады:

1. Лагранждың (3) функциясын дүзеди;
2. Лагранж функциясының шәртсиз минимумға ийе болыўының биринши тәртипли зәрүрли шәртлеринен пайдаланып, теңлемелердің (4) системасын дүзеди;
3. Теңлемелердің (4) системасын туўры ямаса итерациялық усылларды қолланып шешип, шәртли стационарлық ноқатларды табады;
4. $L(x, \lambda)$ функциясының шәртсиз минимумға ийе болыўының екінши тәртипли зәрүрли ҳәм жеткиликли шәртлеринен пайдаланып, оның минимум ноқатларын анықлайды;
5. Минимум ноқатларындағы $f(x)$ функциясының минимум мәнислерин есаплайды.

2. Лагранждың улыўмаласқан көбейтиўшилерин усылы.

Бул жерде шеклеулері теңсизликлер менен берилген СЕП мәселесин шешиўге Лагранждың көбейтиўшилер усылы улыўмаластырылады.

Мейли, мына СЕП мәселеси берилген болсын:

$$f(x) = f(x_1, x_2, \dots, x_n) \rightarrow \min, \quad (10)$$

$$g_i(x) = g_i(x_1, x_2, \dots, x_n) \leq b_i, i = \overline{1, m} \quad (11)$$

Егерде $x = (x_1, x_2, \dots, x_n)' \geq 0$ шеклеулері бар болса, онда олар (11) шеклеулерине киргизилген деп уйғарылады.

Мәселениң мақсет функциясының x^* минимум нокатында (11) теңсизлиги теңлик ямаса қатаң теңсизлик болып орынланыўы мүмкин.

Анықлама. Егерде $g_i(x) \leq b_i$ теңсизлик шеклеуі мәселениң x^* минимум нокатында $g_i(x^*) = b_i$ қатаң теңлик болып орынланса, онда ол *актив* ямаса байланыстырыўшы шеклеу деп, ал $g_i(x^*) < b_i$ қатаң теңсизлик болып орынланса, онда ол *актив емес* ямаса байланыстырмайтұғын шеклеу деп аталады.

Берилген мәселени шешиўге кириспестен бурын, оның минимум нокатында актив емес шеклеулерди анықлаў мүмкин болса, онда бундай шеклеулерди есапка алмай, қойылған мәселениң өлшемлерин киширейтиўге, яғный оны жеңилірек шешилетуғын басқа мәселе менен алмастырыўға болады. Бирақта көпшилик жағдайларда берилген мәселени шешпестен бурын, оның бундай шеклеулерин алдын ала анықлаў мүмкин бола бермейди.

Енди Лагранждың көбейтиўшилер усылынан пайдаланып, (10)-(11) мәселесиниң экстремумының зөрүрли шәртлерин келтирип шығарамыз. Буның ушын (10)-(11) мәселесин алдын ала шеклеулері теңлемелер болған (1)-(2) мәселеси көринисине келтирип жазамыз. Усы мақсетте (11) теңсизлик шеклеулериниң хәр бирине терис емес $u_i^2 (i = \overline{1, m})$ жәрдемши белгисизлерин қосып, оларды теңлик көринисине келтиремиз: $g_i(x) + u_i^2 = b_i$ ямаса

$$g_i(x) + u_i^2 - b_i = 0, i = \overline{1, m} \quad (12)$$

Солай етип, бул жағдайда да берилген (10)-(11) мәселесин шешиўди шеклеулері теңликлер болған мына мәселени шешиў менен алмастырыўға болады:

$$f(x) \rightarrow \min, \quad (13)$$

$$g_i(x) + u_i^2 - b_i = 0, i = \overline{1, m} \quad (14)$$

Соңғы (13)-(14) мәселесин шешиўге Лагранждың көбейтиўшилер усылын қолланыўға болады. Бул мәселеге сәйкес Лагранж функциясы төмендеги көриниске ийе болады:

$$L(x, \lambda, u) = f(x) + \sum_{i=1}^m \lambda_i [b_i - g_i(x) - u_i^2] \quad (15)$$

Сонда (15) функциясының экстремумға ийе болыуының биринши тәртіпті зәрүрлі шәртлери төмендегише жазылады:

$$\frac{\partial L}{\partial x_j} = \frac{\partial f}{\partial x_j} - \sum_{i=1}^m \lambda_i \frac{\partial g_i}{\partial x_j} = 0, j = \overline{1, n}, \quad (16)$$

$$\frac{\partial L}{\partial \lambda_i} = b_i - g_i(x) - u_i^2 = 0, i = \overline{1, m}, \quad (17)$$

$$\frac{\partial L}{\partial u_i} = 2\lambda_i u_i = 0, i = \overline{1, m} \quad (18)$$

Бундағы соңғы теңлемени $u_i/2$ ге көбейтип, мына теңлемеге келемиз: $\lambda_i u_i^2 = 0$, яғный

$$\lambda_i [b_i - g_i(x)] = 0, i = \overline{1, m} \quad (19)$$

Усылайынша келип шыққан (16), (17) хәм (19) теңлемелери (14) шеклеўлери бар болғанда x^* ноқатында $f(x)$ функциясының минимумға ийе болыуының *биринши тәртіпті зәрүрлі шәртлери* болады. Ал, (17) теңлемеси (14) шеклеўиниң қайталап жазылыуы болады. Сондай ақ, (19) теңлемеси я $\lambda_i = 0$, ямаса $b_i - g_i(x^*) = 0$ болатуғынын, ямаса $\lambda_i = 0, g_i(x^*) = b_i$ теңликлериниң бир ўақытта орынланатуғынын аңлатады. Егерде $\lambda_i \neq 0$ болса, онда $g_i(x^*) = b_i$ хәм (11) шеклеўи x^* ноқатында актив шеклеў болып, ол теңлик түриндеги шеклеўди аңлатады. Егерде x^* ноқатында $g_i(x^*) < b_i$ қатаң теңсизлиги орынланса, онда $\lambda_i = 0$ болады хәм (11) шеклеўи x^* ноқатында актив емес болып, оған итибар бермеў мүмкин. Әлбетте, қайсы шеклеўлерди есапқа алмаўға болатуғынлығы алдын ала белгисиз болады.

Бирақта, бул жерде мынаны айрықша атап өтемиз: Лагранждың көбейтиўшилери, мәнислери мәселениң шеклеўлери орынланғандай етип сайлап алынатуғын параметр есабында қараўға болады. Экономикалық көз қарастан Лагранждың көбейтиўшилери мәселениң шеклеўлери менен анықланатуғын ресурслардың (қорлардың) *анық емес баҳасы* есабында түсиниледи. Сонлықтан бул көбейтиўшилердиң оптималлық мәнислери мәселениң шешиминиң өзгерийүн таллағанда үлкен рол ойнайды. Усы себепли, шәртлі минимум мәселеси берилген жағдайда x^* минимум ноқатында қосымша $\lambda_i \geq 0$ шәрти орынланады деп уйғарылады.

Буну төмендегише тийкарлаўға болады. Мейли x^* -(13)-(14) мәселесиниң минимум ноқаты, ал $\lambda^* = (\lambda_1^*, \lambda_2^*, \dots, \lambda_m^*)$ - Лагранж көбейтиўшилериниң x^* ноқтына сәйкес мәнислери болсын. Улыўма жағдайда $x_j^* (j = \overline{1, n})$ хәм $\lambda_i^* (i = \overline{1, m})$, мәселениң шеклеўлерине қатнаساتуғын $b_i^* (i = \overline{1, m})$ санларынан ғәрезли болады. Мейли, барлық x_j^* хәм λ_i^* лар $b = (b_1, b_2, \dots, b_m)'$ векторының үзликсиз

дифференциалланатуғын функциялары болсын. Сонда $Z = f(x^*)$ глобальлық минимумының b_i лердің өзгеріуіне байланысly өзгеріуі $\partial Z / \partial b_i$ дара тууындылары менен анықланады. Сонлықтан курамалы функцияны дифференциаллау қәдеси бойынша мына теңликти жазыуға болады:

$$\frac{\partial Z^*}{\partial b_i} = \sum_{j=1}^n \frac{\partial f}{\partial x_j^*} \cdot \frac{\partial x_j^*}{\partial b_i} \quad (20)$$

Сондай ақ, $g_k(x) + u_k^2 = b_k$ болғанлықтан

$$\frac{\partial g_k}{\partial b_i} = \sum_{j=1}^n \frac{\partial g_k}{\partial x_j^*} \cdot \frac{\partial x_j^*}{\partial b_i} = \delta_{ik}$$

ямаса

$$\delta_{ik} = \sum_{j=1}^n \frac{\partial g_k}{\partial x_j^*} \cdot \frac{\partial x_j^*}{\partial b_i} = 0, i, k = 1, 2, \dots, m \quad (21)$$

болады. Бунда δ_{ik} - Кронекер белгилеуі: $\delta_{ik} = 0, i \neq k; \delta_{ik} = 1, \leftrightarrow i = k$.

Енди (21)-ни λ_k^* ға көбейтип, k бойынша қосындыға өтемиз хәм келип шыққан нәтийжени (20)ға қосамыз. Соның нәтийжесинде мына теңликке келемиз:

$$\frac{\partial Z^*}{\partial b_i} = \sum_{k=1}^m \lambda_k^* \delta_{ik} + \sum_{j=1}^n \left[\frac{\partial f}{\partial x_j^*} - \sum_{k=1}^m \lambda_k^* \frac{\partial g_k}{\partial x_j^*} \right] \frac{\partial x_j^*}{\partial b_i} \quad (22)$$

Бунда x^* хәм λ^* ноқатлары (16) теңлемесин қанаатландыратуғынлықтан, (22) деги екінши қосылыушы нольге тең болады хәм оны төмендегише жазыуға болады:

$$\frac{\partial Z^*}{\partial b_i} = \lambda_i^*, i = \overline{1, m} \quad (23)$$

Буннан мынадай жуумаққа келемиз: мәселениң шеклеулериниң оң жақларының өзгеріуіне байланысly $f(x)$ функциясының экстремум мәнисиниң өзгеріуі тезлиги Лагранж көбейтиушилериниң экстремум мәнислери менен анықланады. Сондай ақ, $b_i (i = \overline{1, m})$ лердің өсиуі менен мәселениң мүмкин болған шешимлериниң D областы кеңейеди. Буннан мәселениң мақсет функциясының мәниси киширеймейди. Демек

$$\frac{\partial Z^*}{\partial b_i} \geq 0, \lambda_i^* \geq 0, i = \overline{1, m} \quad (24)$$

болады.

Усы жағдайларды есапқа алып, (10) –(11) мәселесиниң минимумының биринши тәртипли зәрүрли шәртлерин төмендегише жазыуға болады:

$$\frac{\partial f}{\partial x_j} - \sum_{i=1}^m \lambda_i \frac{\partial g_i}{\partial x_j} = 0, j = \overline{1, n}, (a)$$

$$\begin{aligned}
 g_i(x) &\leq b_i, i = \overline{1, m}, (б) \\
 \lambda_i [b_i - g_i(x)] &= 0, i = \overline{1, m}, (в) \\
 \lambda_i &\geq 0, i = \overline{1, m}, (г)
 \end{aligned}
 \tag{25}$$

Лагранж функциясының жәрдеминде шеклеулері теңсізліктер болған (10) – (11) СЕП мәселесін шешіуді сызықты емес теңлемелер хәм теңсізліктердің (25) системасын шешіуге келтириў, *Лагранждың улыўмаласқан көбейтиўшилер* усылы деп аталады.

Теңлемелердің хәм теңсізліктердің (25) системасы *Кун – Таккер шәртлери* деп, ал оларды қанаатландыратуғын хәр қандай $(x^*, \lambda^*) = (x_1^*, x_2^*, \dots, x_n^*, \lambda_1^*, \lambda_2^*, \dots, \lambda_m^*)$ ноқаты (10) – (11) СЕП мәселесиниң *шәртли – стационарлық ямаса Кун – Таккер ноқаты* деп аталады. Сондай ақ, (25 в) теңлиги *қатаң емесликти толықтырыў шәрти* деп аталады.

Мысалы. Төмендеги СЕП мәселесин Лагранждың көбейтиўшилер усылы менен шешин:

$$f(x) = 3x_1^2 + 4x_1x_2 + 5x_2^2 \rightarrow \min \tag{26}$$

$$x_1 \geq 0, x_2 \geq 0, x_1 + x_2 \geq 4 \tag{27}$$

Шешилиўи. 1) Дәслеп бул мәселени (10) – (11) көрнисине келтирип жазамыз:

$$f(x) = 3x_1^2 + 4x_1x_2 + 5x_2^2 \rightarrow \min, \tag{28}$$

$$-x_1 \leq 0, -x_2 \leq 0, -x_1 - x_2 \leq -4 \tag{29}$$

2) Бул (28) – (29) мәселесине сәйкес Лагранждың функциясын дүземиз ((15) функциясына қараң):

$$L(x, \lambda, u) = 3x_1^2 + 4x_1x_2 + 5x_2^2 + \lambda_1(u_1^2 - x_1) + \lambda_2(u_2^2 - x_2) + \lambda_3(-x_1 - x_2 - 4) \tag{30}$$

3) Сонда (30) функциясының минимумының (25) Кун – Таккер шәртлери төмендегише жазылады:

$$\begin{aligned}
 6x_1 + 4x_2 - \lambda_1 - \lambda_3 &= 0, \\
 4x_1 + 10x_2 - \lambda_2 - \lambda_3 &= 0, \\
 -x_1 \leq 0, -x_2 \leq 0, -x_1 - x_2 &\leq -4, \\
 \lambda_1 x_1 = 0, \lambda_2 x_2 = 0, \lambda_3(4 - x_1 - x_2) &= 0, \\
 \lambda_1, \lambda_2, \lambda_3 &\geq 0
 \end{aligned}
 \tag{31}$$

4) Бул қатнастардан пайдаланып, белгисизлердің мәнислерин (шәртли – стационарлық ямаса Кун – Таккер ноқатларын) анықлаймыз: $x_1 = 3, x_2 = 1, \lambda_1 = 0, \lambda_2 = 0, \lambda_3 = 22; (\bar{x}, \bar{\lambda}) = (3, 1, 0, 0, 22); \bar{x} = (3, 1); \bar{\lambda} = (0, 0, 22)$.

5) $\bar{x} = (3,1)$ шәртли – стационарлық нокатының сыпатын анықлау үшін x_1, x_2 белгисизлери бойынша Гессе матрицасын жасап, оның $\bar{x} = (3,1)$ нокатындағы белгисин анықлау керек:

$$\frac{\partial^2 L}{\partial x_1^2} = 6, \frac{\partial^2 L}{\partial x_1 \partial x_2} = 4, \frac{\partial^2 L}{\partial x_2 \partial x_1} = 4, \frac{\partial^2 L}{\partial x_2^2} = 10$$

Бул жағдайда Гессе матрицасы турақлы матрица болып, төмендеги көриниске ийе болады:

$$H(x) = \begin{pmatrix} 6 & 4 \\ 4 & 10 \end{pmatrix}, \Delta_1 = 6 \geq 0, \Delta_2 = \begin{vmatrix} 6 & 4 \\ 4 & 10 \end{vmatrix} = 60 - 16 = 44 > 0$$

Демек, Сильвестр белгиси (өлшеми) бойынша (I баптың 1-§ ине қараң) Гессе матрицасы оң анықланған. Сонлықтан $\bar{x} = (3,1)$ шәртли – стационарлық нокаты $f(x)$ функциясының минимум нокаты болады.

6) $\bar{x} = (3,1)$ минимум нокатындағы $f(x)$ функциясының минимум мәнисин есаплаймыз: $\min f(x_1, x_2) = f(3,1) = 44$.

7) Берилген (26) – (27) мәселесиниң мүмкин болған шешимлериниң областы D хәм онда минимум нокатының жайласуы. Дара жағдайда, (27) шеклеулери берилмегенде (26) функциясының минимум нокаты $\bar{x} = (0,0)$ координаталар басы хәм бул нокатта $\min f(x) = f(0,0) = 0$ болады.

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JADID NAMOYONDALARINING TURKISTON IJTIMOIIY - SIYOSIY VA MADANIY HAYOTIGA TA'SIRI

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ANNOTATSIYA

Arabcha “yangi”, “yangilik degan ma’noni anglatuvchi jadidchilik harakati XIX asr oxiri XX asr boshlarida Turkistonning ijtimoiy-siyosiy va madaniy hayotiga sezilarli ta’sir ko’rsatgan ijtimoiy-siyosiy, madaniy va diniy oqim edi. Bu harakat zamonaviylik muammolari va Markaziy Osiyo jamiyatlarida islom an’analari, ta’lim va madaniyatni modernizatsiya qilish ehtiyojlari asosida paydo bo’ldi. Ushbu maqolada milliy taraqqiyparvarlarimizni faoliyati, ularning Turkistonning ijtimoiy-siyosiy va madaniy hayotiga tasiri haqida so’z boradi.

KALIT SO‘ZLAR

Jadid, Turkiston, Qur’on, Sho’roi Islomiya, Ittifoq, Turkiston muxtoriyati, Mahmudxo’ja Behbudiy, Abdulla Avloniy, musulmon, matematika, fizika, kimyo, tibbiyot, tarix.

АННОТАЦИЯ

Джадидизм, что в переводе с арабского означает «новый», — общественно-политическое, культурное и религиозное движение, оказавшее значительное влияние на общественно-политическую и культурную жизнь Туркестана в конце 19 — начале 20 веков. Это движение возникло на основе проблем современности и необходимости модернизации исламских традиций, образования и культуры в обществах Центральной Азии. В данной статье рассказывается о деятельности наших национальных разработчиков и их влиянии на общественно-политическую и культурную жизнь Туркестана.

КЛЮЧЕВЫЕ СЛОВА

Джадид, Туркестан, Коран, Шурай Исламия, Союз, Туркестанская автономия, Махмудходжа Бехбуди, Абдулла Авлани, Муслим, математика, физика, химия, медицина, история.

ABSTRACT

Jadidism, which means “new” in Arabic, is a socio-political, cultural and religious movement that had a significant impact on the socio-political and cultural life of Turkestan in the late 19th and early 20th centuries. This movement arose based on the problems of modernity and the need to modernize Islamic traditions, education and culture in Central Asian societies. This article describes the activities of our national developers and their influence on the socio-political and cultural life of Turkestan.

KEY WORDS

Jadid, Turkestan, Koran, Shuray Islamia, Union, Turkestan Autonomy, Mahmudhoja Behbudi, Abdullah Avlani, Muslim, mathematics, physics, chemistry, medicine, history.

KIRISH

Jadid namoyondalarining fikricha islom dini shaxsning ma’naviy kamoloti va jamiyat rivojida muhim o‘rin tutgan. Shu sababdan ham ular oddiy aholi orasida islom dini qonun qoidalarini to‘g‘ri talqin etilishiga erishmasdan turib boshqa muammolarni bartaraf etishning iloji yo‘qligini anglab yetgan edilar. Ana shu maqsadda 1909-yilda Mahmudxo‘ja Behbudi, 1910-yilda Abdulla Avloniy, 1915-yilda Abdurauf Fitrat tomonidan islom dini tarixiga bag‘ishlangan asarlar yaratildi. Ushbu asarlarda ular islom dinining paydo bo‘lishi va tarqalishining eng muhim bosqichlarini yoritib berdilar, shuningdek, islom qonun qoidalarining noto‘g‘ri talqin qilinishiga qarshi chiqdilar. Turkiston taraqqiyparvarlari tomonidan birinchi navbatda amalga oshirilgan chora-tadbirlar qatorida islom dini me‘yorlarini, Qur‘on oyatlari va hadislarni, shariat qonun qoidalarini to‘g‘ri talqin etish, ta‘lim tizimini isloh qilish, uni zamon talablariga moslashtirish, yosh avlodni ilimli qilish va eng asosiysi o‘lkani ijtimoiy-siyosiy, madaniy jihatdan yuksaltirish kabi tadbirlar bor edi.

ADABIYOTLAR TAHLILI VA METODLAR

Tadqiqot jarayonida ilmiy bilishning obyektivlik usulidan foydalanildi. Mazkur tadqiqotda Jadidchilik harakatining tarixiy tashkil topishi jadid namoyondalarining o‘lkani ijtimoiy-siyosiy va madaniy hayotiga tasiri obyektiv yoritib berildi. Bugungi kunda yosh avlodni vatanga sadoqat va hurmat ruhida tarbiyalashda jadidchilar maktabi va ularning faoliyatlarini mantiqiy izchillik jihatdan tadqiq qilish maqsadga muvofiqdir. Tadqiqot jarayonida Abdulla Avloniyning “Tarjimai xol” Tanlangan asarlar 2-jildlik, Munavvarqori Abdurashidxonning “Qizil O‘zbekiston” nomli asari va J.Toshqulovning “Yosh xivaliklar: siyosiy qarashlarining tadrijiy rivojlanishi” metodologik manba sifatida olindi.

MUHOKAMA VA NATIJALAR

Jadidchilik harakati namoyondalari musulmon ruhoniylarining fanga nisbatan salbiy munosabatda bo'lgan vakillarini qoraladilar. Taraqqiyparvarlar islom dini har bir musulmon erkak va ayollarning ilm egallashlari ularning zimmasiga burch qilib qo'yganligini keng targ'ib qildilar. Jadidlar ilm-fanni taraqqiyotning va rivojlanishning asosiy yo'naltiruvchi kuchi hamda jaholatga qarshi kurashning birdan bir vositasi deb hisobladilar. Ularning fikriga ko'ra chin musulmon bo'lish uchun diniy bilimlar bilan birga dunyoviy bilimlarni, ayniqsa, matematika, fizika, kimyo, tibbiyot, tarix va boshqa fanlarni bilishlari zarur deb hisoblangan. Buni muqaddas Qur'on oyatlari va hadislar asosida tasdiqladilar.

Jadidlarning islomga oid g'oyalari ularni islomning asosiy ta'limotini o'zgartirishga intilganlar, degan xulosaga olib kelmasligi kerak. Sababi ular o'z faoliyatlarida Qur'onni ham, umuman, butun islom ta'limotini ham to'g'ri izohlab berganlar. Ularning barchasi islom diniga va musulmon an'analariga sodiq edilar. Ular islomga putur yetkazadigan urf-odatlariga, jamiyat rivojiga va taraqqiyotiga halal beradigan salbiy ko'rinishdagi holatlarga qarshi chiqdilar. Jadidlar johillikni tugatishga, xalq orasida ezgulikka undovchi g'oyalar uyg'otishga intildilar.

Jadidlar o'lkani ijtimoiy-iqtisodiy rivojlantirish borasida ham o'ziga xos qarashlarga ega edi. Taraqqiyparvarlar o'z faoliyatlari davomida o'lka xalqlarining ijtimoiy hayoti, turmush tarzi, kasb-kori, shart-sharoitlaridan xabardor bo'lganlar. Xalqning ahvoli yildan yilga og'irlashib borayotganligini angladilar. Ularning fikricha, mamlakatning iqtisodiy mustaqilligini ta'minlamay turib, siyosiy va huquqiy erkinlikka erishish mumkin emas edi. Buning uchun birinchi navbatda yerni, yerosti va yerusti boyliklarini, suvni Turkiston xalqlarining umumiy boyligi deb e'lon qilish, barcha sohalarni rivojlantirishga qodir mahalliy kadrlarni tayyorlash, zavod va fabrikalar qurib, mahsulotlarni o'lkaning o'zida ishlab chiqarishni zarur deb bildilar. Umuman olganda jadidlar o'lkani har tarflama rivojlantirish mamlakatni va xalqni taraqqiyotga olib chiqishni o'z oldilariga maqsad qilib qo'ygan edilar.

Shu maqsad yo'lida jadidlar ko'plab yoshlarni rivojlangan xorijiy davlatlarga, jumladan, Germaniya va Turkiyaga o'qishga yuborish, u yerda ular tahsil olib kelib, yurt va millat uchun xizmat qilishi g'oyalarini ilgari surdilar. Ularning sa'y-harakatlari bilan mahalliy aholi tomonidan yoshlarning xorijda o'qib kelishiga ketadigan xarajatlari uchun mablag'lar yig'ildi. O'lkada va xorijda savdo sotiq, sanoat va qishloq xo'jaligi rivojining qiyosiy tahliliga bag'ishlangan ko'plab maqolalar e'lon qilindi. Turkiston taraqqiyparvarlaridan biri, Toshkentning "Qoryog'di" mahallasidan bo'lgan Asadullaxo'ja o'g'li Ubaydullaxo'ja Rossiyada huquqshunoslik yo'nalishi bo'yicha

ta'lim olib, birinchi oliy ma'lumotli o'zbek advokati bo'ldi. U buyuk rus yozuvchisi Lev Tolstoy bilan yozishmalar olib borgan.

Turkiston jadidlari XX asrning boshlaridagi dunyoda ro'y bergan siyosiy jarayonlarni diqqat bilan kuzatib bordilar. Bu davrda xorijdagi siyosiy partiyalarning dasturlarini va faoliyatlarini tahlil qildilar. Shu vaziyatda taraqqiyparvarlar o'zbek xalqining tinchliksevarligi, bosiqigidan kelib chiqib, barcha muammolarni tinch yo'l bilan hal etishga intildilar, chunki ular qonli to'qnashuv va urushlarga qarshi edilar. 1917-yildagi Rossiya fevral voqealari arafasida Turkistonda boshlangan jadidchilik harakati kuchli siyosiy harakatga aylandi. Birinchi jahon urushidan keyin jadidlar parlamentar monarxiya uchun kurashgan bo'lsalar, fevral voqealaridan keyin ancha keng qamrovli, bir qator siyosiy talablarni ilgari surdilar. Jumladan, mahalliy aholi huquqlarini kengaytirish, o'lkani boshqarish yuzasidan islohotlar o'tkazish, Davlat Dumasiga o'lkaning aholi sonidan kelib chiqib o'rin ajratish, milliy matbuot erkinligi va so'z erkinligini ta'minlash kabi talablarni ilgari surdilarlar. Ayni vaqtda, milliy-siyosiy partiyalar va tashkilotlar, masalan, "Sho'roi Islomiya", "Ittifoq" kabi bir qator tashkilotlar tuzildi. Bu paytda jadidlar mahalliy aholining barcha qatlam vakillarini o'z ortidan ergashtira oldilar. Turkistonda jadidlar faoliyati mahalliy aholini ma'rifatli qilishga, ularda milliy o'zlikni anglashning kuchayishiga, ozodlik va vatan taraqqiyoti uchun kurashlarning ko'tarilishiga o'z ta'sirini ko'rsatdi. Bu davrda jadidchilik harakati o'lkada podsho hukumatining mustamlakachilik siyosatiga qarshi turuvchi asosiy ma'naviy kuch sifatida namoyon bo'ldi. 1917-yil mart oyi boshlarida jadidlar tomonidan Toshkentda barcha erkparvar tashkilotlarning umumiy dasturiga ega bo'lgan yagona tashkilot – "Musulmon markaziy sho'rosi" tuzildi. Uning ta'sis syezdida 350 delegat qatnashgan. Ular orasida ozarbayjonlar, tatarlar, turkmanlar, boshqirdlar kabi boshqa musulmon xalqlarining vakillari ham bo'lgan. Syezdda barcha delegatlar bo'lajak davlat Turkiston deb atalishi, uning tarkibiga Buxoro, Xiva va Turkiston general-gubernatorligi kirishi kerak degan fikrni ma'qulladilar. Biroq Turkistonda 1917-yildagi oktabr voqealari va bolsheviklarning hokimiyatni egallashi jadidlarning o'z maqsadlarini oxirigacha amalga oshirishlariga imkon bermadi. Shunga qaramay, ular markazi Qo'qonda bo'lgan, Turkiston muxtoriyati deb atalgan mustaqil muxtor respublika e'lon qildilar. 72 kun yashagan bu muxtor respublika sovet hokimiyati tomonidan tor-mor etildi. Natijada jadidlar ta'qibga uchradi va oxir-oqibat, 1937–1938-yillarda qatag'on qurboni bo'ldilar.

XULOSA

Xulosa qilib aytadigan bo'lsak jadid namoyondalari o'z davrining har tarflama yetuk shaxslari bo'lganlar. Ular millatni, xalqni ongini, bilimni dunyoqarashini shakllantirmasdan turib taraqqiyotga va mustaqillikka erishib bo'lmasligini yaxshi

tushunib yetgan edilar. Shu maqsad yo'lida ular o'z jonini ham ayamadan harakat qildilar. Jadidlar o'z intilishlari va g'oyalari bilan Turkistonni ijtimoiy-siyosiy va madaniy hayotiga juda katta tasir ko'rsatdilar. O'z navbatida jadidlar mahalliy aholi orasidan yetishib chiqqan eng bilimli, ongli, dunyoqarashi keng millat ko'zgulari edilar.

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ҚУЛЛАР МАСАЛАСИ: ХИВА ХОНЛИГИ ВА РОССИЯ МУНОСАБАТЛАРИГА ТАЪСИРИНИНГ ЎРГАНИЛИШИ

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Аннотация. Хива хонлиги ва Россия ўртасида ўзаро дипломатик муносабатлар ва унга қуллар масаласининг таъсири мавзуси мазкур йўналишидаги аҳамиятли масалалардан бири саналади. Ушбу мақолада миллий ва рус тарихчиларининг асарлари, тадқиқотлари доирасида мавзунинг тарихишунослик жиҳати очиб берилди. Шу жиҳатдан мақоланинг адабиётлар таҳлили ва натижалар қисми бирлаштириб юборилди. Шунингдек, мақолада Хива хонлигидаги қуллар, уларнинг сони ва ҳолати, ўзаро муносабатларга таъсири каби масалалар тарихишунослик нуқтайи назаридан очиқлаб берилди. Гарчи мақолада мавжуд жамийки адабиётлар доирасида тарихишунослик таҳлили амалга оширилмаган бўлса-да, бу мавзудаги бошланғич иш сифатида баҳолаш мумкин.

Калим сўзлар. Хива хонлиги, Россия, қозоқлар, туркманлар, Каспий денгизи, Ф. Ефремов, қулчилик, “крепостнойлик ҳуқуқи”.

Abstract. The topic of mutual diplomatic relations between the Khanate of Khiva and Russia and the influence of the issue of slaves on it is considered one of the important issues in this direction. In this article, the historiographical aspect of the subject was revealed within the works and researches of national and Russian historians. In this regard, the literature analysis and results part of the article were combined. Also, in the article, issues such as slaves in the Khiva Khanate, their number and status, and their influence on mutual relations were clarified from the point of view of historiography. Although the article does not carry out a historiographical analysis within the existing total literature, it can be evaluated as an initial work on this topic.

Key words. Khanate of Khiva, Russia, Kazakhs, Turkmens, Caspian Sea, F. Efremov, slavery, "the right of serfdom".

Кириш. XVI асрда ташкил топган Хива хонлигининг ташқи алоқаларида кўшни давлатлар бир қаторда Россия билан савдо-дипломатик муносабатларни амалга ошириш ҳам катта аҳамиятга эга бўлган. Мазкур муносабатлардан ҳар икки давлат ҳам манфаатдор бўлишига қарамасдан, қуллар масаласида ўзаро муносабатларда совуқлашиш ҳолатлари ҳам кузатилиб турган. Хива тарихчиларининг асарларида, рус вакиллари (дипломат, сайёҳ, савдогар, ҳарбий ва б.)нинг қайдларида бу борада талайгина маълумотларни учратиш мумкин. Мазкур манбалардан фойдаланган тарихчилар Хива хонлигининг Россия билан муносабатларини ёритар экан, қуллар масаласига ҳам урғу бериб ўтишади. Мавзунини тарихшунослик нуқтайи назардан очиқлар эканмиш, адабиётларда Хива хонлигидаги қуллар, қулчилик муносабатлари, уларнинг турмуш-тарзи, сиёсий ва ижтимоий ҳаётга таъсири масалалари ўрганилганлигини кузатиш мумкин. Бунда хонликдаги қуллар (рус ва форс) сони ҳар жиҳатдан эътиборда бўлиб келган.

Адабиётлар таҳлили ва методология. Натижалар. Хонликдаги қулларнинг пайдо бўлиш манбалари борасида қатор маълумотлар қайд этилган бўлиб, XVIII асрда М. Чулков мазкур аср бошларида Хива хонлигида ўн мингга яқин рус ва эронлик қуллар борлиги қайд этади. Муаллиф Ёйиқ ва Эмба дарёси бўйларида асосан талончилик билан кун кечирувчи қозоқ, қалмоқ ва туркманлар хонликка асирларни олиб келиб яхши нархга сотганлигини, ундан эса Бухоро бозорларига қараб борганликларига эътибор қаратади[1]. Манбаларда ҳам бу борада фикрлар келтирилиб, 1774-1783 йилларда Ўрта Осиё, Эрон, Ҳиндистон бўйлаб тасодиф туфайли сафар қилган Ф. Ефремов ўз сафарномасида Бухоро амирлиги кўшини таркибида туриб Хива хонлигига қарши юришда ҳаракатланар экан, хонликдаги туркманларнинг така ва солур уруғларига оид улар эронликларни асир олиб Бухоро, Хива ва бошқа атроф давлатларга олиб келиб сотишларини қайд этади[2]. Фалсафа фанлари доктори С.Я. Сушийнинг тадқиқотларидан бири рус халқининг Россияга яқин ҳудудлар (Украина, Белоруссия, Молдавия, Прибалтика, Кавказorti, Қозоғистон ва Ўрта Осиё)га тарқалиш динамикаси ва тарихига бағишланган бўлиб, муаллиф руслар Ўрта Осиёда XIII асрдаёқ қул сифатида Ўрта Осиёда мавжуд бўлганлигини қайд этади[3]. Тарихчи олим Ҳ. Зиёев монографиясида эса Хивага келиб қолган рус қулларнинг ҳолати ва аҳволига оид маълумотлар келтирилади. Муаллиф уларнинг қаердан ва қай тарзда келиб қолганлиги-ю, неча сўмга сотилганлигини ҳам қайд этади[4]. Шунингдек, Хива хони Оллоқулихон томонидан озод қилинган айрим қулларнинг қайси йилда асирликка тушганлигига оид маълумотларни ҳам келтиради (жами 397 нафар). Унга кўра мазкур қуллар 1781

йилдан 1839 йилгача бўлган давр оралиғида асирликка тушган[5]. Рус қуллари масаласининг бу даражада долзарблиги Россия ташқи сиёсатининг Ўрта Осиё хонликлариغا нисбатан босқинчилик кайфияти доирасида бўлганлигидан дейиш мумкин. Мазкур ваз сабаб бир неча асрлар давомида турли ишлар амалга оширилади. Жумладан, Ф. Лобисевич келтирган маълумотга кўра, Екатерина II даврида Оренбург чегара комиссияси Осиё вилоятларидаги рус қулларни сотиб олиш учун йилига 4 000 рубл ажратган[6]. Муаллиф рус қуллари ишчанлиги учун ҳам бозори чаққон бўлганлигини, ҳатто рус вакиллари уларни сотиб олиб кетаётганда йўлда яна хиваликлар ва қозоқлар ҳужумига учраб ортга бозорга олиб келиниб сотганлигини қайд этади[7]. Қуллар масаласини узил-кесил ҳал этиш ва тинчлик ўрнатиш учун 1822 йилда Россия томонидан ҳар икки давлат (Хива хонлиги ва Бухоро амирлиги) вакиллари чақириб бир вақтда музокара ўтказишга келишилади. Ф. Лобисевич мазкур давлатлар чақирувга жавоб қайтармаганликларини қайд этади.

Хива хонлигидаги қуллар сони манбаларда ҳам аниқ келтирилмасдан, тахминий рақамлар билан кўрсатилади. Шу сабабли адабиётларда ҳам бу борада турлича фикрлар баён этилади. Қуйида даврийлик асосида адабиётларда келтирилган хонликдаги қуллар сонига оид маълумотларни кўрсатиб ўтилиб, бунда манба маълумотлари ҳам келтирилади. С.Я. Суший архив ҳужжатлари асосида 1670 йил рус элчилари Иван ва Семён Пазухинларнинг Ўрта Осиёда жами 300 рус асир сақланиб, улардан 150 нафари Бухоро хонлигида, 100 нафари Балхда ва 50 нафари Хива хонлигида эканлигига оид маълумотларни келтиради[8]. Муаллиф 1728 йилда Хива хонлигидаги рус қуллари эронлик қулларга ҳам бош бўлиб, Хива хони Шерғозихонга қарши исён кўтарганликларини қайд этади. Бунда С.Я. Суший Ўрта Осиёдаги руслар фақат қуллар сифатида бўлмасдан, XVI-XIX асрлар давомида бир қанча дипломатлар, саёхатчилар ва савдогарлар ҳам ташриф буюрганлигига эътибор қаратади[9]. Н. Халфин монографиясида Ф. Беневенининг Бухорога сафарига оид маълумотларни келтирар экан, унинг Хивада 1 000 га яқин рус қуллар мавжуд бўлган деган фикрларини келтиради[10]. Р. Алимова XX аср 30 йилларида тадқиқот олиб борган Е. Зелькиннинг қуллар борасидаги фикрларини ҳам келтиради. Унга кўра, XVIII асрда Хиванинг катта бозорларида 200 тагача қуллар бўлганлиги эътироф этилган[11]. 1815 йилда хонликдаги қуллар масаласида М.Т. Каченовский томонидан “Вестник Европы”нинг бир сонидан мақола нашр этилади. Мазкур мақолада муаллиф хонликдаги рус қулларнинг сони (15.000 деб кўрсатилади), турмуш тарзи, яшаш шароитига оид маълумотларни келтиради[12]. 1818 йил хонликда бўлган А. Субхонқуловнинг

архивда сақланаётган қайдларида қулларга оид “хонликда рус қуллар 1.000 нафарни, эронликлар эса 300 нафарни ташкил этиб, хоннинг атрофида эронлик қуллар кўпчиликини ташкил этиб, рус қуллар турли хўжалик ишларида фойдаланилган”, деб қайд этади[13]. Мазкур архив ҳужжатлари муаллифлар И.В. Ерофеев ва Б.Т. Жангаевлар томонидан нашр этилади ва бунда сафарнома эгасининг қайдлари барча соҳаларни қамраб олганлигини кўриш мумкин. Бунда асосий эътибор хонлик шаҳарлари, амалдорлар фаолияти, аҳолининг сиёсий тартиботга муносабати (амалдаги хондан хиваликлар норозилиги айтилади), ҳарбий кўшин ҳолати, қуллар масаласига оид маълумотлар катта ўринни эгаллайди[14]. С. Севастьянов 1825-1830 йиллар орасида хонликда 1 800 нафардан кам бўлмаган рус қуллар мавжудлигига оид маълумотни қайд этади[15]. Муаллиф шунингдек, ўз ишида 1832 йил Жуковский томонидан император Николай 1 кўриги учун Осиё департаменти раҳбари (1819 йилдан) К.К. Рудофиникинга тақдим қилган қуллар статистикасига оид жадвални ҳам келтиради[16]. Унга кўра, 1758 йилдан 1831 йилгача бўлган даврда қозоқлар томонидан хонликка олиб келинган рус қулларнинг сони 3 497 нафарни ташкил этган. 1790 йил Ўрта Осиёга ташриф буюрган митрополит Хрисанф Неопатрицкий Ҳиндистон, Кашмир, Кобул ва Балх орқали Ўрта Осиёда Самарқанд, Бухоро ва бир йил ушлаб қолинган Хивага ташриф буюради ва хон рухсати билан 1792 йил Астраханга қайтишга эришади. Мазкур ташрифга оид маълумотлар Б. Ахмедов келтирар экан, унинг қуллар масаласига ҳам тўхталганлигини қайд этади. Унга кўра, Хивада 4.000 дан ортиқ рус қуллар ва 6.000 га яқин эронлик қуллар бор ва улар ўз эгаларига қарши бошланажак кўзғалонни кутиб туришибди[17]. Б. Ахмедовнинг фикрига кўра митрополит Хрисанфнинг ёзганлари жуда кам ўрганилган бўлиб, маълум бир мавзу доирасидагина тадқиқотларга тортилган. Аслида унда Ўрта Осиё ҳақида кўплаб этнографик характерга эга маълумотларни ҳам топиш мумкин[18]. М. Йўлдошев XIX асрда Хива хони ихтиёрида 1 500 қул бўлганлигини таъкидлайди[19]. XIX асрнинг 40-60 йилларида Ўрта Осиё ва Россия муносабатларини тадқиқ қилган М. Рожкова хонликлардаги қулчиликнинг мавжудлиги, кўшни давлатларига нисбатан Хива хонлигида уларнинг сони кўпроқ бўлганлигини қайд этади[20]. П. Иванов 1858 йил Н.П. Игнатъев миссияси таркибида бўлган Н. Залесовнинг қулларга оид қуйидаги фикрларини келтиради: “эронлик қуллар бу ерда катта аҳамиятга эга, умуман олиб айтганда уларнинг меҳнати(ёрдами)сиз кўрик ерларнинг ерларнинг ярмини ўзлаштира олишмас эди”[21]. Муаллиф ўзи фойдаланган фойдаланган манбада хонликдаги қуллар сони ўша давр (XIX аср ўрталари)да 10.000 нафарни ташкил қилганлигини қайд этади.

Муаллифлар О. Қўшжонов ва Н. Полвонов тадқиқотида Муҳаммад Раҳимхон Соний томонидан 1873 йил 12 июнда хонликдаги қулларни озод қилишга оид фармони асосида қуллик тартибига ҳам бутунлай барҳам берилганлиги қайд этилади[22]. Ўрта Осиёнинг Россияга қўшиб олиншида ижобий натижаларни излаган муаллифлар А. Аминов ва А. Бабаходжаевлар хонлик “қўшиб олингач” (босиб олингач-Н.Х.) 30.000 қул озод этилиб, уларнинг кўпчилиги рус маъмурлари ёрдамида ўз ватанига қайтарилганлигига оид маълумотни қайд этадилар[23]. Мазкур маълумотни рус тадқиқотчиси А. Постников ҳам қайд этади[24]. Муаллиф мазкур воқеадан сўнг Эрон 6 000 дан ортиқ ўзининг озод қилинган фуқароларини қабул қилиб олганлигини таъкидлайди[25]. Е.А. Глушенко эса Кауфман талаби билан хива хони 40.000 эронлик қулни озод қилишга оид манифест имзолаганлигини қайд этиб ўтади[26]. Мазкур даврда хонликда мавжуд қуллар сонига оид маълумотлар Мак-Гаханда 27 000 эронлик қул бор, деб кўрсатилади[27]. Мазкур маълумотни У. Шерипов Хива хонлиги тарихига бағишланган диссертацияда келтиради ва унда Мак-Гаханнинг хонликдаги жами эронликлар 30 000 нафарни ташкил этган деган маълумотини кўрсатиб ўтади[28].

Шунингдек, манба ва адабиётларда, хонликда мавжуд қулларнинг бозордаги нархларига оид маълумотлар келтирилиб, тарихчи олим Б. Ахмедов Пазухинлар элчилиги доирасидаги йўриқнома (наказ)лар асосида намуна келтиради. Жумладан, ака-ука Пазухинлар Хива, Бухоро ва Балх давлатларида 300 нафар атрофида рус қуллари яшашини таъкидлаб, фақатгина 22 нафар рус асирни 685 рубл 21 олтин 4 пулга сотиб олишга эришишади[29]. Хонликка келган Борис Пазухин қолдирган маълумотда Хивага қалмиқлар еридан 200 ва ундан ортиқ рус асирлар олиб келиниб, улар 40 ва ундан юқори рублларга бозорга олиб чиқиб сотилган. Кўпчилик қуллар эса ҳатто Ҳиндистонга олиб бориб сотилган[30]. Ҳ. Зиёев қулларнинг ички ва ташқи савдадаги бозор нархларини қайд этади. Унга кўра. Рус асирлари ёши ва куч-қувватига қараб 60-90 тилладан сотилган. Эрон асирларининг нархлари эса 50-30 тилла миқдоридан бирмунча паст бўлган[31]. П. Хопкирк ҳам ўз навбатида хонликдаги қулларнинг аҳволини Н. Муравьев сафарномаси асосида келтириб, унда рус қулларнинг аянчли ҳолатини бўрттиришга ҳаракат қилади. Шунингдек, рус, эронлик ва курд миллатига мансуб қулларнинг нархлари борасида маълумотларни ҳам қайд этади. Бунда рус миллатига мансуб ёш йигитларнинг нархи баландлигини, аёлларда эса аксинча эронликларнинг қиймати юқори туришини таъкидлайди[32].

Хива хонлиги ва Россия алоқаларида қуллар масаласи доимий равишда кўтарилган бўлиб, рус ҳукумати уларнинг озод этилишини сўраб ўз вакилларини юбориш билан бирга, хонликка қарши ҳарбий ҳаракатларни олиб боришда баҳона сифатида ҳам фойдаланади. Туркманлар тарихига оид асарда Нодиршоҳ хонликни эгаллагач, 12 000 асирни озод қилганлиги ва улар орасида руслар ҳам борлиги қайд этилади[33]. Ф. Таджиева 1810-1850 йилларни Н. Муравёв қайдлари асосида Россия ва хонлик ўртасида қулларни озод қилиш ҳақидаги талабларнинг энг кучайган даври сифатида кўрсатади[34]. “Наши соседи в Средней Азии” журналининг хонликка оид қисмида 1836 йил рус-хива муносабатлари ёмонлашиб, ҳар икки томон савдогарларининг моллари тортиб олиниб, ўзлари маълум муддат сақловда қолганликлари, оқибатда 1837 йил хонлик ҳукумати муносабатларни юмшатишни инобатга олиб 25 нафар рус қулларни озод этиб ватанига қайтарганлигига оид маълумотлар қайд этилади[35]. Аслида муносабатларниг кескинлашувига ҳам қулларни озод қилиш масаласи сабаб бўлиб, мазкур масала Россиянинг хонликка нисбатан босқинчилик юриши учун бир баҳона сифатида қараш мумкин. Г.А. Михалева ҳам мазкур маълумотларни қайд этиб, рус ҳукумати хивалик савдогарларни озод қилмагач Оллоқулихон 1838 йилда яна 80 нафар рус қулларни озод қилиб, ўзининг вакили орқали совғалар билан рус подшосига йўллагани, подшо уларни қабул қилмасдан 1839 йилда ҳарбий ҳаракатлар бошланишига фармон берганлигини қайд этади. Бунда муаллиф В. Перовский экспедициясининг бошланишига қуллар масаласи сабаб бўлганлигига урғу беради[36]. Маълумки, мазкур масала хонликни эгаллаш учун бўлган омиллардан бири бўлган. “Наши соседи в Средней Азии” журналида келтирилган маълумотда 1839 йил В.А. Перовский экспедициясидан сўнг Хива хонлиги 1840 йил ёзида 418 нафар рус қулни озод қилиб ортга қайтраганлиги қайд этилса[37], А. Постников худди шу йили 500 нафар рус асири Россияга қўйиб юборганлигини қайд этади[38]. Х. Ғуломов монографиясида 1840 йил 19 июлда Хива хони Оллоқулихон томонидан хонликда рус қулларни сотиб олиш ва сотишни тақиқловчи фармони келтирган[39]. Муаллиф бу ерда В.Перовский экспедициясидан шубҳаланган Хива хони Оллоқулихон шундай йўл тутганлигига урғу берган бўлиши мумкин.

Хонликлар тўғрисида маълумот тўплаш ва уни узатиш борасида ҳатто қуллар ҳам жонбозлик кўрсатган. 1826 йилда Хивадан Оренбургга қочиб кетган рус қуллардан бири Ковирзин асли астраханлик бўлиб, Оренбургга боргач Осиё чегара комиссияси президенти генерал фон Генс томонидан унинг Хива хонлигига оид маълумотлари ёзиб олинади ва бошқа бир қатор муаллифлардан Бухоро ва Қўқон хонликларига оид маълумотлар тўпланиб, 1839 йилда

Петербургда нашр этилади[40]. Мазкур қайдларда хонликнинг табиати, географик ўрни, катта-кичик 75 та шаҳарлари таърифи, улардаги йўлларнинг ҳолати, аҳолиси, хўжалиги, аҳолиси, Бухоро, Хитой, Қўқон билан савдо алоқалари, ички бозорлардаги маҳсулотларнинг нархлари, аҳолидан олинадиган солиқ турларига оид маълумотлар берилади. Ф. Генснинг қайдлари ҳаммуаллифлар Л. Захарова ва И. Ерофеевалар томонидан ўрганилиб нашр этилади[41]. Муаллифлар мазкур қайдларни Н. Муравёв қайдларидан кейинги аҳамияти юқори бўлган маълумотнома сифатида баҳо берадилар.

Таъкидлаш жоизки, рус қуллар Хива хонлигида демократик тартиблар асосида кун кечиришган. Улар ҳатто Россияга кетаётган савдо карвонларидан рус ҳукуматига турли илтимосномалар йўллашган. Бунга ўхшаш маълумот С. Севастьянов ишида келтирилиб, унда 1832 йил Оренбургга келган бухоролик савдогар Гариф Отагелиев Оренбург чегара комиссияси бошлиғи граф Сухтеленга хивалик рус қулларнинг 8 та мактубини етказди. Мазкур мактубларда уларнинг умумий ҳолати билан биргаликда эътиқоди учун зарурий китоблар, хочлар сўралган бўлган[42]. Оқибатда 1833 йил граф Сухтелен ташаббуси билан Оренбургдан Хива савдогар Абдулла Бектошев бошчилигидаги карвон тайёрланиб, 400 та кумуш хочлар, 1 та “Библия”, 1 нафар хизматчи (диний), 2 та диний календар юборилади. Бироқ мазкур карвон тақдирига оид маълумотлар қайд этилмаганлиги таъкидланади[43]. Гарчи ўзи хонликда бўлмаса-да, Ост-Индия компаниясининг лейтенанти Александр Борис сафарномасида 1831-1833 йиллар давомидаги Эронда эшитган Хива хонлигидаги эронлик қуллар ҳақида сўз юритар экан, Африка қулчилиги билан таққослайди ва нисбатан адолатли қулчилик дея, баҳо беради. Муаллифнинг фикрича, хонликда фақатгина форсий қулларнинг диний жиҳатдан эзилиши ва айрим қора ишларга жалб этилишини ҳисобга олмаганда, негр қулларга нисбатан ҳолатлари яхши бўлган[44].

Турк тарихчиси Седа Йилмаз тадқиқотида Россия томонидан хонликлар эгаллангач Хива ва Бухорода қул бозорлари ёпилган дея қайд этади[45]. Сўнгги йилларда амалга оширилган айнан Хива хонлигидаги қулчилик муносабатларига бағишланган тадқиқот муаллифи Феруза Таджиева архив ҳужжатларидаги маълумотлар асосида хонликда қулчилик XX аср бошларига қадар мавжуд бўлган деган хулосани беради. Муаллиф бунда 1902 йилги қуллар учун олинган закот ҳужжати ва 1916 йилда ёш бир йигитнинг ўғирланиб қул сифатида сотилишга ҳаракат қилинганлигига оид ҳужжатларни намуна қилади[46]. Тадқиқотчи шунингдек, Россия Федерациясининг Оренбург вилояти Давлат архиви ҳужжатлари ва хивалик тарихчилар Лаффасий ва Б. Сафаров, А.

Болтаевларнинг шахсий фонд ҳужжатлари маълумотлари асосида XVI – XIX асрлардаги қулчилик муносабатлари фақат хонлик томонидан амалга оширилмасдан, мазкур тизимни қўллаб турувчи ташқи кучларнинг мавжудлиги, рус ҳукумати фуқароларининг мамлакатидagi сиёсий жараёнлар ва тазйиқлар натижасида хонликка келганлиги, ҳамда ҳатто қуллар орасидан хоннинг ишончига кириб маълум бир давлат лавозимини эгаллаганликларига оид маълумотлар[47]. Мазкур тадқиқот ишида Хива хонлигида қуллар масаласининг тарихшуносликка оид қисми ҳам бўлиб, унда бу борадаги давтлабки иш XX асрнинг ўрталарида А.С. Морозова томонидан амалга оширилганлиги қайд этилади[48]. Аммо муаллифнинг ўзи мазкур иш билан танишиб чиқмаганлигига урғу берилади. Қайд этиб ўтиш керакки муаллиф хонликдаги қуллар мавзусида маълумот келтирган бир қанча юртимиз тарихчилари ҳақида сўз юритар экан, Хива хонлиги дипломатияси ва унга қулчиликнинг ҳам маълум даражада таъсир кўрсатганлигини ўз монографияларида архив ҳужжатлари ва тарихий манбалар асосида қайд этган тарихчи Н.А. Аллаеванинг тадқиқотини ўрганмайди. Хива хонлиги дипломатияси бўйича мутахассис Н.А. Аллаева Россиянинг хонликдаги қуллар ва қулчиликка оид норозиликларига ўз таъсирини ўтказишдаги сиёсий баҳона сифатида кўрсатиб, унинг ўзида 1861 йилга қадар қўлланиб келинган “крепостнойлик ҳуқуқи”, бошқача айтганда қулликнинг “расмий кўриниши” қонунийлаштирилган ҳолда амал қилганлигини таъкидлаб ўтади[49].

Хулоса. Хива хонлиги ва Россия ўртасидаги савдо-дипломатик муносабатларга қуллар масаласи ижтимоий, иқтисодий ва сиёсий жиҳатдан таъсир кўрсатиб келган. Бунинг таъсирида ўзаро элчилик алоқалари доирасида илк бор 1683 йилда хива элчиси Иброҳимбек карвонида бир қанча рус қуллар хонликдан озод этилиб Россияга олиб борилади. Рус ҳукумати бунда фуқароларининг хонликка асир сифатида олиб кетилиб, қул қилиниб сотилишини қаттиқ туриб қоралайди ва хонлик ҳукуматидан бу борада чора кўриш талаби билан тез-тезх мурожаат қилиб турган. Мазкур мавзу тадқиқига оид бир нечта адабиётлар мақолада келтирилиб, хорижда мазкур масаланинг ўрганилиши масаласи очиқлигича қолмоқда. Мавжуд адабиётлар эса таҳлил талаблиги билан ажралиб туради.

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METHODS OF CREATING AN INFORMATIONAL EDUCATIONAL ENVIRONMENT IN IMPROVING THE QUALITY OF EDUCATION

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Abstract: *The content of the article mentions that the use of information and communication technologies in the educational process is the need of the hour, and the main tasks of information and communication technologies in the implementation of information and methodical support in the educational process.*

Keywords: *Information, technology, education, education, lesson, student, teacher.*

INTRODUCTION

The main goal of the educational process is not only to acquire knowledge, but also to develop students' cognitive abilities and gain creative potential. The main goal of all reforms in the field of education is to educate spiritually well-developed people, to improve the education system, to implement lesson processes based on new pedagogic and information technologies in accordance with the needs of the times. That is why special attention is paid to the effective use of modern computer and information technologies in the educational system. This is to increase the level of knowledge and skills in this field, to provide technical support for the educational system, and to create full opportunities to use the Internet in order for the pedagogic staff to use modern tools of information technology in the process of education. an effective result can be achieved only through

Without the use of modern methods of teaching and information and communication technologies, a teacher cannot achieve effective results in his professional activity

METHODS

However, it is important to choose the right purpose and content, methods and means, and organizational forms of education. With the increase in the flow of information and the complexity of educational methods, it is increasingly difficult to organize education in a traditional way. Information and communication technology tools are of particular importance in the educational process and provide extremely wide opportunities for the field of education:

- organization of differential and individual education process; feedback;
- students' self-monitoring and correction;
- use of computer and information technologies such as animation, graphics, multiplication, sound in lessons;
- to create skills for students to learn science, etc.

And information technology has its advantage in this respect. The presence of the opportunity to explain the learned theoretical knowledge in a practical way on the basis of technical means ensures more active participation of students in the educational process.

Receiving and assimilating information, effective organization of two-way communication (between teacher and student, student and student) requires high student activity. The main task of information and communication technologies in the implementation of information and methodical provision in the educational process is to ensure two-way communication. It is impossible to teach without feedback, without constant communication between the teacher and the student. In the effective organization of this process, educational motives have a special place.

Information and communication technologies, in turn, are one of the most important factors that create motives. Because the summation of information, visualization, i.e., the availability of various presentation options, the use of animations, and the provision of information suitable for the age and physiological characteristics of the learners, increase students' interest in education and the desire to learn. creates internal driving forces (motives). The content of the work carried out in this regard is to teach how to develop a motive and how to keep it.

RESULTS

Informatization is a whole set of tools and conditions for the development of information processes, it is a process that includes the creation of appropriate technical, base, organizational, economic, cultural and educational reforms, which creates wide opportunities for technological education.

Modern technologies that strengthen the capabilities of mankind in terms of information production determine the quality of the intellectual potential of the information society, and such processes ensure the regular development of the information industry.

Acting on the basis of effective use of information provides the best ways to solve the following tasks:

- processing of information about the source and the process taking place in it;
- to regularly receive periodic information about the progress of processes and conduct controls based on them.

The use of teaching computing tools, the assimilation of knowledge communicated to the student by the teacher and (or) information and communication technologies, and the student's re-creation of the learned material, applying it in similar (analogous) situations. It envisages the organization of activities related to education.

Although the use of this method with the use of information and communication technologies makes it possible to significantly improve the quality of the organization of the educational process, it is possible to radically change the educational process compared to the traditional scheme (without information and communication technologies). does not give

In this regard, the use of problematic and research methods is more justified. The problem-based method of teaching uses the capabilities of information and communication technologies to organize the educational process by posing a problem and searching for solutions to solve it. The main goal is to maximally help students to increase their cognitive activity. Based on the knowledge gained in the educational process, it is envisaged to solve various types of problems, as well as to acquire and analyze a number of additional knowledge necessary to solve the problem. In this, special attention is paid to the acquisition of skills related to the collection, organization, analysis and transmission of information.

The research method using information and communication technologies of education provides for the independent creative activity of students in the process of conducting scientific and technical research within the framework of certain topics. When using this method, learning is the result of active research, discovery and play.

The latest technical achievements often take their rightful place in the educational process, and information and communication technologies are no exception in this sense. Initial experiences in the use of computers in the educational process show that the use of computer technology significantly increases the efficiency of the educational process, improves the accounting and evaluation of knowledge, and ensures that the teacher helps each student individually in solving difficult tasks. creates opportunities such as.

Information and communication technologies are a wide-ranging tool for processing information in the form of words, numbers, images, sounds and other forms. Their main feature as a tool is the possibility of setting (programming) to perform various actions related to information acquisition and processing.

DISCUSSION

The use of information and communication technologies in the educational process opens up new ways of developing users' thinking skills and abilities to solve

complex tasks, and provides fundamentally new opportunities for the activation of education. Information and communication technologies make it possible to make classroom and independent training more interesting and reliable, a large flow of information to be studied is easily assimilated.

In conclusion, it should be noted that didactics in the environment of modern information technologies, the potential of wide-ranging types of educational activities aimed at effective assimilation of knowledge through the active use of modern information technologies, is directly related to the ability to receive and assimilate information. it's happening.

CONCLUSION

Among the advantages of electronic resources, it is possible to include information aggregation, visualization, that is, the availability of various presentation options, the use of animations, the aspects of providing information suitable for the age and physiological characteristics of learners. It is of particular importance due to the presence of an opportunity to comprehensively master resources by developing creative thinking, educational skills and competencies in students.

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BO‘LAJAK MAKTAB PSIXOLOGLARIDA PEDAGOGIK TAFAKKURNI RIVOJLANTIRISH

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ANNOTATSIYA

Bo‘lajak pedagog psixolog talabalarning kasbiy tafakkurini shakllantirish samaradorligi ixtisoslikning o‘ziga xos xususiyatlarini hisobga olgan holda bir qator didaktik sharoitlarga erishiladi.

Kalit so‘zlari: *Tafakkur, sezgi, idrok, nutq, didaktika, funksiya, faollik, qobiliyat.*

Tafakkur — inson aqliy faoliyatining yuksak shakli, obyektiv voqelikning ongda aks etish jarayoni. Tafakkur atrof muhitni, ijtimoiy hodisalarni, voqelikni bilish quroli, shuningdek, inson faoliyatini amalga oshirishning asosiy sharti sanaladi. U sezgi, idrok, tasavvurlarga qaraganda voqelikni to‘la va aniq aks ettiruvchi yuksak bilish jarayonidir. Tafakkur til va nutq bilan chambarchas bog‘liq ravishda namoyon bo‘ladi. Fikrlash faoliyati nutq shaklida namoyon bo‘ladi. Nutq aloqasi jarayonida insonning hissiy mushohada doirasi kengayib qolmay, orttirilgan tajriba boshqa kishilarga ham beriladi. Inson o‘zining Tafakkuri, nutqi hamda ongli xatti-harakati bilan boshqa mavjudotlardan ajralib turadi. Ijtimoiy o‘zgarishlar jamiyati zamonaviy maktabga bir qator murakkab vazifalarni qo‘yadi, ularni hal qilmasdan bitiruvchilarning bilim, transformatsiya, qiymat-orientatsiya faoliyati muvaffaqiyatini ta‘minlash va shaxsning zarur fazilatlarini rivojlantirish mumkin emas: intellektual etuklik, qiyin vaziyatlarda faoliyat maqsadlarini mustaqil ravishda shakllantirish qobiliyati dunyo va odamlar bilan o‘zaro muloqot qilish, faoliyat maqsadiga erishish yo‘llarini aks ettiruvchi tanlovni amalga oshirish va turli muammolarni hal qilish uchun uning qiymatini aniqlash. Shaxsning ushbu fazilatlarini tarbiyalash asosan o‘qituvchining kelajagiga, kelajak haqida o‘ylash qobiliyatiga va oldingi tajribaga tayangan holda maqsadlarga etarlicha harakat qilishga bog‘liq. Bo‘lajak psixolog qarama-qarshiliklar bilan bog‘liq bo‘lgan mexanik tajribani boshidan kechirmaydi. Bir tomondan, tajriba o‘zlashtirilgan, boshqa tomondan, faoliyatning kutilgan natijalari " o‘z ifodasini o‘zgartirish, targ‘ib qilish, o‘quvchining rivojlanishi, uning tushunchalari va g‘oyalari, uning qarashlari va e‘tiqodlari, uning amaliy ko‘nikmalari va ko‘nikmalarni rivojlantirishga bog‘liqdir. "(Yu.N.Kulutkin).

Bo'lajak pedagog psixolog talabalarning kasbiy tafakkurini shakllantirish samaradorligi ixtisoslikning o'ziga xos xususiyatlarini hisobga olgan holda birqator didaktik sharoitlarga erishiladi, professional yo'naltirilgan yaxlit tizimini ta'minlash qaysi o'quv jarayonida va davr mobaynida talabalarning intellektual faoliyat pedagogik amaliyot. Bunday didaktik sharoitlar quyidagilardir:

- ta'lim mazmunini takomillashtirish va takomillashtirish buning yo'nalishini kuchaytirish uchun asosiy tsikldagi ob'ektlar talabalarning kasbiy tafakkurini shakllantirish mazmuni;

- talabalarni qaror qabul qilish jarayoniga muntazam ravishda kiritish odatda muammolarni aks ettiruvchi professional pedagogik vazifalar kelajakdagi tarix o'qituvchilari ishida yuzaga keladigan vaziyatlar;

- yetakchi nazariy va amaliy mashg'ulotlarda ishlashtalabalar muammolarini hal qilishning maxsus usullari bo'yicha o'quv fanlari, kelajakdagi professional faoliyat bilan bevosita bog'liq tarix o'qituvchilari; ushbu usullarni umumlashtirilgan metodlar darajasiga ko'tarish vashuningdek, talabalarning bilim olish qobiliyati va ko'nikmalari;

- faoliyatning mazmuni, shakllari va usullarini maksimal darajada yaqinlashtirish talabalar o'quv mashg'ulotlarida ularning amaliy shartlari va xususiyatlariga ega maktabda professional faoliyat.

Didaktik qobiliyat- kasbiy mahorat, shunchaki bilimlarni osonroq, hammabop va tushunarli qilib, o'quvchilar ongiga yetkazib berish qobiliyatiningina emas, balki shu bilan birga o'quvchilarning mustaqil ishlarini, ularning bilish faolligini oqilona va mohirlik bilan boshqarib, ularni kerakli tomonga yo'naltirib turishdan iborat qobiliyatni ham o'z ichiga oladi.. Shuning uchun ham o'quv materialini o'ziga qarab tanlaydilar. qobiliyatli, tajribali o'qituvchilar esa o'zlarini o'quvchi o'rniga qo'yib, kattalar uchun aniq, ravshan va tushunarli bo'lgan material o'quvchilar uchun noaniq va tushunarsiz bo'lishi mumkin degan nuqtai nazarda bo'ladilar. Shuning uchun ham bunday o'quvchilar materialning xarakteri va uni bayon etish usullarini alohida o'ylab ko'rib rejalashtiradilar. Materialni bayon etish jarayonida qobilyatli o'qituvchi uchun o'quvchilarning qanday tushunayotganliklari va zarur bo'lganda dars bayonotiga alohida e'tibor berishga intilayotganliklari kabi qator belgilarga qarab to'g'ri tasavvur qilib, xulosa chiqara oladi. Ana shunday pedagogik qobiliyatni aniqlash uchun psixolog N.Gonobolin juda qulay test tavsiya etadi. Bu testga ko'ra bilish xarakteridagi matnda o'qituvchining fikri ayrim sinf o'quvchilari uchun qiyin deb hisoblangan qismlarni alohida ko'rsatib, nima uchun bu qismlarning qiyinligini tushuntirib berish, shunday so'ng esa matnni o'quvchilarga yengil va ularning o'zlashtirilishi uchun qulay qilib tuzish tavsiya etiladi. Qobiliyatli o'qituvchi shu bilan bir qatorda materialni o'zlashtirish, o'quvchilarga bir oz nafas olib, o'zlariga kelib olishlari va o'z diqqat –

e'tiborlarini bir joyga qo'yib, ayrim qo'zg'alishlarni «so'ndirib», boshqalarni esa jadallashtirib, ularning bo'shashaganligini, sustligini va loqaydligini yengishlari uchun zamin tayyorlash zarurligini ham nazarda tutadi. Bunday o'qituvchi zarur sharoit yaratilmaguncha darsni boshlamaydi.

Perseptiv qobiliyat – bu o'quvchining, tarbiyalanuvchining ichki dunyosiga kira bilish, psixologik kuzatuvchanlik, o'quvchi shaxsining vaqtinchalik psixik holatlari bilan bog'liq nozik tomonlarini tushuna bilishdan iborat qobiliyatdir. Qobiliyatli o'qituvchi bolalarning har qanday mayda - chuyda hatti – harakatlarida, yorqin ifodalanadigan ayrim tashqi holatlarida hamda ularning ichki dunyosida yuzaga keladigan o'zgarishlarni sezdirmasdan bilib oladi. Ana shunday hollarda o'quvchilar: «Muhabbat opa kimningdir kayfiyatida o'zgarishlar bo'lsa yoki kimdir darsga tayyorlanmasdan kelgan bo'lsa ko'ziga qaraboq bilib oladi», deyдилar.

Nutq qobiliyati - kishining o'z tuyg'u – hislarini nutq yordamida, shu bilan birga mimika va pantomimika yordamida aniq va ravshan qilib ifodalab berish qobiliyatidir. O'qituvchidan o'quvchilarga uzatiladigan axborot, asosan, ikkinchi signal tizimi – nutq orqali beriladi. Bunda mazmun jihatdan uning ichki va tashqi xususiyatlari nazarda tutiladi. («Biz uchun adabiyot o'qituvchimiz – Nazira opaning darsini eshitishdan katta lazzat yo'q. Nazira opamlar shu qadar yaxshi va chiroylik qilib gapiradilarki, hatto tanaffusga chalinadigan qo'ng'iroq ham xalaqit beradi»). Darsda qobiliyatli o'quvchining nutqi hamma vaqt o'quvchilarga qaratilgan bo'ladi. O'qituvchi yangi materialni tushuntiradimi, o'quvchilar javobini sharhlab beradimi, o'quvchilar javobini, ularning xatti – harakatlari yoki xulq - atvorini ma'qullaydimi yoki tanbeh beradimi, xullas nima qilishidan qat'iy nazar, nutqi hamma vaqt o'zining ishonchliligi, jozibadorligi kabi ichki quvvat bilan alohida ajralib turishi lozim. O'qituvchi nutqi, uning talaffuzi aniq, ravshan, oddiy va o'quvchilar uchun tushunarli bo'lishi kerak. Beriladigan axborotlar shunday tuzilishi kerakki, bunda o'quvchilarning fikru – zikri va diqqat – e'tiborini faollashtiradigan bo'lsin. Buning uchun esa o'qituvchi o'rtaga savol tashlab, asta sekinlik bilan o'quvchilarni to'g'ri javobga olib keladi, o'quvchilarning diqqat – e'tiborini faollashtiruvchi («Bunda ayniqsa ziyrak bo'ling!», «O'ylab , yana o'ylab ko'ring!») so'z va iboralarni o'z me'yorida ishlatiladi. O'qituvchi uzun jummalarni, murakkab og'zaki izohlarni, qiyin atamalarni va zarurati bo'lmasa, utrli ta'riflarni ishlatmasligi lozim. Shu bilan birga o'qituvchi shuni hisobga olishi kerakki, o'qituvchining lo'nda – lo'nda bo'lib chiqqan qisqa nutqi ko'p hollarda o'quvchilarga tushunarsiz bo'lib qolar ekan. O'qituvchining o'z o'rnida ishlatiladigan hazil aralash va xayrihohlik bildiruvchi arzimagan kinoyali nutqi o'quvchilarni juda jonlantirib, o'quvchilar tomonidan o'ta yaxshi qabul qilinarkan. Shoshqoloqlik nutq bilim o'zlashtirishiga xalaqit berib, bolalarni tez toliqtiradi va

muhofaza qiluvchi tormozlanishni yuzaga keltiradi. O'ta sekin nutq lanjlik va zerikishga olib keladi. Nutqning balandligi - qattiq gapirish ham xuddi shu singari hollarga olib keladi. Haddan tashqari qattiq, keskin, baqirib gapirish o'quvchilarning asabiga tegib, ularni tez toliqtirib, muhofaza qiluvchi tormozlanishni yuzaga keltiradi. Mana shu yerda sharq mutafakkirlaridan Nasriddin Tusiyning «...o'qituvchi nutqi hech qachon va hech qayerda zaharli qo'pol yoki qattiq bo'lishi mumkin emas. Dars paytida o'qituvchining o'zini tuta olmasligi ishni buzishi mumkin»... degan nasihatini keltirishimiz juda muhim bo'lardi. O'qituvchining bo'sh, past ovozi yomon eshitiladi. Nutqi imo ishoralar turli keskin harakatlar tajribali o'qituvchilarda o'z meyorida ishlatiladi. Lekin bir xildagi tinimsiz harakatlarning haddan tashqari ko'p bo'lishi kishining asabiga tegadi.

Tashkilotchilik qobiliyati- bu birinchidan o'quvilar jamoasini uyushtira bilish bunda jamoanijiplashtira olish va ikkinchidan o'zining shaxsiy ishini to'g'ri tashkil qila olish qobiliyatidir.

O'qituvchining o'z ishini tashkil qila bilishi deganda, uning o'z ishini to'g'ri rejalashtirib, uni nazorat qila olishi nazarda tutiladi. Tajribali o'qituvchilarda vaqtga nisbatan o'ziga xos sezuvchanlik – ishni vaqtarbiya bo'yicha to'g'ri taqsimlab, mo'ljallangan vaqtdan to'g'ri foydalana olish ko'nikmasi paydo bo'ladi. Dars davomida albatta, ko'p hollarda vaqtni behuda yo'qotish ham mumkin. Lekin bu yo'qolgan dars rejasini tuzatish zaruriyati tuzilgan hollarda bo'lishi mumkin. Tajribali o'qituvchilar vaqtni seza bilishni o'rganish uchun dars rejasini yoki matnda vaqtni nazorat qilish uchun belgilar olib borishni tavsiya etadilar. Jumladan: darsning 10, 20, 30 va boshqa daqiqalari davomida mabodo ko'zda tutilmagan vaqt ortib qolgan taqdirda foydalanish uchun qanday qo'shimcha materiallarni tayyorlash yoki vaqt yetmay qolgan taqdirda qanday materialni keyingi darsga qoldirish mumkinligi haqida maslahat beradilar.

Avtoritar qobiliyat – bu o'quvchilarga bevosita emosional irodaviy ta'sir etib, ularda obro' ortira bilishdan iborat qobiliyatdir. Garchan o'qituvchining o'z fanini mukammal bilishi, sezgirligi va xushmuomalaligi asosida qozoniladi.

Avtoritar qobiliyat o'qituvchining rostgo'yli, irodaviy uddaburonligi, o'zini tuta bilishi, farosatliligi, talabchanligi kabi irodaviy xislatlarga ma'naviy va ma'rifiy e'tiqodni singdira olganligiga ishonchi kabi xislatlarga ham bog'liqdir.

O'quvchilar (ayniqsa, o'g'il bolalar, o'spirinlar – buni alohida ta'kidlab o'tishi kerak) talab qilishni biladigan, o'quvchilarni majbur qilmagan va do'q - po'pisa qilmagan, shu bilan birga behuda rasmiyatchilikka yo'l qo'ymagan holda o'z aytganini qildiradi oladigan o'qituvchilarni juda hurmat qiladilar.

Kommunikativ qobiliyat– bu bolalar bilan muloqotda bo‘lishga, o‘quvchilarga yondashish uchun to‘g‘ri yo‘l topa bilishiga, ular bilan pedagogik nuqtai – nazardan maqsadga muvofiq o‘zaro aloqa bog‘lashga pedagogik taktning mavjudligiga qaratilgan qobiliyatdir.

Pedagogik takt psixologiyasini o‘rganishda psixolog I.V. Straxov benihoya katta hissa qo‘shgan. Uning fikricha bunda muhimi - o‘quvchilarga ta’sir etishning eng qulay usullarini topa bilish tarbiyaviy ta’sirni qo‘llashda maqsadga muvofiq pedagogik choralarga e’tibor berish, aniq pedagogik vazifalarni hisobga olish, o‘quvchi shaxsining psixologik xususiyatlari va uning imkoniyatlari hamda mazkur pedagogik holatlarini hisobga olish zarurdir. Pedagogik taktning yaqqol ifodalaridan biri – har qanday pedagogik ta’sirga nisbatan qo‘llaniladigan chora – tadbirlarni (rag‘batlantirish, jazolash, pand–nasihat) his eta bilishdan iboratdir.

Pedagogik xayol – bu kishining o‘quvchilar shaxsini tarbiyaviy tomondan loyihalashtirishda o‘z ish – harakatlarining natijasini oldindan ko‘ra bilishda namoyon bo‘ladigan qobiliyatdir. Bu qobiliyat o‘qituvchi ma’lum o‘quvchidan kelgusiga kim chiqishini ko‘z oldiga keltirishida, tarbiyalanuvchilardan u yoki bu xildagi xislatlarni o‘z rivojlanishini oldindan ko‘ra bilishida namoyon bo‘ladi. Bu qobiliyat pedagogik optimizm tarbiyaning kuchiga o‘quvchilarga bo‘lgan ishonch bilan bog‘liqdir. Shuning uchun ham o‘quvchilar ayrim o‘qituvchilar to‘g‘risida: «Axmat akamlar, ichimizdagi eng yaramaslarga ham ishonchlarini yo‘qotmasdilar, shuning uchun ham biz ularni hurmat qilardik», degan fikrlarni izhor qilardilar.

Diqqatni taqsimlay olish qobiliyati- bu qobiliyat bir vaqtning o‘zida diqqatni bir qancha faoliyatga qarata olishda namoyon bo‘lib, o‘qituvchi ishida g‘oyat muhim ahamiyatga egadir. Qobiliyatli, tajribali o‘qituvchi o‘zining diqqat e’tiborini o‘quv materialini qanday bayon etilishiga, uning mazmuniga, o‘z fikrlarini atroflicha qilib qanday ochib berishiga yki o‘quvchi fikriga baralla qaratadi va shu bilan birga bir vaqtning o‘zida barcha o‘quvchilarni kuzatib, ularni toliqqan toliqmaganliga e’tiborli yoki e’tiborsizligiga, darsni tushunish tushunmasligiga ahamiyat berib, o‘quvchilarning intizomini kuzatadi hamda oqibat natijada o‘zining shaxsiy xulq atvoriga (yurish turishiga, o‘zining qanday tutishga mimika va pontamimikasiga) e’tibor beradi. Yuqorida ko‘rsatib o‘tilgan qobiliyatlardan tashqari o‘qituvchi inson shaxsining maqsad sari intilishi, uddaburonik, mehnatsevarlik, kamtarlik kabi qator ijobiy xislatlariga ega bo‘lishi lozim. U o‘quvchilarni tarbiyalar ekan, o‘zining xulq-atvori, yurish- turishi, xullas, butun o‘qituvchilik shaxsi bilan o‘quvchilarga o‘rnak bo‘lishi kerak. O‘qituvchining o‘zini qo‘lga ola bilishi muhim ahamiyatga egadir.¹

A.V. Brushlinskiy har qanday fikrlash (hech bo‘lmaganda minimal darajada) ijodiydir va shuning uchun reproduktiv tafakkur mavjud emas, degan xulosani asoslab berdi, natijada tafakkur va ijodkorlik o‘rtasidagi munosabatlarning yangi talqini berildi. Mutaxassisning rivojlangan, etuk tafakkuri ishlab chiqarish maqsadlarini belgilash, kasbiy muammolarni ijodiy hal qilish, o‘quv va ta‘lim jarayonida olingan bilim, ko‘nikma va ko‘nikmalardan foydalanish qobiliyatida namoyon bo‘ladi. Kasbiy faoliyat. Asl fikrlaydigan mutaxassis tavakkal qilishga va o‘z qarori uchun mas‘uliyatni o‘z zimmasiga olishga qodir. Fikrlashning ijodiy tabiati muammoni ko‘rish, yuzaga kelgan qarama-qarshilikni shakllantirish va hal qilish, muammoni hal qilishning mumkin bo‘lgan ijodiy usullarini tahlil qilish, ulardan eng maqbulini tanlash qobiliyatini o‘z ichiga oladi. Kasbiy fikrlash biz uchun muammolarni izlash, aniqlash va hal qilishning eng yuqori kognitiv jarayoni sifatida ko‘rib chiqiladi, tushunarli va o‘zgartirilgan voqelikning tashqi aniqlanmagan, yashirin xususiyatlarini ochib beradi. Ijodiy kasbiy fikrlash - bu yangi mahsulotni yaratish va uni yaratishning kognitiv faoliyatida yangi shakllanishlar bilan tavsiflangan fikrlash turlaridan biri.

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SHAXSNING RIVOJLANISHI VA UNGA TA'SIR ETUVCHI OMILLAR

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***Annotatsiya:** Dunyoga kelgan go'dak ma'lum vaqtga qadar individ hisoblanadi. Individ biologik turga kiruvchi alohida tirik mavjudotdir. Shaxsning shakllanishida harakat o'ziga xos omil hisoblanadi. Individda harakatlar reflekslar orqali hosil bo'lsa, shaxsda bu harakatlar ongli ravishda hosil bo'lishi ijtimoiy munosabatlar jarayonidagi ishtirokining ro'y berishi shaxs revojlantirishining dastlabki bosqichi sanaladi.*

***Kalit so'zlar:** Shaxs tushunchasi, individ, inson, ruh aql, bosh miya, shaxsni rivojlantiruvchi omillar, biologik ijtimoiy omillar, irsiyat, muhit, oila muhiti, ijtimoiy muhit, mahalla, maktab, go'daklik davri, maktabgacha tarbiya yoshi, kichik maktab yoshi, o'smirlilik davri, o'spirinlik davri, jismoniy va ruhiy kamolot, barkamol shaxs.*

Shaxs go'daklik davrining ma'lum qismida individ hisoblanadi. "Individ" lotincha "Individium" so'zidan kelib chiqqan bo'lib, "bo'linmas, alohida, yagona" ma'nolarini anglatadi. Shaxsning shakllanishida harakat o'ziga xos omil hisoblanadi. Go'dak(chaqaloq) ham turl harakatlarni bajaradi. Biroq, bu harakatlar reflekslar bo'lib, ongli ravishda emas, balki shartsiz vashartli qo'zg'atuvchilarga javob tarzida yuz beradi. Shaxs revojlantirishining dastlabki bosqichi, go'dakda nutqning hosil bo'lishi, shuningdek, ongli ravishda harakatlar sodir bo'la boshlashi, ijtimoiy munosabatlar jarayonidagi ishtiroki kabi belgilar namoyon bo'ladi.

Shaxs deganda, muayyan jamiyatning a'zosi tushiniladi. Shaxsga aylanmog'i uchun ruhiy jihatdan taraqqiy etgan o'z xususiyatlari va sifatleri bilan farq qilmog'i lozim. Inson shaxs sifatida rivojlanishi va har tomonlama kamolga yetishi uchun pedagogika fani shaxs rivojlanishining umumiy qonunyatlarini, unga ta'sir etadigan omillarni, rivojlanish jarayoniga aloqador bosqichlarni aniqlashi kerak.

Yuqorida "rivojlanish" tushunchasini ishlatdek. Endi bu tushunchaga kengroq ta'rif berib o'tamiz. Rivojlanish - shaxsning jismoniy, aqliy va boshqa xislatlarining takomillashuvini namoyon etadigan jarayon hisoblanadi. Bu xislatlar tug'ma va keyinchalik erishilgan bo'ladi. Shaxsni barkamol inson bo'lib shakllanishida aniq maqsad asosida tashkil etilgan xatti- harakat, iroda sifatlarining kamol topishi, ayrim

nuqsonlarning bartaraf etilishi, qiyinchiliklarni yengib o'tishga bo'lgan ishonch ham kata ahamiyatga egadir. Shaxs rivojlanishi quyidagi omillarga bog'liq.

1. Biologik omillar (Irsiyat)
2. Ijtimoiy omillar (Muhit)
3. Maqsadli tarbiya

Irsiyat – bu ota qoni yoki ajdodlariga xos bo'lgan biologik xususiyat va o'xshashliklarning nasl(bola)ga o'tish jarayoni.

Irsiyatdan o'tadigan belgilar -anatomik fizialogik tuzilish (yuz tuzilishlari), qaddi-qomat, teri, soch hamda ko'zlarning rangi, shuningdek, nutq, tafakkur, ixtiyoriy harakatlar, mehnat, qobilyat, iste'dod alomatlari ham nasildan –nasilga o'tadi.

Muhit – bu shaxsning shakillanishiga ta'sir etuvchi tashqi voqia hodisalar majmuyidir. Agar bola o'z tug'ma layoqatiga mos sharoitda o'sib, zarur faoliyat bilan shug'illansa erta ko'rinib rivojlanishi, aksincha, bunday muhit bo'lmasa, yo'q bo'lishi yoki “mudroq” ligicililishi ha qolib ketishi ham mumkin. Pedagogika va psixologiya fanlari ijtimoiy muhit unda shaxsning shakillanish jarayoniga ta'sir roliga alohida e'tibor beradi. Ijtimoiy muhit abadiy emas, U ijtimoiy- tarixiy qonunyatlar ta'siri ostida o'zgarib boradi.

Oila muhiti o'ziga xos muhim tarbiyaviy ta'sirga ega jarayon hisoblanadi.

Maqsadli tarbiya jarayonida quyidagi holatlar vujudga keladi: 1. Tarbiya jarayonida kishi ongining o'sishi sodir bo'ladi. 2. Shaxs o'zining tug'ma kamchiliklarini ham kerakli tomonga o'zgartirish mumkin. 3. Tarbiya yordamida muhitning salbiy ta'siri natijasida yuz beradigan kamchiliklarni tuzatish mumkin. 4. Tarbiya – istiqboldagi maqsadni belgilaydi. Shu bois, shaxs kamolotini ta'minlashda ilg'or rol o'ynaydi. Shaxsning rivojlanib, kamol topishi, hayotning hamma bosqichida bir xil bo'lmay, balki yosh xususiyatlari va hayot tajribalariga qarab har xil bo'ladi. Tajriba jarayonida o'sayotgan yosh avlod o'ziga xos xususiyatlarni bilishi juda zarur. Bir xil yoshdagi o'quvchi – tarbiyalanuvchining har birining o'ziga xos xususiyatlari, psixik jarayonlari mavjuddir.

Muayyan yosh davrining guruhlanishi bolaning rivojlanish xususiyatlardagi o'zgarishlarga qarab ajratiladi. Go'daklik davrida bola birmuncha tajriba to'plashi bilan uning idrok va tasavvurlari tarkib topa boshlaydi. Olti yoshga qadar bola dunyoni, ijtimoiy borliqni to'laligicha idrok etadi. Maktabgacha tarbiya yoshidagi bolaning tafakkuri aniq tafakkur bo'lib, u nimalarni idrok etsa yoki tasavvur qilsa, o'sha narsalar haqida fikr yuritadi. kichik maktab yoshi o'quvchilari esa ijtimoiy borliq haqida muayyan tasavvurga ega bo'lsalar ham ro'y berayotgan voqia hodisalarning mohiyatini bilishga qiziqadi. Bu jarayonlar shaxsni rivojlanishida bolaning yoshiga

qarab uning psixikasini o'rganish va bolani barkamol shaxs qilib tarbiyalashda muhim ahamiyat kasb etadi.

Rivojlanishda o'smir yoshini ahamiyati juda katta hisoblanadi. O'smirlarda his – tuyg'ularni idora qilish layoqati endi-endi shakillana boradi. Bu uning xulqida namoyon bo'ladi. O'zining har narsaga jahli chiqishi, qo'pollik holatlari tez – tez yuz beradi. O'smirlarning bu xususiyati ko'proq bahs- munozara jarayonida ko'zga tashlanadi. Garchi o'z fikri asosli bo'lmasa-da uni maqullashga urinadi. 13-14 yoshlarda o'smirlarda burch hissi, mas'uliyat tuyg'usi o'sadi, birmuncha vazminlik bo'la boshlaydi. Bu davirda o'smirda maqsadga intilish, o'zi uchun ideal tanlash boshlanadi. O'smirlarda axloqiy e'tiqod shakillanib, o'ziga xos qarashlar tarkib topa boradi. Shunday qilib o'smirlar bilan munosabatda sabr-toqat, vazminlik zarur. Unga mustaqillik berish, buyruq emas, aksincha maslahat berish, do'st bo'lish ko'proq e'tibor qaratish yaxshi natija beradi.

O'smirlik davridan keyin o'spirinlik davri boshlanadi. O'spirinlar miya hujayralarining tuzilishida ro'y bergan takomillashish, asab tizimi va faoliyati mazmunining o'zgarishiga olib keladi. O'spirin faoliyatining asosiy turi o'qish bo'lib qolaveradi. Bilimlar hajmi kengayadi. Ular ijtimoiy munosabatlar, xususan oila, moliyaviy, me'yoriy, ma'muriy, xo'jalik, mehnat hamda jismoniy faoliyatlar mohiyatini teran tushinishga intila boshlaydilar. O'spirinlarda ehtiyoj hamda qiziqish o'z-o'zidan ijtimoiy faoliyatni tashkil etishga bo'lgan rag'batni yuzaga keltiradi. O'spirinlarda shaxsiy faoliyatni tashkil etishda mustaqillikka intilish yaqqol ko'zga tashlanadi, bu esa ularda ijtimoiy, xulqiy munosabatlar mazmunini o'zlashtirishda ijtimoiy faollik ko'rsatish ehtiyojini yuzaga keltiradi. O'spirinlardagi qiziqishni inobatga olgan holda ijtimoiy mazmundagi, xususan, "Biznis faoliyatini tashkil etishning ma'naviy asoslari", "Oldi-sotdi munosabatlarning axloqiy negizlari", "Yoshlar jinoyatchiligi va uning oqibatlari", "sening huquqiy burchlaring", "Nikoh – muqaddas bitim", "Terrozizm – mudhish jinoyat" kabi mavzularda smenar va treninglar tashkil qilish ularni kelgusida kamol topishida juda kata rol o'ynaydi.

Shaxs rivojlanishida bu kabi omillar juda ko'p. shunday ekan shaxsni shaxs bo'lishi uzviy ya'ni davomiy bo'ladi va barkamol shaxs darajasigacha ko'p bosqichlardan o'tadi.

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MUSTAQILLIK YILLARIDA IMOM AL-BUXORIY XOTIRASINI ABADIYLASHTIRISHDA DOIR TADBIRLAR

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ANNOTATSIYA

Ushbu maqolada O‘zbekiston hukumati tomonidan buyuk hadisshunos alloma Ismoil al-Buxoriyning xotirasini abadiylashtirish borasida amalga oshirilayotgan chora-tadbirlar xususida fikr yuritilgan. Xususan, alloma asarlarining nashr etilishi, Imom Buxoriy xalqaro ilmiy-tadqiqot markazining tashkil etish uning zamonaviy ko‘rinishda katta rekonstruksiya etilishiga doir amalga oshirilayotgan ishlar tahlil qilingan.

***Kalit so‘zlar:** Imom al-Buxoriy, hadis, Imom Buxoriy xalqaro ilmiy-tadqiqot markazi, turizm, ziyoratgoh, ziyorat, Samarqand.*

ACTIVITIES IN PERPETUATING THE MEMORY OF IMAM AL-BUKHARI DURING THE YEARS OF INDEPENDENCE

ABSTRACT

This article highlights the measures taken by the Government of Uzbekistan to perpetuate the memory of the great Hadith scholar Ismail al-Bukhari. In particular, the work carried out on the publication of Ismail al-Bukhari’s works and establishment of the Imam Bukhari International Research Center, its major reconstruction in its modern form was analyzed.

***Keywords:** Imam al-Bukhari, Hadis, Imam Bukhari International Research Center, tourism, shrine, pilgrimage, Samarkand.*

KIRISH

Mustaqillik yillarida O'zbekistonda milliy va diniy qadriyatlar, urf-odatlar qatorida O'rta Osiyodan yetishib chiqqan buyuk allomalarning hayoti va faoliyatini, ilmiy merosini tadqiq etish hamda ularning qabrlarini obod etib, xotiralarini abadiylashtirish juda dolzarb masalalar qatoridan o'rin oldi. Bunga davlat siyosati darajasida e'tibor qaratilishi esa masalaga doir kata-katta loyihalarning amalga oshirilishiga sabab bo'lmoqda. Bu kabi xayrli ishlar ham ichki, ham tashqi turizm sohalarining taraqqiyoti uchun ham katta ahamiyat kasb etadi. Jumladan, mustaqillik yillarida buyuk hadisshunos alloma imomi Abu Abdulloh Muhammad ibn Ismoil ibn Ibrohim al-Buxoriy (810-870) ilmiy merosini tadqiq etish bilan birga uning qabrini obod etish borasida ham katta ishlar amalga oshirildi. Zero, Ismoil Buxoriyning qabri islom olamining barcha mintaqasida tabarruk sanalgan¹, uni ziyorat qilishni barcha musulmon orzu qilgan.

Ismoil al-Buxoriy 825-yilda onasi va akasi bilan haj safariga chiqib, o'sha yerda qolib, u ilm olish, payg'ambar (s.a.v.) hadislarini to'plash, tartibga solish, ulardan qaysi biri to'g'ri, qaysi biri payg'ambarga (s.a.v.) taalluqli emasligini aniqlash maqsadida Makka, Madina, Shom, Misr, Falastin, Iroq shaharlariga safar qilgan. Shu tariqa jami 600 ming hadis to'plab, bulardan 100 ming "sahih" va 200 ming "g'ayri sahih" hadislarni yod olgan. 600 ming hadisdan 7265 tasini "Al-jome as - sahih" (ishonchli to'plam) kitobiga kiritdi. "Al-jome as-sahih" allomaning eng buyuk va mashhur asari hisoblanib, unda kiritilgan ishonchli hadislar soni takrorlanadiganlari bilan 7275 tani tashkil etadi, takrorlanmaydigan hadislar 4000 tadir. Asar Islom olamida Qur'oni Karimdan keyin ikkinchi ishonchli manba vazifasini o'tab kelmoqda².

Mustaqillik davrida Imom Buxoriy ijod mahsulini o'rganish va keng targ'ib etish ishlari amalga oshirildi va alloma mangu qo'nim topgan maskan obod qilindi. Bu boradagi dastlabki ish 1991-yilda Imom al-Buxoriyning 4 jildli hadislar to'plami "Al-jome as-sahih" asarining o'zbek tilida nashr qilinishi bo'ldi. 1997-yil 29-aprelda O'zbekiston Respublikasi Vazirlar Mahkamasining "Imom al-Buxoriy tavalludining hijriy-qamariy taqvim bo'yicha 1225-yilligini nishonlash to'g'risida" gi qarori³ qabul qilindi. 1998-yilda Imom al-Buxoriy tavalludining 1225-yilli munosabati Samarqand viloyatidagi Imom al-Buxoriy maqbarasi va masjidini tamirlash hamda 1998-yilning avgust oyigacha bu yerda qadimiy milliy me'morchilik an'analari bilan uyg'unlashgan zamonaviy inshootlardan iborat betakror muhtasham yodgorlik majmuini barpo etish ishlarini tugallash rejalashtirildi. O'zbekiston Respublikasi Madaniyat ishlari vazirligi,

¹Taniyeva G.M. XVI-XIX asr birinchi yarmida O'rta Osiyo xalqlarining haj ziyorati tarixi. Toshkent. O'zkitob savdo nashriyot matbaa ijodiy uyi, 2021. 48-bet.

²Hoji Ismatulloh Abdulloh. Markaziy Osiyoda Islom madaniyati. Toshkent. Sharq, 2005. –B. 48.

³[O'zbekiston](http://www.uzbekiston-respublikasi.gov.uz) Respublikasi Vazirlar Mahkamasining 29.04.1997-yildagi 217-son qarori / www.uzbekiston-respublikasi.gov.uz lex.uz.

shuningdek, Fanlar Akademiyasi, O‘zbekiston musulmonlari idorasi, Samarqand va Buxoro viloyatlari hokimliklari bilan birgalikda mamlakat hududidagi Imom al-Buxoriy nomi va davri bilan bog‘liq qadamjoy, obidalar ro‘yhatini aniqlash va ularni tamirlash – konservatsiyalash bo‘yicha belgilangan tartibda taklif ham kun tartibiga qo‘yildi.

Shuningdek, O‘zbekiston Fanlar Akademiyasi, Tashqi ishlar vazirligi, Madaniyat ishlari vazirligi, YUNESCO ishlari bo‘yicha O‘zbekiston Respublikasi milliy komissiyasi, Din ishlari bo‘yicha qo‘mita, O‘zbekiston Musulmonlari idorasi va Samarqand viloyati hokimligi bilan birgalikda YUNESCO ning xalqaro tadbirlari doirasida 1998-yil sentabr oyida Samarqand shahrida “Imom al-Buxoriy va dunyo madaniyatida tutgan o‘rni” mavzuyida xalqaro ilmiy-amaliy anjuman o‘tkazish belgilandi. O‘zbekiston Respublikasi Davlat matbuot qo‘mitasi 1997-1998 yillarda Imom al-Buxoriy asarlari hamda uning hayoti va ijodiga oid nashrlarni o‘zbek, ingliz, arab, rus tillarida chop etishni nashriotlarning rejasiga kiritildi. “O‘zbekkino” davlat-aksionerlik kompaniyasiga 1998-yilda Imom al-Buxoriy merosining mohiyati va bugungi kundagi ahamiyatini ochib beruvchi 2 qismli xujjatli ilmiy-ommabop film yaratish va uning xorijiy tillarga dublyaj qilinishini ta‘minlash kabi vazifalar berildi.

O‘zbekiston Respublikasi Birinchi Prezidenti Islom Karimov rahbarligida yaratilgan ushbu loyiha Samarqand, Buxoro, Xiva, Toshkent, Andijon, Namangan, Qo‘qon va Shahrisabzning mohir ustalari tomonidan sakkiz oy mobaynida barpo qilindi va yodgorlik majmuasi 1998-yil 23-oktabr kuni rasman ochilgan. Maqbara, masjid, ma‘muriy bino va milliy me‘morchilik an‘analarida barpo etildi. Ma‘lumot o‘rnida aytish kerakki, Islom Karimov Saudiya Arabistoniga 1992-yil aprel oyida qilgan davlat tashrifi chog‘ida Saudiya Arabistoni Podshohi, Ikki muqaddas masjid xodimi Fahd bin Abdulaziz tomonidan sovg‘a qilingan Kisva- Ka‘ba yopinchi g‘ining bir bo‘lagi ham Imom al-Buxoriy majmuasi muzeyiga taqdim etildi¹. 2008 – yili 23 – mayda “Imom Buxoriy xalqaro ilmiy-tadqiqot Markazini tashkil etish chora – tadbirlari tog‘risida”gi qaror qabul qilindi. O‘zbekiston Respublikasi Prezidentining “O‘zbekiston Respublikasi Vazirlar Mahkamasi huzuridagi Imom Buxoriy xalqaro ilmiy-tadqiqot markazini tashkil etish chora- tadbirlari to‘g‘risida” 2017-yil 27-martdagi PQ-2855-son qarori ijrosini taminlash maqsadida Vazirlar Mahkamasi qaror qiladi. “O‘zbekiston Respublikasi Vazirlar Mahkamasi huzuridagi Imom Buxoriy xalqaro ilmiy-tadqiqot markazini tashkil etish chora- tadbirlari to‘g‘risidagi” nizomga asosan, Imom Buxoriy xalqaro ilmiy-tadqiqot markazining asosiy vazifalar, huquq va majburiyatlari, shuningdek faoliyatini tashkil etish tartibi belgilandi.

¹ <https://kun.uz>.

Ma'lumki, Prezident Sh.Mirziyoyev tashabbusi bilan 2019-yilda Imom Buxoriy xalqaro ilmiy-tadqiqot markazi hamda Hadis ilmi maktabi ham tashkil etildi. Markaz musulmon dunyosi buyuk mutafakkirlarning boy merosi, ularning jahon sivilizatsiyasi rivojiga qo'shgan bebaho hissasi va ilm-fan taraqqiyotida tutgan o'rnini chuqur tadqiq etish va keng targ'ib qilish, yosh avlodni millatlararo va dinlararo munosabatlarda bag'rikenglik, o'zaro hurmat tinch-totuv hayotda intilish kabi islom dining asil qadryatlari va madaniyatini to'g'ri tarbiyalash, xalqaro muloqotni mustahkamlash maqsadida tashkil etilgan. Shuningdek, O'zbekiston Respublikasi Prezidenti tashabbusi bilan 2022-yil 15-avgustda "Imom Buxoriy" ordeni tasis etildi.



Shuningdek, keying yillarda Imom Buxoriy yodgorlik majmuasini rekonstruksiya qilish va kengaytirish borasida ham keng ko'lamli ishlarni amalga oshirish rejalashtirildi. Hozirgi zamon talablari asosida uning yangi loyihasi ishlab chiqildi. Prezident huzurida bir necha bor taqdimot qilinib, takomillashtirildi. Jahon tajribasi ham o'rganildi. Unga ko'ra, katta masjid, to'rtta minora va keng ayvonlar qurish, xiyobon, uning atrofida mehmonxonalar hamda boshqa infratuzilma ob'ektlari barpo etish, ziyoratchi va boshqa sayyohlar uchun qulayliklarni kengaytirish bo'yicha majmuani jahon andozalari darajasida sifatli qurish, ziyoratchilarga qulayliklarni yaratish ishlarini amalga oshirish ko'zda tutilgan.

2021-yil Ramazon kunlarida ziyoratgohning qurilishi boshlandi. Bu yerda katta masjid, to'rtta simmetrik minora, baland ayvonlar, yo'ldan kirib kelishda xiyobon barpo etiladi. Ko'p sonli ziyoratchilarga zamonaviy qulayliklar yaratish uchun 7 ta mehmonxona, 3 ta avtoturargoh va avtobekat, supermarket, bozorcha barpo etiladi. Shuningdek, oshxonalar, hunarmandchilik buyumlari rastasi, hammom, tahoratxona, kushxona qurilishi belgilangan. Qurilajak yangi majmua ular bilan mutanosiblikda ulkan maskan hosil qiladi. Endi bu yerda ziyoratchilar uchun hamma sharoitlar bo'ladi.

2021-yil 15-aprel kuni Prezident Shavkat Mirziyoyev Samarqand viloyatiga tashrif buyurdi va Imom Buxoriy yodgorlik majmuasida amalga oshirilayotgan ishlarni ko'zdan kechirdi. Shuningdek, Prezident 2022-yil 7-fevralda majmuaning qurilish

loyihasi taqdimoti bilan tanishdi. Davlat rahbari Butunjahon turizm tashkiloti Bosh Assambleyasining yubiley sessiyasida ishtirok etish uchun 2023-yil 16-oktabr va 1-noyabr kunlari yana Imom al-Buxoriy maqbarasini ziyorat qildi va majmuadagi pardozlash namunalari ko'zdan kechirdi¹.

Majmua loyihasiga ko'ra uning devorlari milliy naqshlar, pardozbop toshlar bilan sayqallanadi. Uning devorlariga qadimiy uslubda Qur'oni karim suralari va hadislar yoziladi va yorqin ranglardan foydalaniladi. Maqbaraning o'ng tomonida yerostida galereya qurilmoqda. Bu yerda ziyoratchilar alloma qabrini ko'rish imkoniyatiga ega bo'ladi.

XULOSA

Xulosa qilib aytganda, Imom al-Buxoriy merosini tadqiq etish hamda uning Samarqand viloyatida joylashgan qabri va majmuasi obodonlashtirib zamonaviy usulda kehgaytirishga doir keng ko'lamli ishlarning amalga oshirilishi natijasida shu zaminda yashab ijod qilgan allomalarning ilmiy merosidan bahramand bo'lish imkoni kengayadi hamda O'zbekistonga xorijiy sayyohlar oqimi yanada oshadi.

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4. <https://kun.uz>.
5. <https://president.uz/ru>.

¹ <https://president.uz/ru>.

АРАБ ТИЛИДА ОМОНИМИЯ ҲОДИСАСИ ВА УНИ ЎРГАНИШНИНГ НАЗАРИЙ ВА АМАЛИЙ АҲАМИЯТИ

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Аннотация. Ушбу мақолада араб тилида омонимия ҳодисасининг намоён бўлиш хусусиятлари, омонимия ва полисемия ўртасидаги боғлиқлик ва фарқли жиҳатлар, араб тилишуносларининг қарашлари таҳлил этилган.

Калим сўзлар: омонимия, полисемия, араб тилию омоним сўзлар, паронимлар, сўз вариантлари.

Abstract. This article analyzes the characteristics of the phenomenon of homonymy in Arabic, the relationship and differences between homonymy and polysemy, and the views of Arabic linguists.

Keywords: homonymy, polysemy, Arabic homonyms, paronyms, word variants.

КИРИШ

Араб тилидаги манбаларни тадқиқ этаётган манбашунос омонимлар, паронимлар ва сўз вариантларининг хусусиятларини билиши жуда муҳим. Шаклдош-талаффуздош сўзларни тадқиқ этиш, уни ўрганиш методлари юзасидан ҳозиргача умумий нуқтаи назар мавжуд эмас. Бундай сўзларни назарий ва амалий баҳолаш, аниқлаш ва тасниф қилишда бир неча гуруҳга бўлиниш ҳолатлари учрайди.

Араб тилидаги омонимия, паронимия ва вариантдошлик ҳодисаларини умумий тилшунослик қоидалари асосида ўрганиш кўзланган натижага олиб келмаслиги мумкин. Чунки араб ёзувининг илк шаклланиш босқичида товушларни ёзувда ифодалашда ҳозиргидек диакратик белгилар ва қисқа унли ҳаракатларга эҳтиёж сезилмагани сўзларнинг шакл муносабатига кўра турлари жуда кенг қамровли бўлишига хизмат қилган. Қолаверса, махражлари (ҳосил бўлиш ўрни) бир-бирига яқин ҳарфларнинг мавжудлиги ҳам мазкур ҳодисалар араб тилида ўзига хос намоён бўлиши учун асосий омиллардан бири бўлиб хизмат қилган.

АДАБИЁТЛАР ТАҲЛИЛИ ВА МЕТОДОЛОГИЯ

Айтиш мумкинки, омоним сўзлар араб тилининг бошқа жабҳалари каби жуда муфассал ва аниқлик билан ўрганилган. Бунинг асосий сабаби ўрта асрларда «‘ulūm^u al-Qur’ānⁱ» (عُلُومُ الْقُرْآنِ), кейинроқ эса «‘ulūm^u al-ḥadīthⁱ» (عُلُومُ الْحَدِيثِ) сингари кўп шўъбали фанларнинг ривожлангани ҳамда шаклдош, талаффуздош ва вариантдош сўзлар мавзуси мазкур фанларнинг бир шохобчаси бўлганидир. Биз қуйида бунинг сабабларини ўрганамиз.

Ушбу мавзунини манбашунослик нуқтаи назаридан ўрганишда ўрганишда А.Ҳабибуллаев¹, Д.С.Лихачев², З.Н.Алимджанова³ муаллифлигидаги қўлланмалар, лексик-семантик жабҳасини ёритишда Абдулқоҳир Журжоний, Ҳасан Аббос, Маҳмуд Аҳмадларнинг илми балоғатга бағишланган рисоаларига мурожаат қилинади. Шунингдек, мусаллас туридаги луғатлар ва уларнинг муаллифлари ҳақидаги маълумотларни излашда Ибн Халликон, Ёқут Ҳамавий, Ҳожи ал-Халифа, К.Броккелманн⁴, И.Крачковский⁵ каби тазкиранависларнинг асарлари синчиклаб варақланди.

Шаклдош-талаффуздош сўзларнинг маъно қатламларини изоҳлаш учун Ферузободийнинг «Al-Qāmus^u», Забидийнинг «Tāj^u al-‘arūsⁱ», Мухтор Аҳмад Умарнинг «Al-maknāz^u al-kabīr^u», Ибн Манзурнинг «Lisān^u al-‘arabⁱ» каби кўп жилдли луғатларга таянилди. Шунингдек, бу мавзу тадқиқ этилган рисоалар – Алий ибн Ҳасан Ҳиноийнинг «Al-munajjad», Муҳаммад ибн Аббос Язидийнинг «Ma-ttafaqa lafzah^u wa-‘khtalafa ma’nāh^u», доктор Муҳаммад Шаҳиннинг «Al-mushtarak^u al-lughawiyyu^u: naẓariyyu^{an} wa taṭbīq^{an}» номли китоблари услубий асос сифатида танланди.

Бундан ташқари, араб тилидаги атамалар ва асарларнинг номлари халқаро стандартларга жавоб берувчи ALA-LC⁶ талаблари асосида лотин графикаси ёрдамида транскрипция қилинди. Бу мутахассис бўлмаганлар учун ҳам қулайлик беради.

НАТИЖАЛАР

Хулосалар етарли бўлса-да, ҳалигача омоним сўзлар бўйича умумий тўхтама келингани йўқ. Хусусан, айрим тилшунослар паронимия ҳодисасини

¹ Ҳабибуллаев А. Адабий манбашунослик ва матншунослик. –Тошкент: ТошДШИ. – 236 б.

² Лихачев Д.С. Текстология. Краткий очерк. М. - Л., 1964. - 364 с.

³ Алимджанова З.Н. Арабская лексикология. –Ташкент: ТашГИВ. 1999. – 166 с.

⁴ Brockelmann C. Geschichte der arabischen litteratur. Bd. I. - Weimar, 1898. Brockelmann C. Geschichte der arabischen litteratur. Bd. I. - Leiden, 1937. – 685 z.

⁵ Крачковский И. Ю. Избранные сочинения. Т. 4. – М.-Л.: Изд-во АН СССР, 1957. – 560 с.

⁶ ALA-LC Romanization Tables: Transliteration Schemes for Non-Roman Scripts. Randal K. Berry (ed.). Library of Congress, 1997. (<http://lcweb.loc.gov/catdir/cpso/roman.html>).

омонимларнинг бир тури сифатида изоҳлайди, бошқа гуруҳ уни омонимия билан бирга умуман инкор этади ва бу ҳодисани кўпмаънолилик (полисемия) билан тушунтиради. Биринчи гуруҳ олимлари анъанавий тилшунослик тарафдорлари бўлсалар, иккинчи гуруҳ вакиллари умумий тилшунослик қонуниятларига таянадилар.

Демак, айти вақтда омоним сўзлар таснифига доир илмий хулосаларни умумлаштириш ва ўзаро қарама-қарши фикрларни қиёсий ўрганиш муҳим вазифа бўлиб турибди. Бунинг учун омонимлар (الجَنَاسُ), паронимлар (مُشْتَرِكُ الْجَدْرِ) ва сўз вариантларини (تَنْوِيحٌ) ўрганишда «الْمُتَلَثُّ» («учлик») деб номланган, дунёнинг бошқа тиллари тарихида учрамайдиган изоҳли луғатларни ўрганиш зарур.

МУҲОКАМА

Мусаллас туридаги асарларни ўрганиш орқали омоним сўзларга доир умумий хулосалар қабул қилиш мумкин. Мусаллас луғатлар икки хил услубда – манзума ва мансура услубларида ёзилган. Жумладан, мусаллас туридаги биринчи асар сифатида эътироф этилувчи «Muthallath^u Quṭrub^a» манзумасининг Абу Райҳон Беруний номидаги Шарқшунослик институти фондида сақланаётган Р-3252 инвентар остидаги мужалладдан ўрин олган қўлёзма нусхаси, Ибн Саййид Баталявсийнинг «Al-muthallath^u» изоҳли луғатининг Зоҳирийя кутубхонаси (Дамашқ) фондидаги қўлёзмасининг рақамли нусхаси ва матбуот нашри, Ибн Молик қаламига мансуб битта манзума ва битта мансура луғатларнинг Азҳар ва Зоҳирийя кутубхоналарида мавжуд қўлёзмаларининг рақамли нусхалари этилади.

ХУЛОСА

Хулоса қилиб айтганда, омоним сўзлар асосига қурилган мусаллас туридаги луғатларнинг манбаларини аниқлаш, уларни қиёсий-типологик жиҳатдан тадқиқ этиш, луғатлар таркибига киритилган омоним, пароним ва вариантдош сўзларнинг лексик-семантик хоссалари, матносни вазифаларини таҳлил этиш муҳим вазифа экан. Ушбу мақсадга эришиш учун қуйидаги вазифалар белгилаб олинди:

1. Араб тилшунослигида шаклдошлик-талаффуздошлик ҳодисасининг тарихий тадрижини таҳлил қилиш.

2. Мусаллас атамасининг генезиси, тилшунослик терминологиясига кириб келиши, мусаллас турида луғат тузиш анъанасининг шаклланиши каби масалаларни тадқиқ этиш.

3. Мусаллас туридаги биринчи луғат муаллифи борасида ҳозиргача давом этиб келаётган тортишувни ўрганиш ва «Muthallath^u Quṭrub^a» манзумасининг манбаларини аниқлаш.

4. Ибн Саййид Баталявсийнинг мусаллас типидagi луғатининг илмий-танқидий матнини тузиш принципларини ишлаб чиқиш.

5. Ибн Моликнинг назмий ва насрий мусаллас луғатларининг ўзаро умумий ва фарқли жиҳатларини аниқлаш.

Ҳозирги кунда лингвистиканинг жадал суръатларда тараққий этаётганини ҳисобга олсак, унинг тадқиқот объекти саналган сўз ва унинг маъно қатламларига бўлган илмий муносабат ҳам ўзгариб бораётир. Матн ва унинг таркибий қисми бўлган сўз, сўз бирикмаси ва гап бирликларининг тағмаъноларини тадқиқ этиш етакчи жиҳатга айланмоқда. Бу жиҳат, айниқса, омоним сўзларни нутқда қўллаш билан боғлиқ ҳолатларда аниқ намоён бўлади. Абдулқоҳир Журжоний шу жиҳатга эътибор қаратиб: «Омонимларни нутқда қўллаш суҳбатдошни чалғитишга, гўё уни алдаётгандек ёки ниманидир яшираётгандек тутишга, нутқни икки маъноли бўлишига хизмат қилади»¹, деб ёзган эди.

Демак, шаклдош-талаффуздош сўзлар нафақат тилшунослик соҳасида, балки бадиий адабиёт, балоғат, психолингвистика соҳаларида ҳам муҳим ўрин тутди.

Қолаверса, омонимлар мавзуси адабиётшунослар учун муҳим бўлиб, бадиий адабиётда, хусусан шеърятда тажнис санъатининг юзага келишида бу ҳодисанинг алоҳида ўрни бор. Адабиётшунослик соҳасига ҳам тадқиқот натижаларини татбиқ қилиш имкониятлари мавжуд. Энг асосийси, тадқиқот натижалари асосида матншунос-манбашунослар қадимий қўлёмаларни ўрганишда шакли бир хил, аммо турлича талаффуз қилинадиган сўзлар ҳақида батафсил маълумотга эга бўлишлари мумкин.

¹ 'Abd^u al-Qāhirⁱ al-Jurjāniyy^u. 'Asrār^u al-balāghatⁱ. –Bayrūt: Dār^u al-kitābⁱ, 2001. –Ў.15.

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TOURISM DISCOURSE LANGUAGE AND GLOBAL MOBILITY: AN ANALYSIS OF ASSOCIATED IMPACTS

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ABSTRACT

Tourism discourse language plays a pivotal role in shaping the global mobility landscape, influencing individuals' perceptions, attitudes, and behaviors towards travel and cultural exploration. This scientific article provides a comprehensive analysis of the intricate relationship between tourism discourse language and global mobility. It delves into the linguistic constructs, cultural implications, and socio-economic impacts associated with the use of language in tourism discourse. By examining various linguistic strategies, cultural nuances, and societal dynamics, this article aims to elucidate the profound interplay between language and global mobility in the context of tourism.

Keywords: *Tourism, discourse language, global mobility, linguistic constructs, cultural implications, societal dynamics, travel behavior, cultural exploration, sociolinguistics.*

Termed as one of the most significant movements of people in history, tourism is considered to be a solid position as one of the world's leading international industries. Moreover, language in tourism is always in constant change which results in further investigations by linguists. However, since the turn of the millennium, interest in tourism from a linguistic perspective has grown exponentially. Several writers have demonstrated that tourism is an important area for examining the connections between language, culture, and society. For example, it has been illustrated how language plays a crucial role in shaping the tourist experience, which, in turn, can have significant sociocultural impacts. This article dives into our exploration of the various ways in which language is frequently assimilated within the sphere of tourism, aiming to summarize authenticity. Our examination focuses on a range of touristic mediums (such as broadcast media, guidebook glossaries, and guided tours), wherein local languages are reimagined, placed in a new context, and commodified to construct tourist identities and foster the cosmopolitan mythology of tourism. Essentially, the

globalizing disposition of tourism, as posited by Jaworski and Thurlow (2010), accord privileges to those who engage in travel, encapsulating linguistic and cultural diversity within a facade of celebration and reverence. These seemingly lighthearted "textualizations" of language serve as illustrative manifestations of mundane globalization (Thurlow and Jaworski 2010), representing the everyday, micro-level mechanisms through which the social implications and tangible outcomes of globalization are actualized. Overall, this expanding collection of studies unequivocally illustrates the influential impact of tourism in altering cultural customs, shaping notions of diversity, and perpetuating imbalanced power dynamics (Favero 2007).

If we look at the *Linguistic Constructs in Tourism Discourse*, it can be said that at the heart of tourism discourse lies a complex interplay of linguistic constructs that strategically shape narratives about travel experiences. From promotional materials and travel guides to online reviews and advertisements, language serves as a powerful tool in evoking desires, portraying destinations, and engaging potential travelers. This section delves into the linguistic features, such as lexical choices, imagery, and rhetorical devices employed in tourism discourse to captivate audiences and evoke a sense of wanderlust. Also, the utilization of language in tourism discourse is deeply intertwined with cultural implications, as it often involves the representation and promotion of cultural identities and heritage. The ways in which languages are employed to describe destinations and cultural practices can significantly impact the preservation or alteration of cultural heritage. This section examines how tourism discourse language shapes cultural perceptions, influences intercultural encounters, and contributes to the commodification of cultural experiences in the global tourism industry.

It is commonly known that the impact of tourism discourse language reverberates within societal dynamics, influencing not only individuals' travel decisions but also local communities and their cultural landscapes. The portrayal of destinations, communities, and cultural practices through language can have far-reaching implications on local economies, sustainability efforts, and social dynamics. This section explores the social, economic, and environmental dimensions of tourism discourse language, shedding light on its transformative potential and ethical considerations.

Language used in tourism discourse exerts a profound influence on individuals' travel behavior, shaping their perceptions and expectations of travel experiences. The study of sociolinguistics offers valuable insights into how language choices and cultural representations impact travelers' decision-making processes, attitudes towards

authenticity, and engagement with local communities. This section delves into the intersection of language, travel behavior, and cultural exchange, highlighting the role of discourse in shaping travelers' interactions with diverse cultural landscapes.

The proliferation of tourism as a predominant cultural sector is among the key domains of economic activity within globalization, shedding light on the significance of language commodification in studying the evolution of identities, interpersonal dynamics, and group structures. Undoubtedly, the political economy of language has long been acknowledged (e.g. Bourdieu 1991; Irvine 1989), as have the broader processes of commodifying and appropriating language in the modern economic framework of flexible accumulation and the compression of time and space. For instance, Monica Heller's work on bilingual regions of francophone Canada (e.g. 2003) illustrates how the decline of traditional industries (such as cod-fishing, mining, logging, etc.) in the latter half of the 20th century, and their replacement by new information and service-oriented sectors (particularly call centers and tourism), have led to the commodification of both language (viewed as a quantifiable skill) and identity (particularly in relation to other cultural practices like dance and music in the context of tourism). Within these realms of economic activity, facilitated by interactions between disparate linguistic markets through advancements in communication technology (call centers) or mobility (tourism), linguistic and other symbolic resources emerge as highly marketable commodities.

In summary, this scientific article offers a comprehensive exploration of tourism discourse language and its impact on global mobility, drawing attention to the complex interplay of linguistic, cultural, and societal factors that influence travel behavior and cultural exchange. Through an in-depth analysis of linguistic constructs, cultural implications, and societal dynamics, this article aims to contribute to the scholarly discourse on the profound relationship between language and global mobility in the context of tourism.

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SINFDA CHET TILINI O‘QITISHDA FOYDALANADIGAN O‘YINLAR**Tilabova Gulnora Abdiqatovna**

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Annotatsiya: Ushbu maqola bo‘lajak nemis tili fani o‘qituvchilarining darsda gapirish ko‘nikmasini rivojlantirish hamda o‘quvchilarning so‘z boyligini oshiruvchi so‘z o‘yinlari va grammatik o‘yinlar haqida yozilgan.

Kalit so‘zlar: Kasbiy leksika, pedagogik terminlar, zanjirli mashqlar, maxsus mashqlar va amaliy o‘yinlar.

O‘yinlardan dars jarayonida boshqa ish shakllari bilan teng sharoitda va shunchaki vaqti-vaqti bilan o‘yin-kulgi sifatida foydalanmaslik kerak. Chunki o‘yinlar hali to‘liq foydalanilmagan katta kommunikativ potentsialni o‘z ichiga oladi. Bundan tashqari, nemis tilida so‘zlashuvchi o‘qituvchilar har doim ham darsga tayyor bo‘lmaydi. Agar o‘yinga asoslangan darsni chet tili darslarida tashkil qilsak, o‘quvchi uchun mo‘ljallangan o‘yinlar ba‘zan juda muvaffaqiyatli bo‘lishi mumkin. Biroq, hamisha o‘yin g‘oyasi diqqat markazida bo‘lib qolmasligi va o‘quv topshiriqlari bajarilmay qolmasligi kerak. Quyida o‘yin turlari keltiriladi:

O‘yin turlari: stol o‘yini, karta o‘yini, kvartet o‘yini, taxmin o‘yini, viktorina o‘yini, tafakkur o‘yini, harf o‘yini, so‘z o‘yini, sonlar o‘yini, rolli o‘yin.

O‘qituvchining savollari

Yangi mavzuni o‘zlashtirish uchun bugun o‘yin o‘ynashni xohlaysizmi?	Um neue Thema zu gut verstehen, wollen sie heute mal ein Spiel spielen?
O‘yin o‘ynashni xohlaysizmi?	Habt Ihr Lust auf ein Spiel?
O‘yinga nima deysizlar?	Wie wär’s mit einem Spiel?
Biz musobaqa tashkil qilmoqchimiz	Wir wollen einen Wettbewerb veranstalten

Bu jadvalda o'qituvchi o'quvchilarga "o'yin tashkil qilish" borasidagi savol va takliflaridan variantlar keltirilgan:

O'yin boshlash va qoidalarini tushuntirishda qo'llanadigan leksika

Ushbu o'yinni 10 ta ishtirokchi bilan o'ynash mumkin.	Dieses Spiel kann man mit 10 Teilnehmern spielen
Bitta o'yinchi butun sinfga qarshi o'ynaydi.	Ein einzelspieler spielt gegen die ganze Klasse
Hamma endi sherik izlashi kerak.	Jeder muss sich jetzt einen Partner suchen
Siz ikki, uch, to'rttadan (guruhlarda) o'ynaysiz.	Ihr spielt (in Gruppen) zu zweit, zu dritt, zu viert.
Biz har birida besh o'yinchidan iborat guruhlar, jamoalar tuzamiz.	Wir bilden Gruppen/Mannschaften mit je fünf Spielern
Biz bir-biriga qarama-qarshi o'tirgan ikkita katta guruhda o'ynaymiz.	Wir spielen in zwei Großgruppen, die sich gegenüber sitzen.
Biz sinfni o'yinchilar soni bir xil bo'lgan ikkita jamoaga ajratamiz.	Wir teilen die Klasse in zwei Mannschaften mit gleicher Spielerzahl ein.

Yuqoridagi gaplardan foydalanib, o'yinni boshlab olamiz va o'yin nomi va albatta o'yin shartini aytib o'tamiz. Quyida gapirish ko'nikmasini rivojlantiruvchi bir nechta o'yinlar keltirilgan?

Frontal ta'lim - katta guruhlarda suhbat tashkil etish

Frontal ta'lim, ya'ni o'qituvchi va butun guruh o'rtasida dars olib borish, o'quvchilar bilan individual ishlash juda ko'p vaqt sarflanishiga olib keladi. Gapirishga, muloqotga vaqt ajratish lozim, chunki ko'p o'quvchilar umuman gapirmaydi. Lekin bu holat shunday davom etishini oldini olish maqsadida, nutqni rivojlantirish uchun albatta, quyidagi o'yinlardan foydalanish mumkin, masalan:

- zanjirli mashqlar
- so'z va gaplar tuzish bo'yicha maxsus mashqlar
- munozarali suhbat
- nutq o'yinlari

Zanjirli mashqlar

Misol: Birinchi nemis tili darsida o'qituvchi o'zini tanishtiradi va darsni boshlaydi. Undan keyin barcha talabalar o'z ismlarini aytib zanjirli mashq o'yinini boshlaydilar. Biroq, zanjir mashqlari o'quvchilarni faol jalb qilishi va tez bajarilishi kerak, aks holda ular zerikib qolishadi. Bunday zanjirli mashqlarning mazmuni, kengaytirilishi, jumla uzunligi yoki jumlar soni oshirilishi mumkin.

Quyida ba'zi misollarni keltirib o'tamiz.

Siz zanjirni o'zingiz boshlaysiz, nafaqat ismingizni aytib, balki ...

-Siz qayerda yashaysiz

-Sevimli mashg'ulotingiz

-Sevimli yozuvchilaringiz

-Sevimli sport turi

Ich heiße Malika → Ich wohne in Taschkent → Mein Hobby ist Computerprogramme schreiben → Mein Lieblingsschriftsteller ist Tohir Malik → Ich spiele gern Tennis.

Agar o'quvchilar guruhi juda katta bo'lsa, zanjir mashqini darsda bajarish samarasiz bo'ladi, chunki o'quvchilarda zerikish paydo bo'ladi, agar bu o'yin yuqori tezlikda o'ynalsa ham birinchidan zerikarli bo'ladi, ikkinchidan ko'p vaqt talab qiladi. Shunday vaziyatlarda o'quvchilar guruhini bo'lib olish maqsadga muvofiq bo'ladi.

Barcha nutq mashqlarida bo'lgani kabi, mavzuga taalluqli bo'lgan so'zlarni bilish muhim. Agar o'quvchilar sevimli mashg'ulot mavzusiga doir so'zlarni o'rganmagan bo'lsa, ushbu mavzu doirasida zanjir mashqlardan foydalanishning foydasi yo'q.

So'zlar va jumlar bo'yicha maxsus mashqlar va amaliy o'yinlar:

Bu holatda o'quvchilarni 2 yoki 4 ta katta guruhga bo'lish tavsiya etiladi. Keyin so'zlarni takrorlash yoki jumlar tuzish uchun topshiriqlar beriladi. Agar vazifa mavjud til bilimini rivojlantirish uchun barcha guruhlarga bir xil berish uchun yetarli bo'lsa, keyin raqobatbardosh vaziyatni yaratish mumkin. Masalan:

- Qaysi guruh eng kam vaqt ichida mashq yoki o'yinni bajaradi?
- Qaysi guruh eng ko'p so'z va so'z birikmalarini topadi?
- Qaysi guruhda eng original yoki eng kulgili gap bor va hokazo.

Zanjir mashqlarida bo'lgani kabi bu mashq o'yinlari odatda yuqori sur'atning saqlanishini ta'minlashga asoslanadi. O'quvchi navbatni olganida davom ettira olmasa, yonidagi boshqa o'quvchi o'yinni davom ettirishi mumkin.

So'z mashqlari

1) Guruhlardagi otlarning birlik va ko'pligi: Har qanday rodga tegishli so'zlardan bir talaba birlikni, ikkinchisi ko'plikni aytadi. Agar ko'plik shakli ma'lum bo'lmasa yoki noto'g'ri bo'lsa, o'quvchi keyingi o'quvchini chaqiradi. Bunda to'g'rilash imkoni bor. Eng to'g'ri birlik yoki ko'plik shakllarini aytgan guruh g'olib guruh hisoblanadi.

2) ABC so'zlari: alifbo tartibida har bir talaba nemischa so'zining bittasini aytadi. Guruhga so'zni aytish uchun bir necha sekund vaqt beriladi. Shu tariqa antonym, sinonim so'zlarni ham aytish mumkin. Masalan:

1-o'quvchi: issiq (heiß)

2-o'quvchi: sovuq (kalt)

3-o'quvchi: kichik (klein)

4-o'quvchi: katta (groß)

5-o'quvchi: yangi (neu)

6-o'quvchi: eski (alt)

Albatta, har bir guruhga ma'lum bir ballni to'plash uchun huquq berilishi kerak, yana bir jihat, guruhlarning bir-biriga qarshi o'ynashiga ruxsat berilganda, vaqt berishni ham unutmashlik lozim.

3) Bir so'zdan yangi so'z hosil qilish

Guruh o'yini: Qaysi guruh 20 ta so'zni tezroq topa oladi? Boshqa so'zning harfini hosil qilishi mumkin, masalan. **R e c h t s c h r e i b r e f o r m:** *Recht, Schreiber, Reform, Form, er, echt, Eiche, Friese, frei, frech, bei, bereit, beim, Chemie, Ehe, Eimer, Reis, Eis, Schrift, Ei usw.* Yoki guruhlarga qaysi guruh 5 yoki 10 daqiqada ko'proq so'z topadi deb vaqt belgilash kerak.

Xulosa o'rnida shuni aytish kerakki, yuqorida keltirilgan o'yinlar va mashqli o'yinlar nafaqat so'z boyligini rivojlantiruvchi, balki so'zlashish va grammatik bilimlarni ham mukammal o'zlashtirishga yordam beradi. Darsda o'quvchilarni bir xillikdan saqlagan holda turli xil metodlardan foydalanib, mavzularni mustahkamlashni va o'quvchilarni rag'batlantirishni, sinf xonasida chet tili muhitini yaratishni har bir nemis tili fani o'qituvchisi o'z oldiga maqsad qilib olsa, o'qituvchi darsda o'z maqsadiga erishgan bo'ladi.

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ВЗАИМОСВЯЗЬ ЯЗЫКА И ГЕНДЕРА

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***Аннотация.** В данной статье представлен краткий обзор ряда теорий лингвогендерологического характера, так как лингвистические гендерные исследования приобрели большую актуальность в современной науке. Гендер может рассматриваться с точки зрения психологии, социологии, философии, культурологии, и, разумеется, лингвистики.*

***Ключевые слова.** Гендер, язык, гендерология, лингвистика, лингвокультурологический аспект, гендерные стереотипы, феминистическая лингвистика.*

RELATIONSHIP OF LANGUAGE AND GENDER

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***Annotation.** This article provides a brief overview of a number of theories of a linguo-genderological nature, since linguistic gender studies have become more relevant in modern science. Gender can be considered from the point of view of psychology, sociology, philosophy, cultural studies, and, of course, linguistics.*

***Keywords.** Gender, language, gender studies, linguistics, linguocultural aspect, gender stereotypes, feminist linguistics.*

Многие годы классическими науками, занимающимися языком и интерпретирующими язык, являлись, главным образом, лингвистика, языкознание, литературоведческие науки, история, теология и правоведение [1]. В русле указанных направлений учёные поднимали проблему взаимоотношения языка и действительности и пытались выяснить, как язык, будучи принадлежащим человеку, может руководить обществом, создавать реальность

или руководить ею. Позднее, после так называемого лингвистического поворота (linguistic turn), к ним присоединились философия и современное языкознание (лингвистика).

В русский язык слово «гендер» пришло из английского языка («gender»), в котором оно исходно обозначало грамматическую категорию рода. В словаре Фаулера (Fowler's Dictionary of Modern English Usage) категория gender трактуется именно как грамматическая категория [2]. Начиная с 1960-х годов, понятие gender начало расширяться, поскольку оно стало трактоваться в том числе и как социо-психологическая категория. Согласно словарю гендерных терминов, «гендер» – это «совокупность социальных и культурных норм, которые общество предписывает выполнять людям в зависимости от их биологического пола» [3].

Почти всегда с сопоставлением гендера и грамматики феномен гендера также очень часто исследуется во взаимосвязи с риторикой как одним из разделов в языкознании. Так, например, одним из первых импульсов в исследованиях немецких учёных в данном направлении можно считать «Тезисы феминистической риторики» («Thesen zu einer feministischen Rhetorik») Р.Венске (Regula Venske), опубликованные в середине 80-х годов [4]. В 90-е годы Г.Шёнталь (Gisela Schönthal) опубликовала книгу по женской риторике «Feministische Linguistik-linguistische Geschlechterforschung. Ergebnisse, Konsequenzen, Perspektiven. (Germanistische Linguistik)» [5], а также статью «Personenbezeichnungen im Deutschen als Gegenstand feministischer Sprachkritik» [6].

Исследования гендерных дискурсов направлены на раскрытие многогранности и обширности содержания понятия термина гендер. Исследователи обращают особое внимание на важность учета языковой картины мира при анализе данных категорий. Отражение действительности в языковой картине мира обуславливает необходимость ее учета при исследовании концептов. Различные понятия формируются на основе стереотипных представлений носителей языка о каком-либо явлении, и, несомненно, связаны с культурой народа исследуемого языка. Культурные особенности играют важную роль при формировании гендерных понятий мужественность и женственность: несмотря на кажущиеся различия в восприятии мужественности и женственности у разных народов, данные термины присутствуют в каждой культуре, то есть они являются универсальными и специфичными одновременно. Гендерные концепты исследуются на материале пословиц и поговорок, фразеологизмов, литературных произведений, материалов СМИ.

Средства массовой информации и Интернет являются основным материалом для лингвистических гендерных исследований. Рост доступности информации и глобализация сети Интернет обусловили увеличение научных работ по данной тематике. Репрезентация гендера в СМИ является весьма яркой, поскольку СМИ отражают наиболее актуальные представления общества по тому или иному вопросу.

Несмотря на то, что женский вариант в языке описывается многими учёными как отклонение от нормы (мужского варианта), совершенно очевидно, что главной особенностью феминистических исследований является противопоставление женского речевого поведения мужскому. Обзор таких исследований показывает, что в них встречается фактически равноправное описание мужского и женского вариантов речевого поведения. Следовательно, это ставит под сомнение гипотезу о существовании мужском языке как норме.

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STUDY OF GERMAN, UZBEK, KARAKALPAK PROVERBS IN LINGUISTIC AND METHODOLOGICAL ASPECTS

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ABSTRACT

This scientific article investigates the linguistic and methodological aspects of German, Uzbek, and Karakalpak proverbs. Proverbs are an essential part of a language's cultural heritage, reflecting the collective wisdom and values of a community. By studying proverbs from different languages, we can gain insights into linguistic patterns, cultural nuances, and methodological approaches employed in their analysis. This research explores the structural and semantic characteristics of German, Uzbek, and Karakalpak proverbs and provides a comparative analysis of their respective idiomatic expressions. The methodology employed includes corpus-based analysis, semantic categorization, and cultural interpretation. The findings contribute to our understanding of the linguistic and cultural diversity inherent in proverbs and emphasize the importance of preserving and studying these linguistic gems.

KEYWORDS: *proverbs, aspects, language, differences, linguistic similarities, gems, importance.*

ИЗУЧЕНИЕ НЕМЕЦКИХ, УЗБЕКСКИХ, КАРАКАЛПАКСКИХ ПОВЕЧНИКОВ В ЛИНГВОМЕТОДИЧЕСКОМ АСПЕКТЕ

АННОТАЦИЯ

В данной научной статье исследуются лингвистические и методологические аспекты немецких, узбекских и каракалпакских пословиц. Пословицы являются важной частью культурного наследия языка, отражая коллективную мудрость и ценности сообщества. Изучая пословицы разных языков, мы можем получить представление о языковых моделях, культурных нюансах и методологических подходах, используемых при их анализе. В данном исследовании изучаются структурные и семантические характеристики немецких, узбекских и каракалпакских пословиц и проводится сравнительный

анализ их соответствующих идиоматических выражений. Используемая методология включает корпусный анализ, семантическую категоризацию и культурную интерпретацию. Результаты способствуют нашему пониманию языкового и культурного разнообразия, присущего пословицам, и подчеркивают важность сохранения и изучения этих лингвистических жемчужин.

КЛЮЧЕВЫЕ СЛОВА: пословицы, аспекты, язык, различия, лингвистические сходства, жемчужины, значение.

NEMIS, O‘ZBEK VA QORAQALPOQ TILLARI MAQOLLARINI LINGVISTIK VA METODIK ASPEKTD A O‘RGANISH

ANNOTATSIYA

Ushbu ilmiy maqolada nemis, o‘zbek va qoraqalpoq maqollarining lingvistik va uslubiy jihatlari o‘rganiladi. Maqollar til madaniy merosining muhim qismi bo‘lib, jamoaning umumiy donoligi va qadriyatlarini aks ettiradi. Turli tillardagi maqollarni o‘rganish orqali biz ularni tahlil qilishda qo‘llaniladigan lingvistik naqshlar, madaniy nuanslar va uslubiy yondashuvlar haqida tushunchaga ega bo‘lishimiz mumkin. Ushbu tadqiqotda nemis, o‘zbek va qoraqalpoq maqollarining strukturaviy-semantik xususiyatlari o‘rganilib, ularga mos keladigan idiomatik iboralar qiyosiy tahlil qilinadi. Amaldagi metodologiya korpus tahlili, semantik toifalash va madaniy talqinni o‘z ichiga oladi. Natijalar maqollarga xos bo‘lgan til va madaniy xilma-xillikni tushunishimizga yordam beradi va bu til marvaridlarini saqlash va o‘rganish muhimligini ta’kidlaydi.

KALIT SO‘ZLAR: maqollar, aspekt, til farqlari, leksikon o‘xshashliklar, ma’no.

Introduction: Proverbs are concise expressions of conventional wisdom that have been passed down through generations, encapsulating the collective knowledge, values, and cultural identity of a community. They provide insight into a language’s idiomatic usage, cultural norms, and social practices. This study focuses on German, Uzbek, and Karakalpak proverbs, aiming to examine their linguistic structures, semantic peculiarities, and methodological approaches to their analysis. By comparing these three language families, we can highlight both their unique features and the underlying universality of proverbial expressions.

Materials And Discussion: Methodology: This research employs a multidisciplinary methodology that combines linguistic analysis, semantic categorization, and cultural interpretation. A corpus-based analysis of proverbial expressions from German, Uzbek, and Karakalpak languages is conducted to identify

common patterns, syntactic structures, and semantic fields. The proverbs are then categorized based on their thematic content and contextual usage. The cultural interpretation of these proverbs involves examining their historical, social, and psychological implications within each respective culture.

Linguistic Analysis. The linguistic analysis focuses on the structural characteristics of German, Uzbek, and Karakalpak proverbs. It investigates their syntactic patterns, figurative language usage, and rhetorical devices employed to convey meaning. The study reveals the presence of idiomatic expressions, metaphors, and similes in the proverbs of all three languages, reflecting the creative use of language to convey cultural values concisely. **Semantic Categorization:** The semantic categorization of proverbs aims to identify common thematic content and conceptual domains across German, Uzbek, and Karakalpak cultures. By examining the proverbs' subjects, objects, and predicates, we can identify shared cultural values and beliefs. For example, German proverbs often emphasize practicality, while Uzbek proverbs emphasize hospitality and community harmony. [1.76]

Cultural Interpretation: The cultural interpretation of proverbs involves situating them within their historical, social, and psychological contexts. By examining the cultural norms, historical events, and societal traditions associated with specific proverbs, we can gain deeper insights into the cultural and societal values of each language. For instance, Karakalpak proverbs often reflect the nomadic lifestyle and traditional practices of the Karakalpak people. **Comparative Analysis:** The comparative analysis of German, Uzbek, and Karakalpak proverbs allows for the identification of both shared and distinct characteristics. Despite linguistic and cultural differences, certain universal themes emerge, such as human nature, morality, and wisdom. This analysis highlights the interplay between language and culture and underscores the need for cross-cultural understanding and appreciation. [2.98]

This research underscores the significance of preserving and studying proverbs as an integral part of a language's cultural heritage. Proverbs not only provide linguistic insights but also serve as a window into the values, beliefs, and social dynamics of a community. By exploring proverbs from different cultures, we can foster cross-cultural understanding and appreciation, promoting dialogue and mutual respect among diverse linguistic and cultural groups. Future research in this field can expand the comparative analysis to include proverbs from additional languages and cultures. Furthermore, the application of computational linguistics and natural language processing techniques can enhance the efficiency and scalability of proverb analysis, facilitating the identification of larger patterns and trends across diverse language families. In conclusion, the study of German, Uzbek, and Karakalpak proverbs in linguistic and

methodological aspects provides valuable insights into the intricate relationship between language, culture, and human communication. The findings contribute to our understanding of the linguistic diversity and cultural nuances present in proverbs, emphasizing the importance of preserving and studying these linguistic gems for future generations. By recognizing and appreciating the wisdom encapsulated in proverbs, we can foster intercultural understanding and promote a more inclusive and harmonious global society.

Implications and Applications:

The study of German, Uzbek, and Karakalpak proverbs has several implications and applications in various fields. Firstly, it enriches our understanding of linguistic diversity, allowing us to appreciate the different ways in which languages express ideas and concepts. This knowledge can be valuable for language learners, translators, and cross-cultural communicators who seek to navigate and bridge linguistic and cultural gaps.

Secondly, the analysis of proverbs provides insights into cultural values and norms. These insights can be utilized in fields such as anthropology, sociology, and intercultural studies, where a deep understanding of cultural dynamics is crucial. Proverbs can serve as a tool for understanding social relationships, belief systems, and behavioral patterns within specific communities.

Furthermore, the comparative analysis of proverbs can contribute to the field of cognitive linguistics, providing evidence for cognitive universals or cultural-specific cognitive patterns. The study of proverbial expressions can shed light on how different cultures conceptualize and represent abstract concepts, such as time, morality, or emotions.

Additionally, the findings from this research can be used in educational contexts to promote cultural awareness, intercultural competence, and language proficiency. Integrating proverbs into language learning curricula can enhance students' language skills while also fostering their understanding of cultural diversity and fostering appreciation for different linguistic and cultural traditions. [3.106]

Limitations and Future Directions:

Like any research, this study has certain limitations. One limitation is the selection of proverbs for analysis, as it is impossible to cover the entire range of proverbs in German, Uzbek, and Karakalpak languages. Therefore, future studies can expand the sample size and include a more extensive collection of proverbs to capture a broader linguistic and cultural spectrum.

Moreover, the interpretation of proverbs can be influenced by the researchers' subjectivity and cultural biases. It is essential for researchers to acknowledge and

mitigate these biases through rigorous methodology and interdisciplinary collaboration.

Future research can also explore the sociolinguistic aspects of proverbs, investigating how proverbs are used and understood within specific speech communities and how they may vary across different social groups, age cohorts, or regions.

Furthermore, the application of computational methods, such as natural language processing and machine learning, can facilitate the automated analysis and categorization of proverbs on a larger scale. This would enable researchers to uncover patterns and trends that may not be immediately apparent through manual analysis.

German:

"Aller Anfang ist schwer."

Translation: "All beginnings are difficult."

Analysis: This proverb reflects the German emphasis on perseverance and the acknowledgment that starting something new can be challenging. It conveys the idea that initial difficulties are to be expected and encourages determination and resilience.

"Wer rastet, der rostet."

Translation: "Who rests, rusts."

Analysis: This proverb highlights the German value of continuous effort and the belief that idleness leads to deterioration. It emphasizes the importance of staying active and engaged to prevent physical, mental, or skill-related decline.

Uzbek:

"Odamlar tong, hayollar bir."

Translation: "People are different; dreams are similar." Analysis : This Uzbek proverb emphasizes the universal nature of dreams and aspirations while acknowledging

the diversity of individuals. It conveys the idea that although people may have different backgrounds and experiences, their dreams and desires often share common themes and motivations.

"Bahor kelganda ko‘za nishon, yoz kelganda tun qorxon." Translation: "When spring comes, the clothes reveal; when autumn comes, the nights grow longer."

Analysis: This proverb reflects the Uzbek understanding of the cyclical nature of life and the changing seasons.

It suggests that different seasons bring forth different aspects or consequences, symbolized by the revealing of clothing in spring and the longer nights in autumn.

[2.86]

Karakalpak "Erlik barliqqa jetpes"

Translation: "Bravery is not enough."

Analysis: This Karakalpak proverb emphasizes the importance of not relying solely on bravery or courage. It suggests that bravery must be accompanied by other qualities or strategies to be truly effective, highlighting the Karakalpak value of strategic thinking and planning. "Zordan zor shigadi."

Translation: "The brave one comes out victorious over the powerful one."

Analysis: This proverb reflects the Karakalpak belief in the triumph of courage and determination over mere physical strength. It implies that true strength lies not in physical power alone but in inner fortitude and resilience

Analysis:

The German proverbs demonstrate a pragmatic and goal-oriented mindset, focusing on perseverance, continuous effort, and the value of productivity. These proverbs often reflect a practical approach to life and highlight the importance of hard work and determination.

In contrast, Uzbek proverbs often emphasize shared human experiences, interconnectedness, and universal aspirations. They reflect a culture that values unity, commonality, and finding common ground among diverse individuals.

Karakalpak proverbs reveal a perspective that places importance on strategic thinking, inner strength, and overcoming challenges. They reflect a society that values resourcefulness, bravery, and the ability to navigate through difficulties.

Overall, these proverbs provide insights into the linguistic and cultural values of each language and offer a glimpse into the attitudes, beliefs, and wisdom passed down through generations within each respective culture. [4.67]

Definition of Proverbs: Proverbs are concise, memorable, and often metaphorical expressions that convey a piece of traditional wisdom or advice. They are typically passed down through generations within a community and reflect the cultural, social, and historical values of that community. Proverbs are characterized by their brevity and ability to encapsulate complex ideas or moral lessons in a succinct manner.

Linguistic Features: Proverbs often employ figurative language, such as metaphors, similes, or personification, to convey their meaning. This figurative language adds richness and depth to the proverbial expression. Proverbs may also utilize rhyme, rhythm, alliteration, or other rhetorical devices to enhance memorability and impact.

Cultural Significance: Proverbs serve as repositories of cultural knowledge and collective wisdom. They encapsulate the values, beliefs, customs, and traditions of a community, providing insights into their history, social dynamics, and worldview.

Proverbs can reflect moral principles, social norms, practical advice, and shared experiences, fostering a sense of cultural identity and continuity. [3.109]

Functions of Proverbs: Proverbs serve multiple functions within a language and culture. They can be used to educate and transmit cultural values to younger generations, provide guidance for decision-making, offer moral teachings, entertain through their wit or humor, or even serve as social or conversational ice-breakers. Proverbs often offer concise and memorable ways to communicate complex ideas or truths, making them powerful tools of communication.

Universal Themes and Variations: While proverbs exhibit cultural specificities, they also reveal universal themes and shared human experiences. Certain proverbial expressions can be found across different languages and cultures, albeit with slight variations. These shared proverbs often reflect common aspects of human nature, such as the importance of honesty, perseverance, or the consequences of actions. **Analysis and Interpretation.** The study of proverbs involves analyzing their linguistic, semantic, and cultural dimensions. Linguistic analysis explores the structure, syntax, and rhetorical devices employed in the proverbial expression. Semantic analysis categorizes proverbs based on their thematic content, examining the underlying concepts and cultural associations. Cultural interpretation delves into the historical, social, and psychological contexts in which proverbs are used, exploring their meanings and implications within specific cultural frameworks. **Role in Language Learning:** Proverbs are valuable resources for language learners as they provide insight into a language's idiomatic usage, cultural context, and pragmatic nuances. Incorporating proverbs into language learning curricula can enhance vocabulary acquisition, idiomatic expression, and cultural competence. Proverbs offer a window into the richness and depth of a language and help learners develop a deeper understanding of its cultural heritage.

Conclusion: The study of German, Uzbek, and Karakalpak proverbs in linguistic and methodological aspects provides valuable insights into language, culture, and human communication. Through linguistic analysis, semantic categorization, and cultural interpretation, we gain a deeper understanding of the structural, semantic, and cultural characteristics of proverbs. This knowledge has implications for language learning, intercultural understanding, cognitive linguistics, and education. Future research directions can further expand our knowledge in these areas, addressing the limitations and employing computational methods for more extensive analysis. By studying proverbs, we can appreciate the richness of human linguistic and cultural diversity while fostering mutual understanding and respect across cultures.

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INNOVATIVE METHODS OF TEACHING PRE-INTERMEDIATE LEVEL STUDENTS

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Abstract. *The article includes various information about the methods of teaching pre-intermediate level students and benefits and challenges while teaching as well as the measures to be taken.*

Key words: *expand knowledge and proficiency, variety of innovative teaching methods, learning styles, integrating digital tools, multimedia elements, language acquisition, project-based learning, educational apps.*

INTRODUCTION. Teaching pre-intermediate level students can be both challenging and rewarding. At this stage, students are building upon their foundational language skills and are eager to expand their knowledge and proficiency. To engage and inspire these learners, educators can employ a variety of innovative teaching methods that cater to their needs and learning styles. In this article, we will explore some creative and effective approaches to teaching pre-intermediate level students, with a focus on fostering active participation, language acquisition, and overall student engagement.

DISCUSSION. One innovative method for teaching pre-intermediate students is the use of technology in the classroom. Integrating digital tools, such as interactive whiteboards, educational apps, and online resources, can make lessons more dynamic and interactive. For example, teachers can incorporate multimedia elements like videos, audio clips, and interactive games to reinforce vocabulary, grammar, and

language skills. Additionally, online platforms and learning management systems can provide opportunities for collaborative learning, where students can engage in group projects, discussions, and peer feedback.

Another effective approach is project-based learning, which encourages students to apply their language skills in real-world contexts. Teachers can design projects that require students to research, create presentations, or solve problems using English. For instance, students could work on a group project to plan a hypothetical trip to an English-speaking country, where they would have to use their language skills to navigate various scenarios, such as booking accommodations, ordering meals, and asking for directions.

Incorporating authentic materials into the curriculum is also a valuable strategy for engaging pre-intermediate level students. Authentic materials, such as newspaper articles, advertisements, songs, and short stories, provide learners with exposure to genuine language usage and cultural context. By analyzing and discussing these materials, students can develop their comprehension skills and gain insight into the cultural nuances of the English language.

Furthermore, implementing a task-based learning approach can be highly effective in promoting language acquisition and communicative competence. This method involves organizing lessons around specific tasks or activities that require students to use English in practical situations. For example, teachers can design role-playing activities where students simulate everyday interactions, such as making appointments, ordering food at a restaurant, or conducting interviews. These tasks not only enhance language skills but also build students' confidence in using English in real-life scenarios.

Additionally, incorporating personalized and differentiated instruction can help meet the diverse needs of pre-intermediate level students. By tailoring activities and assignments to individual learning styles and interests, teachers can create a more inclusive and engaging learning environment. For instance, offering choice-based

projects or allowing students to select topics for discussion and writing assignments can increase motivation and investment in the learning process.

Lastly, promoting a learner-centered classroom environment is essential for fostering active participation and engagement among pre-intermediate students. Encouraging collaborative learning, peer teaching, and student-led discussions empowers learners to take ownership of their education and develop critical thinking skills.

CONCLUSION. By creating a supportive and interactive classroom culture, teachers can inspire students to actively participate in their language learning journey. Teaching pre-intermediate level students requires creativity, flexibility, and a commitment to engaging learners in meaningful ways.

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СРАВНЕНИЕ MFF И RUSLE МОДЕЛЕЙ ДЛЯ ОЦЕНКИ ЭРОЗИИ ПОЧВЫ, ИХ ПРЕИМУЩЕСТВА И НЕДОСТАТКИ

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АННОТАЦИЯ

В статье рассмотрены две наиболее популярные модели для определения уровня эрозии: модель Revised Universal Soil Loss Equation (RUSLE) и Morgan Morgan Finney (MMF). Проведен сравнительный анализ факторов, принимаемых во внимание в каждой из моделей для оценки потери почвы на местах. Изучены основные характеристики данных моделей при их применении в условиях Центрально-азиатского региона. При этом выявлены и просуммированы основные преимущества и недостатки каждой из моделей, подытожены наиболее оптимальные варианты применения той или иной модели в определенных условиях.

Ключевые слова: эрозия почвы, факторы эрозии, модели, MMF, RUSLE, дистанционное зондирование.

COMPARISON OF MFF AND RUSLE MODELS FOR SOIL EROSION ASSESSMENT, THEIR ADVANTAGES AND DISADVANTAGES

***Abstract:** The article discusses the two most popular models for determining the level of erosion: the Revised Universal Soil Loss Equation (RUSLE) model and the Morgan Morgan Finney (MMF) model. A comparative analysis of the factors taken into account in each of the models for estimating soil loss in the field was carried out. The main characteristics of these models when applied in the conditions of the Central Asian region were studied. At the same time, the main advantages and disadvantages of each model are identified and summarized, and the most optimal options for using a particular model in certain conditions are summarized.*

***Key words:** soil erosion, erosion factors, models, MMF, RUSLE, remote sensing.*

ВВЕДЕНИЕ

Существует множество различных моделей для определения потери почвы, которые используются в агрономии и экологии. Некоторые из них включают: Модель уравновешенного баланса почвенной эрозии (Universal Soil Loss Equation, USLE), модель Revised Universal Soil Loss Equation (RUSLE) - улучшенная версия модели USLE, которая добавляет дополнительные факторы, такие как управление земледелием и практики обработки почвы, модель постоянного потока воды (Constant Stream Power, CSP), основанная на физической концепции потока воды и используемая для оценки эрозии гидрологических систем, модель Бурли (Burrough) - пространственный анализ для определения потери почвы на основе различных переменных, таких как рельеф и климатические условия, модель Revised Morgan-Morgan-Finney (RMMF), учитывающая тип почвы, наклон поверхности и плотность растительности и другие. Каждая модель имеет свои особенности и может быть применима в различных условиях и ситуациях. В данной работе авторами рассмотрены и сравнены RUSLE и MMF модели с целью определения их основных преимуществ и недостатков.

ЛИТЕРАТУРА И МЕТОДОЛОГИЯ

Модель RUSLE (Revised Universal Soil Loss Equation) или пересмотренное универсальное уравнение потери почвы - это математическая модель, разработанная для оценки потери почвы в результате эрозии. Она была разработана в 1990 году и является обновленной версией оригинальной модели USLE (Universal Soil Loss Equation), созданной в 1965 году [1]. Модель RUSLE учитывает пять основных факторов, которые влияют на потерю почвы:

1. R-фактор (Rainfall factor) - оценивает энергию и интенсивность осадков, которые вызывают эрозию почвы.
2. K-фактор (Soil erodibility factor) - характеризует устойчивость почвы к эрозии и зависит от ее текстуры, структуры, содержания органического вещества и других факторов.
3. LS-фактор (Slope length and steepness factor) - учитывает длину склона и его крутизну, которые определяют скорость стока воды и эрозии.
4. C-фактор (Cover management factor) - оценивает степень покрытия почвы растительностью или другими защитными покровами, которые могут уменьшать эрозию.

5. Р-фактор (Support practice factor) - учитывает применение технических мероприятий по управлению почвой, таких как орошение, вспашка и другие практики. [2]

Модель RUSLE используется для прогнозирования потери почвы в различных регионах и помогает определить наиболее подверженные участки эрозии, что позволяет разработать соответствующие меры по сохранению и восстановлению почвенного покрова. Это очень полезный инструмент для почвоведения и землеустройства, который помогает снизить негативные последствия эрозии и сохранить плодородие почвы.

В то же время модель Morgan Morgan Finney (MMF) также является моделью для оценки и прогнозирования эрозии почвы. Она может быть применена в различных регионах мира, включая Центральную Азию, для оценки уровня и рисков эрозии. Применение этой модели может помочь в планировании мероприятий по сохранению почвы и предотвращению эрозии, что особенно важно в сельскохозяйственных районах [3]. Модель принимает во внимание ряд параметров, включая:

1. Тип почвы: Вязкость и устойчивость почвы к эрозии зависят от ее типа. Параметры, такие как крупность и форма частиц, плотность и содержание органических веществ, играют роль в оценке уязвимости почвы к эрозии.

2. Уклон и длина склона: Уклон и длина склона существенно влияют на скорость и объем почвенной эрозии. Эти параметры определяются с использованием алгоритмов, учитывающих физические характеристики местности.

3. Тип растительности: Наличие и вид растительности оказывают значительное воздействие на процессы почвенной эрозии. Различные растения могут удерживать почву и снижать ее устойчивость к эрозии.

4. Классификация осадков: Распределение осадков влияет на интенсивность эрозионных процессов. Информация об осадках используется для оценки объема воды, способной вызвать эрозию на данной местности. [4]

Дополнительно могут быть учтены такие параметры, как плотность растительности, интенсивность ветра, геологическая структура, и многие другие.

ОБСУЖДЕНИЕ

Модель MMF для оценки эрозии в Центральной Азии имеет ряд ограничений, которые следует учитывать. К примеру, модель MMF использует упрощенное представление физических процессов, таких как осадки, эрозия почвы и перенос наносов. Это упрощение может неточно отразить сложную и

неоднородную природу эрозии в Центральной Азии. В то же время модель требует обширных входных данных, включая топографию, характеристики почвы, землепользование и климатические данные. Во многих случаях надежных и качественных данных может не хватать, что может повлиять на точность прогнозов модели. Как и все модели, модель MMF подвержена неопределенностям. Эти неопределенности могут возникать из-за присущей природным системам сложности, а также из-за ограничений в доступности данных и допущений модели. Модель может не работать должным образом в меньших пространственных масштабах или при прогнозировании эрозии в очень конкретных местах. Кроме того, эффективность модели в более длительных временных масштабах может быть ограничена, поскольку она не может полностью учитывать динамические изменения в землепользовании и климате. Необходимо также учитывать, что модель может не адекватно отражать динамические обратные связи между эрозией, землепользованием и изменением климата, которые являются важными факторами в динамике эрозии в Центральной Азии. Эффективность модели MMF может варьироваться в зависимости от конкретных условий в Центральной Азии.

При применении каждой из моделей важно проверить прогнозы на основе данных наблюдений, чтобы обеспечить ее точность для региона.

РЕЗУЛЬТАТЫ

Модель Rusle (Revised Universal Soil Loss Equation) и модель MMF (Morgan–Morgan–Finney) обе используются для оценки потерь почвы вследствие эрозии, но они имеют различные подходы к этому вопросу. Основные отличия между моделями Rusle и MMF включают следующее:

1. Источник данных: Rusle использует данные о климатических условиях, полях культур, типах почвы и склоне, в то время как MMF также включает данные о растительности, управлении земельными участками и гидрологических процессах.
2. Учет факторов: Rusle учитывает факторы, такие как склон, длина наклона, интенсивность дождя и почвенная устойчивость, тогда как MMF также учитывает воздействие растительности и принимает во внимание гидрологические процессы.
3. Масштаб: Rusle ориентирована на более крупномасштабные оценки потерь почвы, в то время как MMF предназначена для оценок эрозии в более мелкомасштабных условиях, таких как отдельные поля или участки земли.

ЗАКЛЮЧЕНИЕ

Несмотря на различия, обе модели являются важными инструментами для предотвращения эрозии почвы и управления земельными ресурсами. Результаты применения моделей могут дать полезную информацию о процессах эрозии в Центральной Азии, однако важно учитывать вышеперечисленные ограничения и использовать результаты модели в сочетании с местными знаниями и данными наблюдений для более надежных оценок эрозии.

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ХАРАКТЕР ИЗМЕНЕНИЯ КОНЦЕНТРАЦИЯ ЛЕПТИНА И СВОБОДНЫХ ЖИРНЫХ КИСЛОТ У БОЛЬНЫХ ХРОНИЧЕСКИМ ПАНКРЕАТИТОМ АССОЦИИРОВАННОЙ СОСТОЯНИЕМ ИНСУЛИНОРЕЗИСТЕНТНОСТИ

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АННОТАЦИЯ

Выявлено, что инсулинорезистентность у больных с хроническим панкреатитом воздействуют на жировые ткани, усиливая липолитическое действие инсулина – что приводит к накоплению свободных жирных кислот и глицерина.

Ключевые слова: хронический панкреатит, инсулинорезистентность, лептин, свободные жирные кислоты, метаболический синдром

THE NATURE OF CHANGES IN THE CONCENTRATION OF LEPTINA AND FREE FATTY ACIDS IN PATIENTS WITH CHRONIC PANCREATITIS ASSOCIATED WITH A CONDITION OF INSULIN RESISTANCE

ABSTRACT

It has been revealed that insulin resistance in patients with chronic pancreatitis affects adipose tissue, enhancing the lipolytic effect of insulin - which leads to the accumulation of free fatty acids and glycerol.

Keywords: chronic pancreatitis, insulin resistance, leptin, free fatty acids, metabolic syndrome

ВВЕДЕНИЕ. В настоящее время продолжается стремительный рост частоты метаболического синдрома (МС), «пандемии XXI века», по заключению экспертов ВОЗ. Основными характеристиками МС являются увеличение массы висцерального жира, инсулинорезистентность, гиперинсулинемия [1,3].

Последние десятилетия этой проблеме уделяют огромное внимание врачи практически всех специальностей. Учитывая современные тенденции число лиц, страдающих МС к середине текущего столетия превысит полмиллиарда человек. Однако, при своевременной диагностике и лечении, метаболические нарушения могут быть обратимыми, или возможна коррекция выраженности проявлений МС [2,6].

В формировании МС играет роль гиперактивность гипоталамо-гипофизарно - надпочечниковой системы и симпатoadреналовых реакций, усиливая инсулинорезистентность (ИР) и снижая выработку адипонектина. Отмечены особенности полиморфизма генов рецепторов дофамина и лептина, связанные при МС с гиперактивностью симпатической нервной системы [4,5].

Важным звеном в патогенезе МС в соответствии с липоцентрической теорией, является абдоминально-висцеральная жировая ткань. Одним из основных факторов при МС можно считать андроидное ожирение. По данным С.А.Бутрова с соавт. (2004), при андроидном типе ожирения у 88% пациентов обнаружена ИР, при гиноидном типе ожирения только у 32 % больных.

Многочисленными исследованиями доказано, что гиперинсулинемия приводит к истощению инсулярного аппарата поджелудочной железы (их масса падает, нарушается конверсия проинсулина в инсулин). В результате снижается секреция инсулина, постепенно формируется пониженная толерантность к глюкозе и сахарный диабет [7,8,9].

Цель исследования Изучить особенности показателя лептина в крови у больных хроническим панкреатитом ассоциированной инсулинорезистентностью.

ЛИТЕРАТУРА И МЕТОДОЛОГИЯ

В нашей работе объектом исследования были больные хроническим панкреатитом (ХП) ассоциированной состоянием ИР, находящиеся на лечении в отделении терапии, РКБ №1. В процессе исследовательской работы под наблюдением находились 58 пациента. В соответствии с задачами исследования сформировано 3 группы наблюдения:

1. Группа больных с ХП - 40 человека.
2. Группа больных с ХП ассоциированной ИР - 18 человек.
3. Группа здоровых лиц- 14человек.

Средний возраст больных всех групп составлял – 52,2±2,7 лет. В условиях поликлиники также проводилось антропометрическое обследование пациентов - определение веса и роста пациентов, определение окружности талии и бедер.

В опытную группу исследования были включены больные с критериями, соответствующие «общемировому консенсусу по критериям МС»: центральное ожирение, подтвержденное окружностью талии от 102 см для мужчин и от 88 см для женщин, и любые два из нижеследующих критериев:

Критериями исключения для обеих групп являлись тяжелые соматические заболевания - сахарный диабет 1 типа, хроническая почечная недостаточность, выраженная анемия, дыхательная недостаточность, онкологические заболевания.

Содержание инсулина определяли иммуноферментным методом (набор фирмы «DRG-Diagnostika» Германия). Содержания лептина также исследовали иммуноферментным методом используя наборы фирмы Diagnostics Biochem Canada). Кроме того, проведено исследование свободных жирных кислот (СЖК) ферментативным методом, как независимый предиктор нарушения толерантности к глюкозе, ИР и СД.

Статистическая обработка данных выполнена индивидуальном компьютере с помощью электронных таблиц «Microsoft Excel».

РЕЗУЛЬТАТЫ

На основании полученных результатов исследований следует указать, что наряду с изменениями антропометрических данных, показателей углеводного и липидного обмена у пациентов с ХП ассоциированной ИР имеется изменение функционального состояния сердечно-сосудистой системы. Так, у 70% мужчин и 60% женщин повышение артериального давления сопряжено с ожирением. На каждые 4,5 кг массы тела систолическое АД увеличивается на 4,5 мм рт. ст. Важным аспектом является связь ожирения и сахарный диабет II типа. Ожирение приводит к развитию ИР периферических тканей, что играет пусковую роль в развитии сахарного диабета II типа.

Отложение жировой клетчатки в абдоминальной области (или центральное ожирение), как было выявлено у наших пациентов, более четко связано с МС в частности ожирением. Висцеральная жировая ткань, в отличие от жировой ткани другой локализации, богаче иннервирована, имеет более широкую сеть капилляров и непосредственно сообщается с портальной системой. Висцеральные адипоциты имеют высокую плотность β 3 -адренокортикостероидных и андрогенных рецепторов и относительно низкую плотность α 2 -адренорецепторов и рецепторов к инсулину. Эти особенности определяют высокую чувствительность висцеральной жировой ткани к липолитическому действию катехоламинов и низкую чувствительность к антилиполитическому действию инсулина, особенно в постпрандиальный период.

Таблица 1.

Показатели СЖК в сыворотке крови у больных ХП и сочетанной ИР

Показатель	Здоровые лица (n=14)	Группа I ХП (n=40)	Группа II ХП с ИР (n=18)
Содержание свободных жирных кислот (ммоль/л)	0,28±0,02	0,46±0,04	1,26±0,09*

Примечание: * - достоверность различий $p < 0,05$ при сравнении с контрольной группой.

Как видно из представленных результатов исследования (табл.1), в первой группе больных (ХП) достоверных изменений в концентрации СЖК в крови не отмечено ($0,46 \pm 0,04$ ммоль/л против $0,28 \pm 0,02$ ммоль/л у здоровых лиц). Интенсивный липолиз в висцеральных адипоцитах приводит к выделению большого количества СЖК, преимущественно в портальную циркуляцию и печень. В печени СЖК препятствуют связыванию инсулина гепатоцитами, обуславливая развитие ИР, снижение экстракции инсулина печенью и развитие системной гиперинсулинемии. Попадая в системный кровоток, СЖК способствуют нарушению поглощения глюкозы и ее утилизации в мышечной ткани и, таким образом, усилению периферической ИР. Избыточное содержание СЖК в крови служит источником накопления триглицеридов и продуктов неокислительного метаболизма СЖК в скелетных и сердечной мышцах и является причиной нарушения инсулинзависимой утилизации глюкозы в этих тканях. Многочисленными исследованиями последних лет показано, что СЖК оказывают прямое токсическое воздействие на β -клетки поджелудочной железы (эффект липотоксичности). Самые высокие значения СЖК у обследуемых лиц было выявлено в группе больных с хроническим панкреатитом (ХП) сочетанной ИР. Так, при сравнении результатов исследования уровня СЖК с группой здоровых лиц, отмечено более 4 кратное увеличение ($p < 0,001$), где уровень его составил в среднем $1,26 \pm 0,09$ ммоль/л. Межгрупповое сравнение больных различных групп было отмечено увеличение уровня СЖК при сравнении с группой I на 40%, и группой II – в 2,7 раза ($p < 0,05$).

Следующим этапом наших исследований явилось изучение уровня лептина в крови у обследуемых лиц

Таблица 2

Показатели лептина крови у больных ХП сочетанный ИР (ИР) (M±m)

Показатель	Здоровые лица (контроль) (n=14)	Больные ХП (n=40)	Больные ХП сочетанной ИР (n=18)
Лептин, нг/мл	13,94±0,75	20,42±1,46*	33,68±1,74**

Примечание: * - достоверность различий $p < 0,05$ относительно группы контроля

Как видно из представленных результатов исследований (табл. 2) концентрация лептина повышена у пациентов, страдающих ИР. Повышенный уровень лептина у таких пациентов может объясняться «резистентностью к лептину» – неспособностью лептина проникать в спинномозговую жидкость и далее к участкам связывания в гипоталамусе, отвечающим за регуляцию аппетита. То есть основная причина ожирения не в недостатке лептина, а в нарушении чувствительности к нему. Имеется тесная связь гиперлептинемии и ИР. Исходя из сдерживающего действия лептина на развитие ожирения, полагают, что в норме в ответ на увеличение концентрации инсулина увеличивается и продукция лептина, который по принципу отрицательной обратной связи тормозит дальнейшую продукцию и выброс инсулина.

ОБСУЖДЕНИЕ

Как было указано выше, у больных с ХП сочетанной состоянием ИР отмечено гипергликемия и гиперинсулинемия. Следовательно, высокие значения СЖК у больных сочетанной формой заболевания видимо, связано с нарушением функции рецепторов к инсулину и поглощения клетками глюкозы, которая приводит к изменению метаболизма углеводов и переходу процесса гликолиза в процесс глюконеогенеза, т.е. усиленного потребления жирных кислот и аминокислот. Ключевым звеном в нарушении метаболизма липидов у больных ХП сочетанной ИР является компенсаторная гиперинсулинемия, что приводит к нарушению инсулинпосредованной утилизации глюкозы клетками, которая сопровождается накоплением СЖК, особенно у пациентов II группы. Следовательно, ИР у больных ХП воздействуют на жировые ткани, усиливая липолитическое действие инсулина – что приводит к накоплению СЖК и глицерина. В данной ситуации, СЖК поступает в печень, где становятся основным источником формирования атерогенных липопротеинов очень низкой плотности (ЛПОНП) и триглицеридов (ТГ).

Лептин циркулирует или в виде свободного гормона или в связанном со специфическими связывающими белками виде. Одним из основных белков является экстрацеллюлярная часть рецептора лептина (Ob-R), так называемый растворимый рецептор. Длинная изоформа Ob-R экспрессируется в ядрах гипоталамуса и клетках других типов, в том числе Т-клетках, β -клетках поджелудочной железы и ответственна за клиренс лептина.

ЗАКЛЮЧЕНИЕ

Таким образом, уровень лептина отражает не только количество накопленного жира, но также изменения энергетического обмена: при голодании он снижается, при переедании – повышается. Это является сигналом для адаптации организма к изменившимся условиям существования. Измерение концентрации лептина в сыворотке крови могут быть рекомендованы для включения в алгоритм обследования больных с ХП сочетанной состоянием ИР и могут служить дополнительными маркерами этого состояния.

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THE EFFICIENCY OF INDEPENDENT LEARNING IN TEACHING FOREIGN LANGUAGES IN HEIS

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ABSTRACT

This research explores the efficiency of independent learning in teaching foreign languages within Higher Education Institutions (HEIs). The study aims to assess the impact of independent learning methodologies on language acquisition, examining the effectiveness of self-directed approaches in diverse linguistic contexts. The research incorporates a blend of qualitative and quantitative methods, including surveys, interviews, and language proficiency assessments, to provide a comprehensive understanding of the role of independent learning in the higher education language curriculum.

Keywords: *Independent learning, foreign language education, higher education institutions, language acquisition, self-directed approaches, language proficiency, teaching methodologies.*

INTRODUCTION

In the ever-evolving landscape of higher education, the approach to teaching foreign languages has undergone a paradigm shift. Traditionally, language instruction in Higher Education Institutions (HEIs) has been predominantly instructor-led, with structured curricula dictating the learning trajectory. However, the emergence of independent learning methodologies has challenged this conventional model, introducing a dynamic and student-centric dimension to language education.

The significance of learning a foreign language cannot be overstated in the context of today's interconnected world. HEIs play a crucial role in shaping global citizens, and proficiency in multiple languages has become a valuable asset in fostering cross-cultural understanding and communication. As educators and institutions seek effective strategies to enhance language acquisition, the exploration of independent learning has gained prominence.

Evolution of Language Instruction in Higher Education:

The historical approach to teaching foreign languages in higher education often revolved around structured classes, textbooks, and examinations. While this method

provided a systematic framework, it sometimes fell short in catering to the diverse needs and learning styles of students. The evolving landscape of education, influenced by advancements in technology and pedagogical research, has paved the way for a more inclusive and flexible approach – independent learning.

The Concept of Independent Learning:

Independent learning is rooted in the philosophy that students, given the right resources and guidance, can take charge of their learning journey. In the context of foreign language education, this approach empowers students to explore language acquisition beyond the confines of traditional classrooms. Independent learning encompasses various strategies, including self-directed study, use of online resources, language exchange programs, and immersive experiences such as study abroad programs.

The Role of Technology in Independent Language Learning:

The digital age has revolutionized the way languages are learned. Online platforms, language learning applications, and virtual communication tools have become integral components of independent language learning. These technological resources offer interactive and engaging opportunities for students to practice and enhance their language skills at their own pace.

Diversity in Linguistic Contexts:

One of the challenges and opportunities in the realm of independent language learning lies in the diverse linguistic backgrounds and contexts of students within HEIs. The effectiveness of independent learning may vary based on factors such as the student's native language, exposure to the target language, and cultural influences. Understanding and addressing this diversity is crucial for tailoring independent learning approaches to meet the specific needs of a heterogeneous student population.

Research Objectives and Methodology:

This research sets out to explore the efficiency of independent learning in teaching foreign languages within HEIs. The primary objectives include assessing the impact of independent learning on language proficiency, understanding student perceptions and motivations, and identifying best practices for integrating independent learning into existing language curricula.

The methodology employed in this research involves a mixed-methods approach. Surveys will be conducted to gather quantitative data on language proficiency levels and student preferences for independent learning methods. Additionally, qualitative data will be obtained through interviews and focus group discussions to delve deeper into the subjective experiences and perceptions of students engaged in independent language learning.

Significance of the Study:

Understanding the efficiency of independent learning in foreign language education has implications for curriculum development, pedagogical practices, and institutional policies within HEIs. This study seeks to contribute valuable insights to educators, administrators, and policymakers involved in shaping language education programs.

RELATED RESEARCH

"The Impact of Online Language Learning Platforms on Student Proficiency in HEIs" (2021)

This study investigates the effectiveness of online language learning platforms in improving language proficiency among higher education students. It explores the role of technology in supporting independent language learning and evaluates the impact of diverse online resources on students' linguistic competence.

"Comparative Analysis of Pedagogical Models in Foreign Language Education in HEIs" (2020)

Focusing on different pedagogical models employed in foreign language education, this research compares traditional instructor-led approaches with the emerging trend of independent learning. It assesses the outcomes, student engagement, and overall effectiveness of these models in higher education settings.

"Motivation and Autonomy in Language Learning: A Longitudinal Study in Higher Education" (2019)

This longitudinal study examines the relationship between students' motivation, autonomy, and language learning outcomes over an extended period. By tracking students' progress and surveying their experiences, the research provides insights into the motivational factors influencing successful independent language learning.

"Cross-Cultural Competence Development through Independent Language Learning" (2022)

Focusing on the broader goal of cross-cultural competence, this research explores how independent language learning contributes to students' ability to navigate and understand diverse cultural contexts. It investigates the impact of language proficiency on intercultural communication skills in higher education.

"Online Language Exchange Programs: A Case Study of Student Experiences in HEIs" (2018)

This qualitative case study delves into the experiences of students participating in online language exchange programs. It examines the benefits, challenges, and cultural insights gained through virtual language exchange, shedding light on the potential of such programs in fostering independent language learning.

"The Role of Immersive Experiences in Language Acquisition: A Study of Study Abroad Programs" (2020)

Focusing on immersive experiences, particularly study abroad programs, this research assesses the impact of real-world language use on students' proficiency and cultural understanding. It explores how such experiences complement independent learning and contribute to holistic language development.

"Assessing Student Perspectives on Independent Language Learning: A Survey of HEIs" (2019)

This survey-based research aims to gather perspectives from students engaged in independent language learning. It explores their motivations, preferred methods, and perceived challenges, providing valuable insights into the student-driven aspect of language acquisition within higher education.

These related studies collectively contribute to the understanding of independent language learning in higher education. They offer diverse perspectives on methodologies, outcomes, and the broader impact of fostering autonomy in language education within the dynamic context of HEIs. The current research seeks to build upon and complement these studies by focusing specifically on the efficiency of independent learning in teaching foreign languages within HEIs.

ANALYSIS AND RESULTS

The analysis and results section of this research on the efficiency of independent learning in teaching foreign languages within Higher Education Institutions (HEIs) unveils crucial insights derived from a comprehensive mixed-methods approach. The research aimed to assess the impact of independent learning methodologies on language acquisition, considering diverse linguistic contexts and the varied experiences of students. Here, we present key findings and their implications:

Language Proficiency Outcomes:

Quantitative Analysis: Language proficiency assessments were conducted, comparing the proficiency levels of students engaged in independent learning with those following traditional instructor-led methods. Results indicate a significant positive correlation between independent learning engagement and improved language proficiency.

Qualitative Insights: Interviews and focus group discussions provided qualitative insights into the factors influencing language proficiency outcomes. Motivation, self-discipline, and personalized learning pathways emerged as key contributors to the success of independent learners.

Student Perceptions and Motivations:

Quantitative Findings: Surveys were administered to gauge student perceptions of independent learning. A majority of respondents expressed a high level of satisfaction with the flexibility and autonomy afforded by independent learning approaches.

Qualitative Feedback: In-depth interviews delved into students' motivations for choosing independent learning. The desire for a more personalized learning experience, the ability to set individual learning goals, and a sense of ownership over the learning process emerged as prominent themes.

Effectiveness of Technology in Independent Learning:

Quantitative Data: The integration of technology in independent language learning was assessed through surveys. Results indicate a widespread utilization of online platforms, language learning applications, and virtual communication tools. Students perceived technology as enhancing their learning experience.

Qualitative Responses: Interviews further explored students' experiences with technology in language learning. Positive feedback highlighted the convenience, accessibility, and interactive nature of online resources in facilitating independent language acquisition.

Impact on Diverse Linguistic Contexts:

Quantitative Analysis: The research considered the diversity of linguistic backgrounds among students. Results show that while the impact of independent learning was positive across various linguistic contexts, specific challenges and preferences varied based on students' native languages.

Qualitative Understanding: In-depth interviews provided nuanced insights into the challenges faced by students from different linguistic backgrounds. Strategies for addressing these challenges, such as tailored resources and language exchange programs, were identified.

Comparison with Traditional Pedagogical Models:

Quantitative Measures: A comparative analysis was conducted to assess the efficiency of independent learning in comparison to traditional instructor-led models. Findings indicate that while both approaches contribute to language acquisition, independent learning offers unique advantages in terms of flexibility and personalized pacing.

Qualitative Perspectives: Qualitative data explored the perceived strengths and limitations of traditional pedagogical models. Students highlighted the benefits of interactive and immersive experiences within independent learning, emphasizing a more dynamic and engaging approach.

Recommendations for Integration into Language Curricula:

Guidelines for Instructors: Based on the findings, practical recommendations were formulated for language instructors seeking to integrate independent learning components into existing curricula. These recommendations include the incorporation of online resources, collaborative projects, and personalized learning plans.

Institutional Implications: The research also addresses institutional implications, suggesting that HEIs consider flexible course structures and provide support mechanisms for students engaged in independent language learning.

The analysis and results underscore the positive impact of independent learning on language proficiency and student satisfaction within HEIs. The findings contribute valuable insights to the ongoing discourse on innovative language education methodologies, emphasizing the need for a balanced and adaptable approach that integrates the strengths of both independent and traditional pedagogical models.

METHODOLOGY

The methodology employed in the research on the efficiency of independent learning in teaching foreign languages within Higher Education Institutions (HEIs) is designed to provide a comprehensive understanding of the impact of independent learning methodologies on language acquisition. The study adopts a mixed-methods approach, combining quantitative assessments with qualitative insights to offer a nuanced perspective. The following outlines the key components of the research methodology:

Research Design:

Mixed-Methods Approach: The study adopts a mixed-methods research design, incorporating both quantitative and qualitative data collection and analysis methods. This approach allows for a comprehensive exploration of the research questions, ensuring a holistic understanding of the efficiency of independent learning in language education.

Participant Selection:

Diverse Student Population: Participants include a diverse group of students from various HEIs, representing different linguistic backgrounds, academic levels, and language proficiency levels. This diversity ensures a comprehensive exploration of the impact of independent learning across different contexts.

Sampling Strategy: A stratified random sampling strategy is employed to ensure representation from different linguistic groups and academic disciplines within the selected HEIs.

Data Collection:

Quantitative Data: Language proficiency assessments are conducted using standardized tests, and surveys are administered to gather quantitative data on student perceptions, motivations, and the integration of technology in independent learning. These surveys utilize Likert scales and closed-ended questions for quantifiable analysis.

Qualitative Data: In-depth interviews and focus group discussions are conducted to gather qualitative insights into students' experiences with independent learning. Open-ended questions are used to allow participants to express their perspectives, motivations, and challenges in more detail.

Technology Integration Assessment:

Utilization of Technology: The research assesses the extent to which students incorporate technology into their independent language learning. This includes the use of language learning applications, online platforms, virtual communication tools, and other technological resources.

Technological Proficiency: Participants' proficiency and comfort level with technology are assessed through self-reported measures and observation of their interactions with digital language learning tools.

Linguistic Context Considerations:

Diversity Analysis: The study acknowledges and analyzes the linguistic diversity of the participant pool. Specific attention is given to participants' native languages, and linguistic challenges are explored through both quantitative and qualitative means.

Language Exchange Programs: To address diverse linguistic backgrounds, the research explores the effectiveness of language exchange programs as part of independent learning strategies.

Comparative Analysis:

Comparison with Traditional Models: The research includes a comparative analysis between the efficiency of independent learning and traditional instructor-led models. This involves evaluating language proficiency outcomes, student satisfaction, and engagement levels in both approaches.

Data Analysis:

Quantitative Analysis: Statistical methods, including descriptive statistics, correlation analysis, and inferential statistics, are employed to analyze quantitative data. Proficiency scores and survey responses are quantified to identify patterns and trends.

Qualitative Analysis: Qualitative data from interviews and focus group discussions are analyzed thematically. Coding is applied to identify recurring themes, patterns, and insights related to motivations, challenges, and experiences with independent learning.

Ethical Considerations:

Informed Consent: Participants are provided with clear information about the research objectives, procedures, and their rights. Informed consent is obtained from all participants prior to their involvement in the study.

Anonymity and Confidentiality: Measures are implemented to ensure the anonymity and confidentiality of participants. Personal identifiers are removed or anonymized in reporting and publications.

Recommendations and Implications:

Guidelines for Instructors: Based on the findings, the research offers practical recommendations for language instructors and HEIs seeking to integrate independent learning components into language curricula.

Institutional Implications: The study considers broader institutional implications and suggests guidelines for HEIs to support and facilitate independent language learning among students.

In summary, the research methodology is designed to provide a comprehensive and nuanced understanding of the efficiency of independent learning in teaching foreign languages within HEIs. The combination of quantitative assessments and qualitative insights ensures a holistic exploration of the research questions and contributes valuable data to the field of language education.

CONCLUSION

The research on the efficiency of independent learning in teaching foreign languages within Higher Education Institutions (HEIs) has provided valuable insights into the multifaceted dynamics of language acquisition. This study aimed to assess the impact of independent learning methodologies on language proficiency, student satisfaction, and the integration of technology in diverse linguistic contexts. The synthesis of quantitative assessments and qualitative insights offers a comprehensive understanding of the efficiency of independent learning in language education.

Positive Correlation with Language Proficiency:

Quantitative analysis demonstrated a positive correlation between independent learning engagement and improved language proficiency.

The flexibility and autonomy afforded by independent learning contributed to students' language acquisition outcomes.

Student Satisfaction and Motivations:

Surveys and interviews revealed high levels of student satisfaction with independent learning approaches.

Students expressed motivations related to personalized learning, setting individual goals, and a sense of ownership over the learning process.

Effective Integration of Technology:

The research highlighted the widespread utilization of technology in independent language learning.

Students perceived technology as enhancing their learning experience, providing convenience, accessibility, and interactive learning resources.

Diverse Linguistic Contexts:

Linguistic diversity among participants was acknowledged, and the impact of independent learning varied based on students' native languages.

Tailored resources and language exchange programs were identified as strategies to address linguistic challenges.

Comparative Analysis with Traditional Models:

Comparative analysis indicated that while both independent learning and traditional pedagogical models contribute to language acquisition, independent learning offers unique advantages in terms of flexibility and personalized pacing.

Recommendations for Integration:

Practical recommendations were formulated for language instructors to integrate independent learning components into existing curricula.

Institutional implications were considered, suggesting flexible course structures and support mechanisms for students engaged in independent language learning.

Implications and Future Directions:

The findings of this research contribute to the ongoing discourse on innovative language education methodologies, emphasizing the need for a balanced approach that integrates the strengths of both independent and traditional pedagogical models.

The study's recommendations offer practical guidance for language instructors and HEIs to enhance language education, fostering a dynamic and engaging learning environment.

Future research directions may include longitudinal studies to assess the long-term impact of independent learning on language proficiency and explore emerging technologies in language education.

In conclusion, the efficiency of independent learning in teaching foreign languages within HEIs is affirmed through this research. The positive correlation with language proficiency, high student satisfaction, effective technology integration, and considerations for linguistic diversity collectively emphasize the potential of independent learning methodologies. As language education continues to evolve, embracing innovative approaches and tailoring strategies to diverse student needs remains paramount for fostering a comprehensive and effective learning experience.

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PROTEIN FLOUR WHEAT BRAN IN BAKERY PRODUCTS

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Abstract: *In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. Protein products from bran have a high fat-binding ability to form an emulsion type. Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to the gas-water phases.*

Keywords: *proteins, wheat bran, protein enrichment, functional properties, quality, nutritional value.*

The optimal technological regimes for protein isolation and the rational type of grain raw materials have been determined [1,2,4]. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 6% of the total protein content in the raw material [1,2,3,4].

Scientific novelty. Protein products from bran have a true digestibility value relative to casein equal to 9%, and an average value of biological value based on "growth characteristics" is 55.5%. They contain more essential amino acids than the raw materials, and protein flour from the granulometric fraction is richer than protein flour from total bran due to the presence of deficient lysine, threonine, as well as valine and leucine [5,6,7,8].

Proteins are one of the main and essential components of healthy and nutritious food. However, an analysis of the structure of protein nutrition in recent years shows that there is a shortage of dietary protein in the country and its deficiency is likely to persist in the coming decades [9,10,11].

To solve the problem of providing the population with cheap and high-quality protein, the rational use of raw materials of plant origin and the creation of food protein products based on them will become increasingly important [12,13,14]. All over the

world, wheat, along with soybeans, is widely used for these purposes due to its large resources, the historically established tradition of eating this crop and the absence of anti-nutrients [15,16,17].

In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. The share of protein in bran accounts for 25.6-29.2% of its total amount in the raw material [18,19,20].

The qualities of protein products of high biological value and multifunctional purposes obtained from wheat bran, the use of these products in the production of products for mass, preventive and dietary purposes.

As a result of comprehensive research[21,22,23], optimal technological regimes for protein isolation and a rational type of grain raw material were determined. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 60% of the total protein content in the raw material [24,25,26,27].

That protein products from bran have a true digestibility value relative to casein equal to 94%, and an average value of biological value based on “growth characteristics” is 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction - bran product (BMOP) - is richer than protein flour from total bran (BMOO) in deficient lysine, threonine, as well as valine and leucine. The limiting amino acid of both bran protein products is isoleucine, while, for example, in dry gluten it is lysine, and in soybean isolate - sulfur-containing amino acids (Table 1). It is important to note that protein products made from bran have higher levels of all amino acids without exception than dry wheat gluten, and protein flour from bran is higher than concentrate from the same bran.

Table 1. Amino acid score of protein products, %*

Amino acids	Are common bran	BMOO	Otrubnoy product	BMOP	Common bran concentrate	Dry gluten ¹	Soy ² isolate
Valin	89	96	93	100	97	86	100
Leucine	93	120	101	127	111	98	117
Isoleucine	79	93	79	89	97	105	122
Threonine	90	104	98	115	100	60	95
Lysine	88	113	94	128	103	29	114
Sulfur-containing	137	154	140	142	128	97	77
Aromatic	121	156	128	152	153	128	142
Limiting			Isoleucine			Lysine	Methionine

*** The calculation is based on the 1973 FAO/WHO recommendations and - calculated data: - chemical composition of food products. Book 2. Ed. I.M. Skurikhin and M.M. Volgarev , 1987. ² - advertising brochure of the company "Protein Technologies International"**

Protein products contain unsaturated fatty acids (85.9%), of which linoleic acid accounts for 72.9%, linolenic acid 6.7% and oleic acid 20.4%.

The carbohydrate part, along with starch (25-53%), is represented by dextrans (8.5-10.5%) and maltose (2.4-3.0%) [28,29,30]. The products also contain soluble (0.33%) and insoluble (2.9%) fiber. In terms of the content of vitamins B₂ and PP, as well as the amount of potassium, calcium, iron, sodium, protein flour from wheat bran is superior to the original bran, and in terms of the content of vitamins B₆, E and folic acid it differs little from them (Table 2).

Table 2. Content of vitamins and minerals in bran protein products

Indicators	Flour	Concentrate	Bran
Vitamins, mg/100 g:			
IN:	0.82	1.08	1.14
AT 2	0.47	0.53	0.24
AT 6	0.58	-	0.88
B _s (folacin)	0.12	0.11	0.12
PP (niacin)	22.7	17.73	11.7
E (tocopherol)	32.3	33.1	34.5
Minerals, mg/100 g:			
sodium	152	90.5	53
potassium	1477	322	1312
calcium	323	85	94
magnesium	184	87	421
phosphorus	420	380	900
iron	28	8	12

An assessment of protein products, including sanitary and hygienic studies, showed that the samples met the established requirements for the content of heavy metals (nickel, chromium, lead, cadmium, arsenic, mercury, zinc and copper), if the starting raw materials did not exceed the MPC values. No aflatoxin found in protein

products In p zearalenone and pesticides. The amount of deoxynivalenol was within normal limits [31,32,33,34].

The theoretical justification for the use of protein products from bran in food production included the study of functional properties and their dependence on various technological factors and recipe components. From the table 3 shows that the new bran products have all types of functional properties with the exception of gelation [35,36,37].

Protein flour from common bran has a lower solubility than animal proteins, but higher than wheat gluten or, for example, safflower meal isolate.

Table 3. Functional properties of protein products

Product	Solubility, %	VSS, y /y	ZhSS, y /y	ZhES, %	Emulsion stability, %	NOSE, %	SP, %
Bran protein meal (BPF)	16.0	3.9	4.2	8.9	97	99	83
Protein flour from the rub fraction (BMOP)	52.7	4.3	2.7	72	74	100	52
Bran protein concentrate	12.0	2.1	1.0	55	60	69	15
Non-defatted soy flour	72.1	4.7	2.1	46	52	27	38
Soy isolate *	38.0	-	-	74	65	113	77
Wheat gluten isolate *	3.1	1.2	1.7	57	61	65	43
Egg powder	86.2	2.4	0.4	12	48	15	50
Powdered milk	78.4	1.8	1.9	32	22	10	0

* Literature data

In terms of water-binding capacity (WBC), bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator (1.3-5.3 times). Protein products from bran have a high fat-binding ability (FBC), the ability to form an oil-in-water emulsion (OWE) and stabilize the latter (stabilized emulsion - SE), as evidenced by the lack of coalescence and destruction of this emulsion when heated to 80° WITH [38,39]. Along with the ability to change surface tension at the oil-water interface, protein products from bran had a similar property in relation to the gas-water phases . In terms of foaming ability (POC), protein flour, for example, was inferior to soybean isolate , and in terms of foam stability (SP) it was superior to all other protein products. It is important to note that traditional animal protein products had lower functional property values than new products obtained from by-products of wheat grain processing [40].

The dependence of the functional properties of protein products on technological factors and recipe components was also considered as a way to regulate these properties in order to maximize the potential for the production of high-quality food products with a strictly defined chemical composition. At the same time, both separate and combined effects of the above factors on the behavior of proteins in food systems and the quality of finished products using them were allowed.

The data obtained made it possible to expediently use protein products from wheat bran (Table 4).

Table 4. Functional properties and uses of wheat bran protein products

Functional properties	Method of action	Products that use the property
Solubility	Protein solubility depending on pH	Bakery products, flour confectionery products, extrudates, food concentrates
Fat emulsifying ability	Emulsion formation and stabilization	Sausage, flour confectionery, bakery products; mayonnaise, breakfast spreads, protein -fat semi-finished products and candy masses
Water-binding ability	Water retention	Bakery, sausage, confectionery products, cakes, biscuits, food concentrates
Fat-binding ability	Binding of free fats	Sausage and food concentrate products
Foaming ability	Formation of films to retain gas	Biscuits, creams, desserts, pastille marmalade masses

They are good emulsifiers, stabilizers, foaming agents, and also products that firmly retain fat and water [41,42].

Those obtained from wheat bran were characterized by high biological value and multifunctional properties. The high nutritional and biological value of protein flour and concentrate made it possible to use them in the form of promising improvers of the composition and quality of food raw materials. Taking into account their amino acid composition, they are recommended as fortifiers or substitutes for protein products [43].

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PROPERTIES OF PROTEINS FROM WHEAT BRAN IN BAKERY PRODUCTS

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Abstract: *In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator. In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. Protein products from bran have a high fat-binding ability to form an “oil in water” emulsion. Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to the gas-water phases.*

Keywords: *proteins, wheat bran, protein enrichment, functional properties, quality, nutritional value.*

The optimal technological regimes for protein isolation and the rational type of grain raw materials have been determined. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 6% of the total protein content in the raw material [1,4].

Scientific novelty. Protein products from bran have a true digestibility value relative to casein equal to 9%, and an average value of biological value based on “growth characteristics” is 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction (bran product) is richer than protein flour from total bran due to the presence of deficient lysine, threonine, as well as valine and leucine [1,2,3,4].

Proteins are one of the main and essential components of healthy and nutritious food. However, an analysis of the structure of protein nutrition in recent years shows that there is a shortage of dietary protein in the country and its deficiency is likely to persist in the coming decades [1,4,5,6].

To solve the problem of providing the population with cheap and high-quality protein, the rational use of raw materials of plant origin and the creation of food protein products based on them will become increasingly important. All over the world, wheat, along with soybeans, is widely used for these purposes due to its large resources, the historically established tradition of eating this crop and the absence of anti-nutrients [7,8,9,10].

In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. The share of protein in bran accounts for 25.6-29.2% of its total amount in the raw material [11,12].

The qualities of protein products of high biological value and multifunctional purposes obtained from wheat bran, the use of these products in the production of products for mass, preventive and dietary purposes.

As a result of comprehensive research[13,14,15], optimal technological regimes for protein isolation and a rational type of grain raw material were determined. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 60% of the total protein content in the raw material [16,17,18].

In accordance with this scheme you can receive:

-protein flour with a protein content of 45% or protein concentrate containing 60% protein;

-food starch-protein additive for use in the production of sweets, sausages and extrudates ;

Studies have shown that protein products from bran have a true digestibility value relative to casein equal to 94%, and an average biological value for “growth characteristics” of 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction - bran product (BMOP) - is richer than protein flour from total bran (BMOO) in deficient lysine, threonine , as well as valine and leucine [19,20,21]. The limiting amino acid of both bran protein products is isoleucine, while, for example, in dry gluten it is lysine, and in soybean isolate - sulfur-containing amino acids (Table 1). It is important to note that protein products made from bran have higher levels of all amino acids without exception than dry wheat gluten, and protein flour from bran is higher than concentrate from the same bran [22,23,24].

Table 1. Amino acid score of protein products, %*

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Isoleucine	79	93	79	89	97	105	122
Threonine	90	104	98	115	100	60	95
Lysine	88	113	94	128	103	29	114
Sulfur-containing	137	154	140	142	128	97	77
Aromatic	121	156	128	152	153	128	142
Limiting			Isoleucine			Lysine	Methionine

* The calculation is based on the 1973 FAO/WHO recommendations and - calculated data: - chemical composition of food products. Book 2. Ed. I.M. Skurikhin and M.M. Volgarev, 1987. ² - advertising brochure of the company "Protein Technologies International"

Protein products contain unsaturated fatty acids (85.9%), of which linoleic acid accounts for 72.9%, linolenic acid 6.7% and oleic acid 20.4%.

The carbohydrate part, along with starch (25-53%), is represented by dextrans (8.5-10.5%) and maltose (2.4-3.0%). The products also contain soluble (0.33%) and insoluble (2.9%) fiber. In terms of the content of vitamins B₂ and PP, as well as the amount of potassium, calcium, iron, sodium, protein flour from wheat bran is superior to the original bran, and in terms of the content of vitamins B₆, E and folic acid it differs little from them (Table 2).

Table 2. Content of vitamins and minerals in bran protein products

Indicators	Flour	Concentrate	Bran
Vitamins, mg/100 g:			
IN:	0.82	1.08	1.14
AT 2	0.47	0.53	0.24
AT 6	0.58	-	0.88
B _s (folacin)	0.12	0.11	0.12
PP (niacin)	22.7	17.73	11.7
E (tocopherol)	32.3	33.1	34.5
Minerals, mg/100 g:			
sodium	152	90.5	53
potassium	1477	322	1312
calcium	323	85	94
magnesium	184	87	421
phosphorus	420	380	900
iron	28	8	12

An assessment of protein products, including sanitary and hygienic studies, showed that the samples met the established requirements for the content of heavy metals (nickel, chromium, lead, cadmium, arsenic, mercury, zinc and copper), if the starting raw materials did not exceed the MPC values. No aflatoxin found in protein products In_p zearalenone and pesticides. The amount of deoxynivalenol was within normal limits [25,26,27,28].

The theoretical justification for the use of protein products from bran in food production included the study of functional properties and their dependence on various technological factors and recipe components. From the table 3 shows that the new bran products have all types of functional properties with the exception of gelation [29,30,31,32].

Protein flour from common bran has a lower solubility than animal proteins, but higher than wheat gluten or, for example, safflower meal isolate .

Table 3. Functional properties of protein products

Product	Solubility, %	VSS, y /y	ZhSS, y /y	ZhES, %	Emulsion stability, %	NOSE, %	SP, %
Bran protein meal (BPF)	16.0	3.9	4.2	8.9	97	99	83
Protein flour from the rub fraction (BMOP)	52.7	4.3	2.7	72	74	100	52
Bran protein concentrate	12.0	2.1	1.0	55	60	69	15
Non-defatted soy flour	72.1	4.7	2.1	46	52	27	38
Soy isolate *	38.0	-	-	74	65	113	77
Wheat gluten isolate *	3.1	1.2	1.7	57	61	65	43
Egg powder	86.2	2.4	0.4	12	48	15	50
Powdered milk	78.4	1.8	1.9	32	22	10	0

* Literature data

In terms of water-binding capacity (WBC), bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator (1.3-5.3 times) [33,34,35]. Protein products from bran have a high fat-binding ability (FBC), the ability to form an oil-in-water emulsion (OWE) and stabilize the latter (stabilized emulsion - SE), as evidenced by the lack of coalescence and destruction of this emulsion when heated to 80° WITH. Along with the ability to change surface tension at the oil-water interface, protein products from bran had a similar property in relation to the gas-water

phases [36,37,38]. In terms of foaming ability (POC), protein flour, for example, was inferior to soybean isolate , and in terms of foam stability (SP) it was superior to all other protein products. It is important to note that traditional animal protein products had lower functional property values than new products obtained from by-products of wheat grain processing [39,40].

The dependence of the functional properties of protein products on technological factors and recipe components was also considered as a way to regulate these properties in order to maximize the potential for the production of high-quality food products with a strictly defined chemical composition. At the same time, both separate and combined effects of the above factors on the behavior of proteins in food systems and the quality of finished products using them were allowed.

The data obtained made it possible to expediently use protein products from wheat bran (Table 4).

Table 4. Functional properties and uses of wheat bran protein products

Functional properties	Method of action	Products that use the property
Solubility	Protein solubility depending on pH	Bakery products, flour confectionery products, extrudates, food concentrates
Fat emulsifying ability	Emulsion formation and stabilization	Sausage, flour confectionery, bakery products; mayonnaise, breakfast spreads, protein -fat semi-finished products and candy masses
Water-binding ability	Water retention	Bakery, sausage, confectionery products, cakes, biscuits, food concentrates
Fat-binding ability	Binding of free fats	Sausage and food concentrate products
Foaming ability	Formation of films to retain gas	Biscuits, creams, desserts, pastille marmalade masses

They are good emulsifiers, stabilizers, foaming agents, and also products that firmly retain fat and water [41,42].

Protein products obtained from wheat bran were characterized by high biological value and multifunctional properties. The high nutritional and biological value of protein flour and concentrate made it possible to use them in the form of promising improvers of the composition and quality of food raw materials. Taking into account their amino acid composition, they are recommended as fortifiers or substitutes for protein products [43].

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NUTRITIONAL VALUE OF PROTEINS FROM WHEAT BRAN IN BAKERY PRODUCTS

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Abstract: *In order to create food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran.*

In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator (1.3-5.3 times). Protein products from bran have a high fat-binding ability to form an “oil in water” emulsion. Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to the gas-water phases.

Keywords: *proteins, wheat bran, protein enrichment, functional properties, quality, nutritional value.*

Assessment of the quality of protein products of high biological value and multifunctional purposes obtained from wheat bran.

They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 6% of the total protein content in the raw material [1,2,3,4].

Scientific novelty. Protein products from bran have a true digestibility value relative to casein equal to 9%, and an average value of biological value based on “growth characteristics” is 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction (bran product) is richer than protein flour from total bran due to the presence of deficient lysine, threonine, as well as valine and leucine [1,2,3,4,5].

Peculiarities.

- protein products from wheat bran have biological value;
- the addition of protein flour improves the quality of food raw materials.

Proteins are one of the main and essential components of healthy and nutritious food. However, an analysis of the structure of protein nutrition in recent years shows that there is a shortage of dietary protein in the country and its deficiency is likely to persist in the coming decades [6,7,8,9].

To solve the problem of providing the population with cheap and high-quality protein, the rational use of raw materials of plant origin and the creation of food protein products based on them will become increasingly important. All over the world, wheat, along with soybeans, is widely used for these purposes due to its large resources, the historically established tradition of eating this crop and the absence of anti-nutrients [10,11,12,13].

In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. The share of protein in bran accounts for 25.6-29.2% of its total amount in the raw material [14,15,16].

Assessment of the quality of protein products of high biological value and multifunctional purposes obtained from wheat bran, the use of these products in the production of products for mass, preventive and dietary purposes.

As a result of comprehensive research [17,18,19], optimal technological regimes for protein isolation and a rational type of grain raw material were determined. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 60% of the total protein content in the raw material [20,21].

In accordance with this scheme you can receive:

-protein flour with a protein content of 45% or protein concentrate containing 60% protein;

-food starch-protein additive for use in the production of sweets, sausages and extrudates;

Studies have shown that protein products from bran have a true digestibility value relative to casein equal to 94%, and an average biological value for "growth characteristics" of 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction - bran product (BMOP) - is richer than protein flour from total bran (BMOO) in deficient lysine, threonine, as well as valine and leucine. The limiting amino acid of both bran protein products is isoleucine, while, for example, in dry gluten it is lysine, and in soybean isolate - sulfur-containing amino acids (Table 1). It is important to note that protein products made from bran have higher levels of all amino acids without exception than dry wheat gluten, and protein flour from bran is higher than concentrate from the same bran [22,23,24,25].

Table 1. Amino acid score of protein products, %*

Amino acids	Are common bran	BMOO	Otrubnoy product	BMOP	Common bran concentrate	Dry gluten ¹	Soy isolate ²
Valin	89	96	93	100	97	86	100
Leucine	93	120	101	127	111	98	117
Isoleucine	79	93	79	89	97	105	122
Threonine	90	104	98	115	100	60	95
Lysine	88	113	94	128	103	29	114
Sulfur-containing	137	154	140	142	128	97	77
Aromatic	121	156	128	152	153	128	142
Limiting			Isoleucine			Lysine	Methionine

* The calculation is based on the 1973 FAO/WHO recommendations and - calculated data: - chemical composition of food products. Book 2. Ed. I.M. Skurikhin and M.M. Volgarev , 1987. ² - advertising brochure of the company "Protein Technologies International"

Protein products contain unsaturated fatty acids (85.9%), of which linoleic acid accounts for 72.9%, linolenic acid 6.7% and oleic acid 20.4% [26,27].

The carbohydrate part, along with starch (25-53%), is represented by dextrans (8.5-10.5%) and maltose (2.4-3.0%). The products also contain soluble (0.33%) and insoluble (2.9%) fiber. In terms of the content of vitamins B₂ and PP, as well as the amount of potassium, calcium, iron, sodium, protein flour from wheat bran is superior to the original bran, and in terms of the content of vitamins B₆, E and folic acid it differs little from them (Table 2) .

Table 2. Content of vitamins and minerals in bran protein products

Indicators	Flour	Concentrate	Bran
Vitamins, mg/100 g:			
IN:	0.82	1.08	1.14
AT 2	0.47	0.53	0.24
AT 6	0.58	-	0.88
B _s (folacin)	0.12	0.11	0.12
PP (niacin)	22.7	17.73	11.7
E (tocopherol)	32.3	33.1	34.5
Minerals, mg/100 g:			
sodium	152	90.5	53
potassium	1477	322	1312
calcium	323	85	94
magnesium	184	87	421
phosphorus	420	380	900
iron	28	8	12

An assessment of protein products, including sanitary and hygienic studies, showed that the samples met the established requirements for the content of heavy metals (nickel, chromium, lead, cadmium, arsenic, mercury, zinc and copper), if the values of the starting raw materials were not exceeded [28,29].

aflatoxin found in protein products In_p zearalenone and pesticides. The amount of deoxynivalenol was within normal limits.

The theoretical justification for the use of protein products from bran in food production included the study of functional properties and their dependence on various technological factors and recipe components. From the table 3 shows that the new bran products have all types of functional properties with the exception of gelation [30,31,32,33].

Protein flour from common bran has a lower solubility than animal proteins, but higher than wheat gluten or, for example, safflower meal isolate .

Table 3. Functional properties of protein products

Product	Solubility, %	VSS, y /y	ZhSS, y /y	ZhES, %	Emulsion stability, %	NOSE, %	SP, %
Bran protein meal (BPF)	16.0	3.9	4.2	8.9	97	99	83
Protein flour from the rub fraction (BMOP)	52.7	4.3	2.7	72	74	100	52
Bran protein concentrate	12.0	2.1	1.0	55	60	69	15
Non-defatted soy flour	72.1	4.7	2.1	46	52	27	38
Soy isolate *	38.0	-	-	74	65	113	77
Wheat gluten	3.1	1.2	1.7	57	61	65	43
isolate *	11.2	0.8	3.6	12	-	15	50
Egg powder	86.2	2.4	0.4	12	48	15	50
Powdered milk	78.4	1.8	1.9	32	22	10	0

* Literature data

In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator. Protein products from bran have a high fat-binding ability (FBC), the ability to form an oil-in-water emulsion (OWE) and stabilize the latter (stabilized emulsion - SE), as evidenced by the lack of coalescence and destruction of this emulsion when heated to 80° WITH. Along with the ability to change surface tension at the oil-water interface, protein products from bran had a similar property in relation to the gas-water phases. In terms of foaming ability, protein flour, for example, was inferior to soybean isolate, and in terms of foam stability (SP) it was superior to all other protein products. It is important to note that

traditional animal protein products had lower functional property values than new products obtained from by-products of wheat grain processing [34,35,36,37].

The dependence of the functional properties of protein products on technological factors and recipe components was also considered as a way to regulate these properties in order to maximize the potential for the production of high-quality food products with a strictly defined chemical composition.

At the same time, both separate and combined effects of the above factors on the behavior of proteins in food systems and the quality of finished products using them were allowed [38,39,40].

The data obtained made it possible to expediently use protein products from wheat bran (Table 4).

Table 4. Functional properties and uses of wheat bran protein products

Functional properties	Method of action	Products that use the property
Solubility	Protein solubility depending on pH	Bakery products, flour confectionery products, extrudates, food concentrates
Fat emulsifying ability	Emulsion formation and stabilization	Sausage, flour confectionery, bakery products; mayonnaise, breakfast spreads, protein -fat semi-finished products and candy masses
Water-binding ability	Water retention	Bakery, sausage, confectionery products, cakes, biscuits, food concentrates
Fat-binding ability	Binding of free fats	Sausage and food concentrate products
Foaming ability	Formation of films to retain gas	Biscuits, creams, desserts, pastille marmalade masses

They are good emulsifiers, stabilizers, foaming agents, and also products that firmly retain fat and water [41,42].

Those obtained from wheat bran were characterized by high biological value and multifunctional properties. The high nutritional and biological value of protein flour and concentrate made it possible to use them in the form of promising improvers of the composition and quality of food raw materials. Taking into account their amino acid composition, they are recommended as fortifiers or substitutes for protein products [43].

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INFLUENCE OF PROTEINS FROM WHEAT BRAN IN BAKERY PRODUCTS

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Abstract: *To create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran.*

In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator (1.3-5.3 times). Protein products from bran have a high fat-binding ability to form an emulsion type. Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to phases.

Keywords: *proteins, wheat bran, protein enrichment, functional properties, quality, nutritional value.*

Assessment of the quality of protein products of high biological value and multifunctional purposes obtained from wheat bran [1,4].

Optimal technological regimes for protein isolation and rational type of grain raw materials. They were total flour bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 6% of the total protein content in the raw material [1,2,3,4].

Bran products have a true digestibility value relative to casein equal to 9%, and an average value of biological value based on "growth characteristics" is 55.5%. They contain more essential amino acids than the raw materials, and protein flour from the granulometric fraction is richer than protein flour from total bran due to the presence of deficient lysine, threonine, as well as valine and leucine [5,6,7,8].

An analysis of the structure of protein nutrition in recent years shows that there is a shortage of dietary protein in the country and its deficiency is likely to persist in the coming decades [9,10,11].

To solve the problem of providing the population with cheap and high-quality protein, the rational use of raw materials of plant origin and the creation of food protein products based on them will become increasingly important. All over the world, wheat,

along with soybeans, is widely used for these purposes due to its large resources, the historically established tradition of eating this crop and the absence of anti-nutrients [12,13,14].

In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. The share of protein in bran accounts for 25.6-29.2% of its total amount in the raw material [15,16,17].

Assessment of the quality of protein products of high biological value and multifunctional purposes obtained from wheat bran, the use of these products in the production of products for mass, preventive and dietary purposes [18,19].

As a result of comprehensive research [20,21], optimal technological regimes for protein isolation and a rational type of grain raw material were determined. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 60% of the total protein content in the raw material [22,23,25].

They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction - the bran product - is richer than protein flour from common bran in deficient lysine, threonine, as well as valine and leucine. The limiting amino acid of both bran protein products is isoleucine, while, for example, in dry gluten it is lysine, and in soybean isolate - sulfur-containing amino acids (Table 1). It is important to note that protein products made from bran have higher levels of all amino acids without exception than dry wheat gluten, and protein flour from bran is higher than concentrate from the same bran.

Table 1. Amino acid score of protein products, %*

Amino acids	Are common bran	BMOO	Otrubnoy product	BMOP	Common bran concentrate	Dry gluten ¹	Soy ² isolate
Valin	89	96	93	100	97	86	100
Leucine	93	120	101	127	111	98	117
Isoleucine	79	93	79	89	97	105	122
Threonine	90	104	98	115	100	60	95
Lysine	88	113	94	128	103	29	114
Sulfur-containing	137	154	140	142	128	97	77
Aromatic	121	156	128	152	153	128	142
Limiting			Isoleucine			Lysine	Methionine

* The calculation is based on the 1973 FAO/WHO recommendations and - calculated data: - chemical composition of food products. Book 2. Ed. I.M. Skurikhin and M.M. Volgarev , 1987.
 2 - advertising brochure of the company "Protein Technologies International"

Protein products contain unsaturated fatty acids (85.9%), of which linoleic acid accounts for 72.9%, linolenic acid 6.7% and oleic acid 20.4% [26,27].

The carbohydrate part, along with starch, is represented by dextrans and maltose. The products also contain soluble and insoluble fiber. In terms of the content of vitamins B₂ and PP, as well as the amount of potassium, calcium, iron, sodium, protein flour from wheat bran is superior to the original bran, and in terms of the content of vitamins B₆, E and folic acid it differs little from them (Table 2) .

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Bran protein concentrate	12.0	2.1	1.0	55	60	69	15
Non-defatted soy flour	72.1	4.7	2.1	46	52	27	38
Soy isolate *	38.0	-	-	74	65	113	77
Wheat gluten isolate *	3.1	1.2	1.7	57	61	65	43
Egg powder	11.2	0.8	3.6	12	-	15	50
Powdered milk	86.2	2.4	0.4	12	48	15	50
	78.4	1.8	1.9	32	22	10	0

* Literature data

In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator. Protein products from bran have a high fat-binding ability, the ability to form an emulsion type and stabilize the latter, as evidenced by the lack of coalescence and destruction of this emulsion when heated to 80°C. Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to phases [35,36]. In terms of foaming ability, protein flour, for example, was inferior to soy flour isolate, and in terms of foam stability it was superior to all other protein products. It is important to note that traditional animal protein products had lower functional property values than new products derived from wheat grain by-products [37,38].

The properties of protein products from technological factors and recipe components were also considered as a way to regulate these properties in order to maximize the potential for the production of high-quality food products with a strictly defined chemical composition. At the same time, both separate and combined effects of the above factors on the behavior of proteins in food systems and the quality of finished products using them were allowed [39,40].

The data obtained made it possible to expediently use protein products from wheat bran (Table 4).

Table 4. Functional properties and uses of wheat bran protein products

Functional properties	Method of action	Products that use the property
Solubility	Protein solubility depending on pH	Bakery products, flour confectionery products, extrudates , food concentrates
Fat emulsifying ability	Emulsion formation and stabilization	Sausage, flour confectionery, bakery products; mayonnaise, breakfast spreads, protein -fat semi-finished products and candy masses
Water-binding ability	Water retention	Bakery, sausage, confectionery products, cakes, biscuits, food concentrates
Fat-binding ability	Binding of free fats	Sausage and food concentrate products
Foaming ability	Formation of films to retain gas	Biscuits, creams, desserts, pastille marmalade masses

They are good emulsifiers, stabilizers, foaming agents, and also products that firmly retain fat and water [41,42].

Protein products obtained from wheat bran were characterized by high biological value and multifunctional properties. The high nutritional and biological value of protein flour and concentrate made it possible to use them in the form of promising improvers of the composition and quality of food raw materials. Taking into account their amino acid composition, they are recommended as fortifiers or substitutes for protein products [43].

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RESEARCH OF THE PROPERTIES OF PROTEINS FROM WHEAT BRAN IN BAKERY PRODUCTS

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Abstract: *In a wide range of food products with controlled composition and nutritional properties, for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran.*

In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator. Bran products have a high fat-binding ability to form an emulsion type.

Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to phases.

Keywords: *proteins, wheat bran, protein enrichment, functional properties, quality, nutritional value.*

Assessment of the quality of protein products of high biological value and multifunctional purposes obtained from wheat bran [1,2,4].

Optimal technological regimes for protein isolation and rational type of grain raw materials. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 6% of the total protein content in the raw material [1,2,3,4].

Protein products from bran have a true digestibility value relative to casein equal to 9%, and an average value of biological value based on "growth characteristics" is 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction (bran product) is richer than protein flour from total bran due to the presence of deficient lysine, threonine, as well as valine and leucine [5,6,7,8].

Proteins are one of the main and essential components of healthy and nutritious food. However, an analysis of the structure of protein nutrition in recent years shows that there is a shortage of dietary protein in the country and its deficiency is likely to persist in the coming decades [9,10,11].

To solve the problem of providing the population with cheap and high-quality protein, the rational use of raw materials of plant origin and the creation of food protein products based on them will become increasingly important. All over the world, wheat, along with soybeans, is widely used for these purposes due to its large resources, the historically established tradition of eating this crop and the absence of anti-nutrients [12,13,14].

In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. The share of protein in bran accounts for 25.6-29.2% of its total amount in the raw material [15,16,17,18].

The qualities of protein products of high biological value and multifunctional purposes obtained from wheat bran, the use of these products in the production of products for mass, preventive and dietary purposes.

As a result of comprehensive research [19,20,21], optimal technological regimes for protein isolation and a rational type of grain raw material were determined. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 60% of the total protein content in the raw material [22,23,24].

Studies have shown that protein products from bran have a true digestibility value relative to casein equal to 94%, and an average biological value for "growth characteristics" of 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction - the bran product - is richer than protein flour from common bran in deficient lysine, threonine, as well as valine and leucine. The limiting amino acid of both bran protein products is isoleucine, while, for example, in dry gluten it is lysine, and in soybean isolate - sulfur-containing amino acids (Table 1). It is important to note that protein products made from bran have higher levels of all amino acids without exception than dry wheat gluten, and protein flour from bran is higher than concentrate from the same bran [26,27,28,29].

Table 1. Amino acid score of protein products, %*

Amino acids	Are common bran	BMO O	Otrubnoy product	BMOP	Common bran concentrate	Dry gluten ¹	Soy isolate ²
Valin	89	96	93	100	97	86	100
Leucine	93	120	101	127	111	98	117
Isoleucine	79	93	79	89	97	105	122
Threonine	90	104	98	115	100	60	95
Lysine	88	113	94	128	103	29	114
Sulfur-containing	137	154	140	142	128	97	77
Aromatic	121	156	128	152	153	128	142
Limiting			Isoleucine			Lysine	Methionine

* The calculation is based on the 1973 FAO/WHO recommendations and - calculated data: - chemical composition of food products. Book 2. Ed. I.M. Skurikhin and M.M. Volgarev, 1987.
² - advertising brochure of the company "Protein Technologies International"

Protein products contain unsaturated fatty acids (85.9%), of which linoleic acid accounts for 72.9%, linolenic acid 6.7% and oleic acid 20.4% [30,31,32].

The carbohydrate part, along with starch (25-53%), is represented by dextrans (8.5-10.5%) and maltose (2.4-3.0%). The products also contain soluble (0.33%) and insoluble (2.9%) fiber. In terms of the content of vitamins B₂ and PP, as well as the amount of potassium, calcium, iron, sodium, protein flour from wheat bran is superior to the original bran, and in terms of the content of vitamins B₆, E and folic acid it differs little from them (Table 2) [33,34,35].

Table 2. Content of vitamins and minerals in bran protein products

Indicators	Flour	Concentrate	Bran
Vitamins, mg/100 g:			
IN:	0.82	1.08	1.14
AT 2	0.47	0.53	0.24
AT 6	0.58	-	0.88
B _s (folacin)	0.12	0.11	0.12
PP (niacin)	22.7	17.73	11.7
E (tocopherol)	32.3	33.1	34.5
Minerals, mg/100 g:			
sodium	152	90.5	53
potassium	1477	322	1312
calcium	323	85	94
magnesium	184	87	421
phosphorus	420	380	900
iron	28	8	12

Including sanitary and hygienic studies, it was shown that the samples met the established requirements for the content of heavy metals (nickel, chromium, lead, cadmium, arsenic, mercury, zinc and copper), if the starting raw materials did not exceed the MPC values. No aflatoxin found in protein products In _p zearalenone and pesticides [33,34,35].

The theoretical justification for the use of protein products from bran in food production included the study of functional properties and their dependence on various technological factors and recipe components. From the table 3 shows that the new bran products have all types of functional properties with the exception of gelation [36,37,38].

Protein flour from common bran has a lower solubility than animal proteins, but higher than wheat gluten or, for example, safflower meal isolate .

Table 3. Functional properties of protein products

Product	Solubility, %	VSS, y /y	ZhSS, y /y	ZhES, %	Emulsion stability, %	NOSE, %	SP, %
Bran protein meal (BPF)	16.0	3.9	4.2	8.9	97	99	83
Protein flour from the rub fraction (BMOP)	52.7	4.3	2.7	72	74	100	52
Bran protein concentrate	12.0	2.1	1.0	55	60	69	15
Non-defatted soy flour	72.1	4.7	2.1	46	52	27	38
Soy isolate *	38.0	-	-	74	65	113	77
Wheat gluten	3.1	1.2	1.7	57	61	65	43
isolate *	11.2	0.8	3.6	12	-	15	50
Egg powder	86.2	2.4	0.4	12	48	15	50
Powdered milk	78.4	1.8	1.9	32	22	10	0

* Literature data

In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator. Protein products from bran have a high fat-binding ability, the ability to form an emulsion type and stabilize the latter (stabilized emulsion - SE), as evidenced by the lack of coalescence and destruction of this emulsion when heated to 80°C. Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to phases. In terms of foaming ability (POC), protein flour, for example, was inferior to soybean isolate , and in terms of foam stability (SP) it was superior to

all other protein products. It is important to note that traditional animal protein products had lower functional property values than new products obtained from by-products of wheat grain processing [39,40].

The functional properties of protein products from technological factors and recipe components were also considered as a way to regulate these properties in order to maximize the potential for the production of high-quality food products with a strictly defined chemical composition. At the same time, both separate and combined effects of the above factors on the behavior of proteins in food systems and the quality of finished products using them were allowed [41,42].

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Functional properties	Method of action	Products that use the property
Solubility	Protein solubility depending on pH	Bakery products, flour confectionery products, extrudates, food concentrates
Fat emulsifying ability	Emulsion formation and stabilization	Sausage, flour confectionery, bakery products; mayonnaise, breakfast spreads, protein-fat semi-finished products and candy masses
Water-binding ability	Water retention	Bakery, sausage, confectionery products, cakes, biscuits, food concentrates
Fat-binding ability	Binding of free fats	Sausage and food concentrate products
Foaming ability	Formation of films to retain gas	Biscuits, creams, desserts, pastille marmalade masses

They are good emulsifiers, stabilizers, foaming agents, and also products that firmly retain fat and water.

Protein products obtained from wheat bran were characterized by high biological value and multifunctional properties. The high nutritional and biological value of protein flour and concentrate made it possible to use them in the form of promising improvers of the composition and quality of food raw materials. Taking into account the amine-oxid composition, they are recommended as fortifiers or substitutes for protein products [43].

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BIOLOGICAL VALUE OF PROTEINS FROM WHEAT BRAN IN BAKERY PRODUCTS

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Abstract: *In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran.*

In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator. Protein products from bran have a high fat-binding ability to form an “oil in water” emulsion. Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to the gas-water phases.

Keywords: *proteins, wheat bran, protein enrichment, functional properties, quality, nutritional value.*

The optimal technological regimes for protein isolation and the rational type of grain raw materials have been determined [1,2,4]. They were total flour bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 6% of the total protein content in the raw material [1,2,3,4].

Scientific novelty. Protein products from bran have a true digestibility value relative to casein equal to 9%, and an average value of biological value based on “growth characteristics” is 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction (bran product)

is richer than protein flour from total bran due to the presence of deficient lysine, threonine, as well as valine and leucine [5,6,7,8].

Peculiarities.

- protein products from wheat bran have biological value;
- the addition of protein flour improves the quality of food raw materials.

Proteins are one of the main and essential components of healthy and nutritious food. However, an analysis of the structure of protein nutrition in recent years shows that there is a shortage of dietary protein in the country and its deficiency is likely to persist in the coming decades [9,10,11].

To provide the population with cheap and high-quality protein, the rational use of raw materials of plant origin and the creation of food protein products based on them will become increasingly important [12,13,14]. All over the world, wheat, along with soybeans, is widely used for these purposes due to its large resources, the historically established tradition of eating this crop and the absence of anti-nutrients [15,16,17].

In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. The share of protein in bran accounts for 25.6-29.2% of its total amount in the raw material [18,19,20].

Protein products of high biological value and multifunctional purposes, obtained from wheat bran, the use of these products in the production of products for mass, preventive and dietary purposes [21,22,23].

As a result of comprehensive research [24,25,26], optimal technological regimes for protein isolation and a rational type of grain raw material were determined [27,28,29]. They were total flour bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 60% of the total protein content in the raw material [30,31,32].

Studies have shown that protein products from bran have a true digestibility value relative to casein equal to 94%, and an average biological value for "growth characteristics" of 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction - the bran product - is richer than protein flour from common bran in deficient lysine, threonine, as well as valine and leucine. The limiting amino acid of both bran protein products is isoleucine, while, for example, in dry gluten it is lysine, and in soybean isolate - sulfur-containing amino acids (Table 1). It is important to note that protein products made from bran have higher levels of all amino acids without exception than dry wheat gluten, and protein flour from bran is higher than concentrate from the same bran [33,34,35,36].

Table 1. Amino acid score of protein products, %*

Amino acids	Are common bran	BMO O	Otrubnoy product	BMOP	Common bran concentrate	Dry gluten ¹	Soy isolate ²
Valin	89	96	93	100	97	86	100
Leucine	93	120	101	127	111	98	117
Isoleucine	79	93	79	89	97	105	122
Threonine	90	104	98	115	100	60	95
Lysine	88	113	94	128	103	29	114
Sulfur-containing	137	154	140	142	128	97	77
Aromatic	121	156	128	152	153	128	142
Limiting			Isoleucine			Lysine	Methionine

* The calculation is based on the 1973 FAO/WHO recommendations and - calculated data: - chemical composition of food products. Book 2. Ed. I.M. Skurikhin and M.M. Volgarev , 1987.

² - advertising brochure of the company "Protein Technologies International"

Protein products contain unsaturated fatty acids (85.9%), of which linoleic acid accounts for 72.9%, linolenic acid 6.7% and oleic acid 20.4%.

The carbohydrate part, along with starch (25-53%), is represented by dextrans (8.5-10.5%) and maltose (2.4-3.0%) [37,38]. The products also contain soluble (0.33%) and insoluble (2.9%) fiber. In terms of the content of vitamins B₂ and PP, as well as the amount of potassium, calcium, iron, sodium, protein flour from wheat bran is superior to the original bran, and in terms of the content of vitamins B₆, E and folic acid it differs little from them (Table 2) .

Table 2. Content of vitamins and minerals in bran protein products

Indicators	Flour	Concentrate	Bran
Vitamins, mg/100 g:			
IN:	0.82	1.08	1.14
AT 2	0.47	0.53	0.24
AT 6	0.58	-	0.88
B _s (folacin)	0.12	0.11	0.12
PP (niacin)	22.7	17.73	11.7
E (tocopherol)	32.3	33.1	34.5
Minerals, mg/100 g:			
sodium	152	90.5	53
potassium	1477	322	1312
calcium	323	85	94
magnesium	184	87	421
phosphorus	420	380	900
iron	28	8	12

An assessment of protein products, including sanitary and hygienic studies, showed that the samples met the established requirements for the content of heavy metals, if the MAC values were not exceeded for the starting raw materials. No aflatoxin found in protein products In _p zearalenone and pesticides [39].

The use of protein products from bran in food production included the study of functional properties and their dependence on various technological factors and recipe components. From the table 3 shows that the new bran products have all types of functional properties with the exception of gelation.

Protein flour from common bran has a lower solubility than animal proteins, but higher than wheat gluten or, for example, safflower meal isolate.

Table 3. Functional properties of protein products

Product	Solubility, %	VSS, y /y	ZhSS, y /y	ZhES, %	Emulsion stability, %	NOSE, %	SP, %
Bran protein meal (BPF)	16.0	3.9	4.2	8.9	97	99	83
Protein flour from the rub fraction (BMOP)	52.7	4.3	2.7	72	74	100	52
Bran protein concentrate	12.0	2.1	1.0	55	60	69	15
Non-defatted soy flour	72.1	4.7	2.1	46	52	27	38
Soy isolate *	38.0	-	-	74	65	113	77
Wheat gluten	3.1	1.2	1.7	57	61	65	43
isolate *	11.2	0.8	3.6	12	-	15	50
Egg powder	86.2	2.4	0.4	12	48	15	50
Powdered milk	78.4	1.8	1.9	32	22	10	0

* Literature data

In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator. Protein products from bran have a high fat-binding ability, the ability to form an emulsion type and stabilize the latter (stabilized emulsion - SE), as evidenced by the lack of coalescence and destruction of this emulsion when heated to 80°C. Along with the ability to change surface tension at the oil-water interface, protein products from bran had a similar property in relation to the gas-water phases. In terms of foaming ability (POC), protein flour, for example, was inferior to soybean isolate , and in terms of foam stability it was superior to all other protein products. It is important to note that traditional animal protein products had lower functional property values than new products obtained from by-products of wheat grain processing [40,41].

The dependence of the functional properties of protein products on technological factors and recipe components was also considered as a way to regulate these properties in order to maximize the potential for the production of high-quality food products with a strictly defined chemical composition. At the same time, both separate and combined effects of the above factors on the behavior of proteins in food systems and the quality of finished products using them were allowed [42].

The data obtained made it possible to expediently use protein products from wheat bran (Table 4).

Table 4. Functional properties and uses of wheat bran protein products

Functional properties	Method of action	Products that use the property
Solubility	Protein solubility depending on pH	Bakery products, flour confectionery products, extrudates, food concentrates
Fat emulsifying ability	Emulsion formation and stabilization	Sausage, flour confectionery, bakery products; mayonnaise, breakfast spreads, protein -fat semi-finished products and candy masses
Water-binding ability	Water retention	Bakery, sausage, confectionery products, cakes, biscuits, food concentrates
Fat-binding ability	Binding of free fats	Sausage and food concentrate products
Foaming ability	Formation of films to retain gas	Biscuits, creams, desserts, pastille marmalade masses

Protein products obtained from wheat bran were characterized by high biological value and multifunctional properties. The high nutritional and biological value of protein flour and concentrate made it possible to use them in the form of promising improvers of the composition and quality of food raw materials. Taking into account their amino acid composition, they are recommended as fortifiers or substitutes for protein products [43].

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WHEAT BRAN IN BAKERY PRODUCTS

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Abstract: *In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator. In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. Protein products from bran have a high fat-binding ability to form an “oil in water” emulsion. Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to the gas-water phases.*

Keywords: *proteins, wheat bran, protein enrichment, functional properties, quality, nutritional value.*

Optimal technological regimes for protein isolation and rational type of grain raw materials [1,2,4]. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 6% of the total protein content in the raw material [1,2,3,4,5].

Protein products from bran have a true digestibility value relative to casein equal to 9%, and an average value of biological value based on “growth characteristics” is 55.5% [6,7]. They contain more essential amino acids than the raw material, and protein flour from the granulometric fraction (bran product) is richer than protein flour from total bran due to the presence of deficient lysine, threonine, as well as valine and leucine [8,9,10].

Proteins are one of the main and essential components of healthy and nutritious food. However, an analysis of the structure of protein nutrition in recent years shows that there is a shortage of dietary protein in the country and its deficiency is likely to persist in the coming decades [11,12,13].

To solve the problem of providing the population with cheap and high-quality protein, the rational use of raw materials of plant origin and the creation of food protein products based on them will become increasingly important [14,15]. All over the world, wheat, along with soybeans, is widely used for these purposes due to its large resources, the historically established tradition of eating this crop and the absence of anti-nutrients [16,17].

Proteins, in order to create a wide range of food products with controlled composition and nutritional properties, for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. The share of protein in bran accounts for 25.6-29.2% of its total amount in the raw material [18,19,20].

The qualities of protein products of high biological value and multifunctional purposes obtained from wheat bran, the use of these products in the production of products for mass, preventive and dietary purposes.

As a result of comprehensive research[21,22,23], optimal technological regimes for protein isolation and a rational type of grain raw material were determined. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 60% of the total protein content in the raw material [24,25,26].

In accordance with this scheme you can receive:

- protein flour with a protein content of 45% or protein concentrate containing 60% protein;
- food starch-protein additive for use in the production of sweets, sausages and extrudates ;

Studies have shown that protein products from bran have a true digestibility value relative to casein equal to 94%, and an average biological value for "growth characteristics" of 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction - bran product (BMOP) - is richer than protein flour from total bran (BMOO) in deficient lysine, threonine, as well as valine and leucine [27,28,29]. The limiting amino acid of both bran protein products is isoleucine, while, for example, in dry gluten it is lysine, and in soybean isolate - sulfur-containing amino acids (Table 1). It is important to note that protein products made from bran have higher levels of all amino acids without exception than dry wheat gluten, and protein flour from bran is higher than concentrate from the same bran [30,31,32].

Table 1. Amino acid score of protein products, %*

Amino acids	Are common bran	BMOO	Otrubnoy product	BMOP	Common bran concentrate	Dry gluten ¹	Soy isolate ²
Valin	89	96	93	100	97	86	100
Leucine	93	120	101	127	111	98	117
Isoleucine	79	93	79	89	97	105	122
Threonine	90	104	98	115	100	60	95
Lysine	88	113	94	128	103	29	114
Sulfur-containing	137	154	140	142	128	97	77
Aromatic	121	156	128	152	153	128	142
Limiting			Isoleucine			Lysine	Methionine

* The calculation is based on the 1973 FAO/WHO recommendations and - calculated data: - chemical composition of food products. Book 2. Ed. I.M. Skurikhin and M.M. Volgarev, 1987. ² - advertising brochure of the company "Protein Technologies International"

Protein products contain unsaturated fatty acids (85.9%), of which linoleic acid accounts for 72.9%, linolenic acid 6.7% and oleic acid 20.4%.

The carbohydrate part, along with starch (25-53%), is represented by dextrans (8.5-10.5%) and maltose (2.4-3.0%) [33,34,35]. The products also contain soluble (0.33%) and insoluble (2.9%) fiber. In terms of the content of vitamins B₂ and PP, as well as the amount of potassium, calcium, iron, sodium, protein flour from wheat bran is superior to the original bran, and in terms of the content of vitamins B₆, E and folic acid it differs little from them (Table 2) .

Table 2. Content of vitamins and minerals in bran protein products

Indicators	Flour	Concentrate	Bran
Vitamins, mg/100 g:			
IN:	0.82	1.08	1.14
AT 2	0.47	0.53	0.24
AT 6	0.58	-	0.88
B _s (folacin)	0.12	0.11	0.12
PP (niacin)	22.7	17.73	11.7
E (tocopherol)	32.3	33.1	34.5
Minerals, mg/100 g:			
sodium	152	90.5	53
potassium	1477	322	1312
calcium	323	85	94
magnesium	184	87	421
phosphorus	420	380	900
iron	28	8	12

An assessment of protein products, including sanitary and hygienic studies, showed that the samples met the established requirements for the content of heavy metals, if the MAC values were not exceeded for the starting raw materials. No aflatoxin found in protein products In _p zearalenone and pesticides. The amount of deoxynivalenol was within normal limits [36,37].

The theoretical justification for the use of protein products from bran in food production included the study of functional properties and their dependence on various technological factors and recipe components. From the table 3 shows that the new bran products have all types of functional properties with the exception of gelation [38,39].

Protein flour from common bran has a lower solubility than animal proteins, but higher than wheat gluten or, for example, safflower meal isolate .

Table 3. Functional properties of protein products

Product	Solubility, %	VSS, y / y	ZhSS, y / y	ZhES, %	Emulsion stability, %	NOSE, %	SP, %
Bran protein meal (BPF)	16.0	3.9	4.2	8.9	97	99	83
Protein flour from the rub fraction (BMOP)	52.7	4.3	2.7	72	74	100	52
Bran protein concentrate	12.0	2.1	1.0	55	60	69	15
Non-defatted soy flour	72.1	4.7	2.1	46	52	27	38
Soy isolate *	38.0	-	-	74	65	113	77
Wheat gluten	3.1	1.2	1.7	57	61	65	43
isolate *	11.2	0.8	3.6	12	-	15	50
Egg powder	86.2	2.4	0.4	12	48	15	50
Powdered milk	78.4	1.8	1.9	32	22	10	0

* Literature data

In terms of water-binding capacity (WBC), bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator (1.3-5.3 times). Protein products from bran have a high fat-binding ability (FBC), the ability to form an oil-in-water emulsion (OWE) and stabilize the latter (stabilized emulsion - SE), as evidenced by the lack of coalescence and destruction of this emulsion when heated to 80° WITH. Along with the ability to change surface tension at the oil-water interface, protein products from bran had a similar property in relation to the gas-water phases [40]. In terms of foaming ability (POC), protein flour, for example, was inferior to soybean isolate, and in terms of foam stability (SP) it was superior to all other protein products. It is important to note that traditional animal protein products had lower

functional property values than new products obtained from by-products of wheat grain processing [41].

The dependence of the functional properties of protein products on technological factors and recipe components was also considered as a way to regulate these properties in order to maximize the potential for the production of high-quality food products with a strictly defined chemical composition. At the same time, both separate and combined effects of the above factors on the behavior of proteins in food systems and the quality of finished products using them were allowed [42].

The data obtained made it possible to expediently use protein products from wheat bran (Table 4).

Table 4. Functional properties and uses of wheat bran protein products

Functional properties	Method of action	Products that use the property
Solubility	Protein solubility depending on pH	Bakery products, flour confectionery products, extrudates, food concentrates
Fat emulsifying ability	Emulsion formation and stabilization	Sausage, flour confectionery, bakery products; mayonnaise, breakfast spreads, protein -fat semi-finished products and candy masses
Water-binding ability	Water retention	Bakery, sausage, confectionery products, cakes, biscuits, food concentrates
Fat-binding ability	Binding of free fats	Sausage and food concentrate products
Foaming ability	Formation of films to retain gas	Biscuits, creams, desserts, pastille marmalade masses

They are good emulsifiers, stabilizers, foaming agents, and also products that firmly retain fat and water.

Protein products obtained from wheat bran were characterized by high biological value and multifunctional properties. The high nutritional and biological value of protein flour and concentrate made it possible to use them in the form of promising improvers of the composition and quality of food raw materials. Taking into account their amino acid composition, they are recommended as fortifiers or substitutes for protein products [43].

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PROTEIN PRODUCTS FROM WHEAT BRAN IN BAKERY PRODUCTS

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Abstract: *In terms of water-binding capacity, bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator. In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. Protein products from bran have a high fat-binding ability to form an “oil in water” emulsion. Along with the ability to change the surface tension at the oil-water interface, bran protein products had a similar property in relation to the gas-water phases.*

Keywords: *proteins, wheat bran, protein enrichment, functional properties, quality, nutritional value.*

The optimal technological regimes for protein isolation and the rational type of grain raw materials have been determined [1,2,3]. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 6% of the total protein content in the raw material [1,2,3,4].

Protein products from bran have a true digestibility value relative to casein equal to 9%, and an average value of biological value based on “growth characteristics” is 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction (bran product) is richer than protein flour from total bran due to the presence of deficient lysine, threonine, as well as valine and leucine [5,6,7].

Proteins are one of the main and essential components of healthy and nutritious food. However, an analysis of the structure of protein nutrition in recent years shows

that there is a shortage of dietary protein in the country and its deficiency is likely to persist in the coming decades [8,9,10].

To solve the problem of providing the population with cheap and high-quality protein, the rational use of raw materials of plant origin and the creation of food protein products based on them will become increasingly important [11,12,13]. All over the world, wheat, along with soybeans, is widely used for these purposes due to its large resources, the historically established tradition of eating this crop and the absence of anti-nutrients [14,15,16].

In order to create a wide range of food products with controlled composition and nutritional properties for the production of protein products, it is advisable to use raw materials that actually exist in the country - wheat bran. The share of protein in bran accounts for 25.6-29.2% of its total amount in the raw material [17,18,19].

The qualities of protein products of high biological value and multifunctional purposes obtained from wheat bran, the use of these products in the production of products for mass, preventive and dietary purposes.

As a result of comprehensive research[20,21,22], optimal technological regimes for protein isolation and a rational type of grain raw material were determined. They were total flow bran obtained from various technological process systems and providing a protein yield of 47-49%, as well as a granulometric fraction of total bran with a particle size of 196-670 microns, providing a protein yield of about 60% of the total protein content in the raw material [23,24].

In accordance with this scheme you can receive:

- protein flour with a protein content of 45% or protein concentrate containing 60% protein;
- food starch-protein additive for use in the production of sweets, sausages and extrudates ;

Studies have shown that protein products from bran have a true digestibility value relative to casein equal to 94%, and an average biological value for "growth characteristics" of 55.5%. They contain more essential amino acids than the original raw material, and protein flour from the granulometric fraction - the bran product - is richer than protein flour from common bran in deficient lysine, threonine, as well as valine and leucine [25,26]. The limiting amino acid of both bran protein products is isoleucine, while, for example, in dry gluten it is lysine, and in soybean isolate - sulfur-containing amino acids. It is important to note that protein products made from bran have higher levels of all amino acids without exception than dry wheat gluten, and protein flour from bran is higher than concentrate from the same bran [27,28].

Table 1. Amino acid score of protein products, %*

Amino acids	Are common bran	BMOO	Otrubnoy product	BMOP	Common bran concentrate	Dry gluten ¹	Soy ² isolate
Valin	89	96	93	100	97	86	100
Leucine	93	120	101	127	111	98	117
Isoleucine	79	93	79	89	97	105	122
Threonine	90	104	98	115	100	60	95
Lysine	88	113	94	128	103	29	114
Sulfur-containing	137	154	140	142	128	97	77
Aromatic	121	156	128	152	153	128	142
Limiting			Isoleucine			Lysine	Methionine

* The calculation is based on the 1973 FAO/WHO recommendations and - calculated data: - chemical composition of food products. Book 2. Ed. I.M. Skurikhin and M.M. Volgarev , 1987.
 2 - advertising brochure of the company "Protein Technologies International"

Protein products contain unsaturated fatty acids (85.9%), of which linoleic acid accounts for 72.9%, linolenic acid 6.7% and oleic acid 20.4% [29,30].

The carbohydrate part, along with starch (25-53%), is represented by dextrans (8.5-10.5%) and maltose (2.4-3.0%). The products also contain soluble (0.33%) and insoluble (2.9%) fiber. In terms of the content of vitamins B₂ and PP, as well as the amount of potassium, calcium, iron, sodium, protein flour from wheat bran is superior to the original bran, and in terms of the content of vitamins B₆, E and folic acid it differs little from them (Table 2) .

Table 2. Content of vitamins and minerals in bran protein products

Indicators	Flour	Concentrate	Bran
Vitamins, mg/100 g:			
IN:	0.82	1.08	1.14
AT 2	0.47	0.53	0.24
AT 6	0.58	-	0.88
B _s (folacin)	0.12	0.11	0.12
PP (niacin)	22.7	17.73	11.7
E (tocopherol)	32.3	33.1	34.5
Minerals, mg/100 g:			
sodium	152	90.5	53
potassium	1477	322	1312
calcium	323	85	94
magnesium	184	87	421
phosphorus	420	380	900
iron	28	8	12

An assessment of protein products, including sanitary and hygienic studies, showed that the samples met the established requirements for the content of heavy metals (nickel, chromium, lead, cadmium, arsenic, mercury, zinc and copper), if the starting raw materials did not exceed the MPC values. No aflatoxin found in protein products In p zearalenone and pesticides. The amount of deoxynivalenol was within normal limits [31,32,33].

The theoretical justification for the use of protein products from bran in food production included the study of functional properties and their dependence on various technological factors and recipe components. From the table 3 shows that the new bran products have all types of functional properties with the exception of gelation [34,35].

Protein flour from common bran has a lower solubility than animal proteins, but higher than wheat gluten or, for example, safflower meal isolate.

Table 3. Functional properties of protein products

Product	Solubility, %	VSS, y /y	ZhSS, y /y	ZhES, %	Emulsion stability, %	NOSE, %	SP, %
Bran protein meal (BPF)	16.0	3.9	4.2	8.9	97	99	83
Protein flour from the rub fraction (BMOP)	52.7	4.3	2.7	72	74	100	52
Bran protein concentrate	12.0	2.1	1.0	55	60	69	15
Non-defatted soy flour	72.1	4.7	2.1	46	52	27	38
Soy isolate *	38.0	-	-	74	65	113	77
Wheat gluten isolate *	3.1	1.2	1.7	57	61	65	43
Egg powder	86.2	2.4	0.4	12	48	15	50
Powdered milk	78.4	1.8	1.9	32	22	10	0

* Literature data

In terms of water-binding capacity (WBC), bran protein flour is close to full-fat soy flour and surpasses all other protein products in this indicator (1.3-5.3 times). Protein products from bran have a high fat-binding capacity (FBC), the ability to form an oil-in-water emulsion (OWE) and stabilize the latter, as evidenced by the lack of coalescence and destruction of this emulsion when heated to 80°C. Along with the ability to change surface tension at the oil-water interface, protein products from bran had a similar property in relation to the gas-water phases [36,37,38]. In terms of foaming ability (POC), protein flour, for example, was inferior to soybean isolate, and in terms of foam stability (SP) it was superior to all other protein products. It is

important to note that traditional animal protein products had lower functional property values than new products obtained from by-products of wheat grain processing [39,40].

The dependence of the functional properties of protein products on technological factors and recipe components was also considered as a way to regulate these properties in order to maximize the potential for the production of high-quality food products with a strictly defined chemical composition. At the same time, both separate and combined effects of the above factors on the behavior of proteins in food systems and the quality of finished products using them were allowed [41,42].

The data obtained made it possible to expediently use protein products from wheat bran (Table 4).

Table 4. Functional properties and uses of wheat bran protein products

Functional properties	Method of action	Products that use the property
Solubility	Protein solubility depending on pH	Bakery products, flour confectionery products, extrudates, food concentrates
Fat emulsifying ability	Emulsion formation and stabilization	Sausage, flour confectionery, bakery products; mayonnaise, breakfast spreads, protein -fat semi-finished products and candy masses
Water-binding ability	Water retention	Bakery, sausage, confectionery products, cakes, biscuits, food concentrates
Fat-binding ability	Binding of free fats	Sausage and food concentrate products
Foaming ability	Formation of films to retain gas	Biscuits, creams, desserts, pastille marmalade masses

They are good emulsifiers, stabilizers, foaming agents, and also products that firmly retain fat and water.

Protein products obtained from wheat bran were characterized by high biological value and multifunctional properties. The high nutritional and biological value of protein flour and concentrate made it possible to use them in the form of promising improvers of the composition and quality of food raw materials. Taking into account their amino acid composition, they are recommended as fortifiers or substitutes for protein products [43].

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WHAT IS SEMANTICS?

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Abstract: *Language is the primary source of communication for humans and is used to convey thoughts, feelings, intentions, and desires to others. Knowing a language means to be informed how to make and understand sentences with particular meanings. Semantics is a study of the meaning of lexical items and other parts of language. It is the branch of linguistics that determines how languages organize and express meanings and avoids trying to account for subjective or local meaning. This paper classifies what the semantics is; what it studies; and its types.*

Keywords: *Linguistics, semantics, formal semantics, lexical semantics, conceptual semantics, lexical concepts, semantic primes, dynamic semantics, inquisitive semantics.*

INTRODUCTION

Semantics is the scientific study of language at a level higher than phonetics and phonology, morphology, and syntax. It is generally defined as a study of meaning in language. This term is firstly named by French semantique Breal 1893. Semantics is a formal term for a branch of linguistics that is concerned with studying how meaning is constructed and communicated in written or spoken language. The study of semantics looks at how meaning works in a language, and because of this it often uses native speakers intuitions about the meaning of words and phrases to base research on. When studying the meaning of language, several different branches of semantics exist to consider. These include:

- Formal semantics
- Lexical semantics
- Conceptual semantics

FORMAL SEMANTICS

- is about the meaning of syntactically complex expressions.
- literally means ‘using formal methods’ for the study of meaning.

Formal semantics is the study of grammatical meaning in natural languages using tools from logic, mathematics and theoretical computer science. It is an interdisciplinary field, sometimes regarded as a subfield of both linguistics and philosophy of language. It determines what linguistic expressions imply and how their meanings are composed from the meanings of their parts. The indispensable question of formal semantics is what you know, when you be aware of how to interpret expressions of language. A common assumption is that understanding the meaning of sentence requires knowing its real conditions, or in other words knowing what the world would have to be like for the sentence to be true. For instance, to understand the meaning of English sentence ‘Jane smokes’ any person has to know that it is real when the person Jane performs the action of smoking. However, many present day procedures to formal semantics posit that there is greater to which means than truth-conditions. In the formal semantics framework of inquisitive semantics, understanding the meaning of a sentence also requires knowing what troubles (questions) it raises. For occasion: “Jane smokes but does she drink?” conveys the same truth-conditional data as the previous example, however, also raises a problem of whatever Jane drinks or not. Other methods generalize the idea of fact conditionally or deal with it as epiphenomenal. For instance: in dynamic semantics, knowing which means of a sentence amounts to understanding how it updates a context. Pietroski treats meanings as instructions to construct standarts.

LEXICAL SEMANTICS

- the study of classification and decomposition of lexical items.
- the differences and similarities in lexical semantics structure cross-linguistically.
- the relationship of lexical meaning to sentence meaning and syntax.

Lexical semantics (also known as lexicosemantics), as a subfield of linguistic semantics, is the study of word meanings. It consists of how the phrase forms and their meaning, how they are used in grammar and compositionality, and the connection between the definite senses and uses of a word. The parts of analysis in lexical semantics are lexical units which consists of sub-words or sub-units such as affixes, compound words and phrases. Lexical items contain information about category (lexical and syntactic), forms and meaning. The semantics related to these categories then relate to each lexical item in the lexicon. The lexicon is a collection of words in a language that is organized into series of lexical units. Lexical semantics investigates

how the meaning of lexical units correlates with the structure of language or syntax. This is also known as the syntax – semantics interface. As an example: the word “book” has different senses due to the context. In most context “book” refers to a bound collection of pages which is read by humans. In contrast, “book” refers to make an action or event a matter of record (e.g. “Unable to book a hotel room, a man snaked into a nerby private residence where police arrested him and later booked him for unlawful entry”.) Lexical semantics can help us to identify the correct word use by contextualizing it in surrounding language and context.

CONCEPTUAL SEMANTICS

Conceptual semantics is a framework for semantic analysis, developed mainly by Ray Jackendoff in 1976. Conceptual semantics deals with the core meaning of expression. It is also called the denotative or literal meaning. It is essential for the functioning of language. For example: a part of conceptual meaning of “needle” may be “thin”, “sharp” or “instrument”. These components would be part of the conceptual semantics is to investigate: “... how linguistic utterances are related to human cognition. Where cognition is a human capacity that is to a considerable degree independence of language, interacting with the perceptual and action systems as well as language”. (Jackendoff 2006:355)

Conceptual semantics seperates the single, universal meaning of words. In addition to the conceptual representation of the actual referent, rather than the lexical – semantic meaning, here the two are combined into what Jackendoff calls “lexical concepts”. The semantics of concepts does not refer to the mental lexicon in the classical sense. Concepts and references do not have a definition attached, only the ideas or reference of concept itself. Conceptual semantics breaks lexical concepts up into ontological categories: events, states, places, amounts, things and property, to name a few. These ontological categories are called semantic primes, or semantic primitives. Jackendoff argues that using these semantic primes, any idea in the human brain can be expressed. Conceptual semantics is formative, in that the meanings of words, clauses, and sentences can be determined from the lexical structures that make them up.

CONCLUSION

To sum up, we use semantics to make sense of our words. It takes into account cultural references social myths, and historical events. Semantics is perhaps the reason why it is so difficult to comprehend something that has no meaning and that changes from place to place. Our language would be much more primitive than it is today, but because of it we can make sense of situations, make connections and understand the truth.

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АНАЛИЗ ЭКСПЕРИМЕНТАЛЬНЫХ ПНЕВМОМЕХАНИЧЕСКИХ ВЫСЕВАЮЩИХ АППАРАТОВ

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***Аннотация:** В данной статье рассматривается разнообразие конструкций существующих пневмомеханических туковысевающих аппаратов, приводятся их технические характеристики и отличия. Анализируются достоинства и недостатки.*

***Ключевые слова:** туковысевающие аппараты, пневмомеханические высевающие аппараты, конструкция, несыпучих семян, трудносыпучих семян.*

ANALYSIS OF EXPERIMENTAL PNEUMOMECHANICAL SEEDING DEVICES

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***Abstract:** This article examines the variety of designs of existing pneumomechanical fertilizer sowing devices, provides their technical characteristics and differences. The advantages and disadvantages are analyzed.*

***Key words:** fertilizer sowing devices, pneumomechanical sowing devices, design, non-flowing seeds, hard-flowing seeds.*

Введение

Туковысевающие аппараты представляют собой отдельные комплекты приспособления к почвообрабатывающим и посевным машинам, служат для проведения предпосевного внесения и внесения удобрений в почву в процессе обработки ее или в период вегетации сельскохозяйственных растений [1].

При изыскании конструкции высевающего аппарата проведено исследование и анализ экспериментальных высевающих аппаратов, способных

производить высев несыпучих и трудносыпучих семян сельскохозяйственных культур.

Представляет интерес работа аппарата вакуумного действия сеялки «Пневмосем II» (рис.1) [2]. Захват отдельных семян ячейками 1 высевающего диска 2 осуществляется в активном слое, который создается ворошилкой 3, установленной на приводном валу 4.

Ячейкой могут захватываться 2-3 семени. В верхней части высевающего аппарата установлен отражатель лишних семян 5, выполненный в виде пластины с пилообразными зубьями. Дуга окружности, проходящая через вершины зубьев, концентрична окружности, на которой расположены геометрические центры ячеек высевающего диска. Положение отражателя регулируется, он имеет широкий диапазон регулировок. В нижней части высевающего аппарата траектории движения семян перекрываются специальным приливом корпуса. Посредством этого прекращается действие вакуума и обеспечивается фиксированная точка сбрасывания семян в борозду.

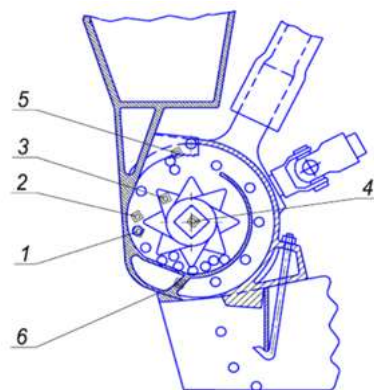


Рисунок 1 – Пневматический высевающий аппарат сеялки «Пневмосем II»

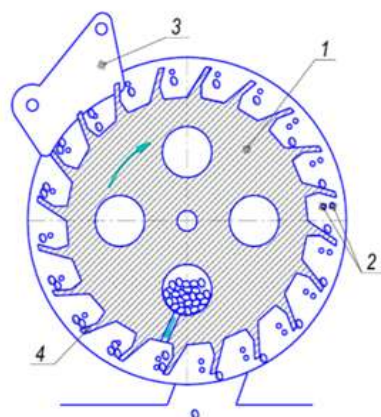


Рисунок 2 – Схема вакуумного высевающего аппарата сеялки «Monosem»

Рабочим органом вакуумного высевающего аппарата, применяемого в сеялке «Monosem» (рис.2), дозирующим односемянную подачу семян в сошник, является комбинированный диск 1 с углублениями [3, 4]. В боковой стенке каждого углубления имеются два отверстия, расположенные по окружностям разных диаметров. Поступающие из бункера в камеру заполнения семена захватываются углублениями и выносятся из общего слоя. Когда углубление находится в нижнем положении, разность давлений существует только в наружном отверстии. К этому отверстию присасывается по 2-3 семени. Выходя из слоя семян, углубление входит в зону вакуума, действующего на оба отверстия 2. При дальнейшем вращении диска семена перемещаются пластинчатым сбрасывателем 3 от наружного к внутреннему отверстию, размеры которого дают возможность захвата только одного семени. Лишние семена возвращаются в камеру

заполнения. После выхода углубления из зоны вакуума семя отпадает от внутреннего отверстия и ребром углубления 4 подводится к точке сброса. Высокая точность высева некалиброванных семян обеспечивается, прежде всего надежным захватом углублениями семян из слоя, двухступенчатым пневматическим отбором одного из них и фиксированием интервала между семенами в рядке благодаря ребрам, разделяющим углубления.

Основными элементами аппарата этой сеялки (рис.3) являются: бункер 6 для семян, с уплотнительной крышкой и заслонкой 5, регулирующей подачу семян в камеру заполнения, корпус 1, высевающий диск 3 со сквозными ячейками 2 конусной формы и сопло 4 (насадка для подвода воздуха).

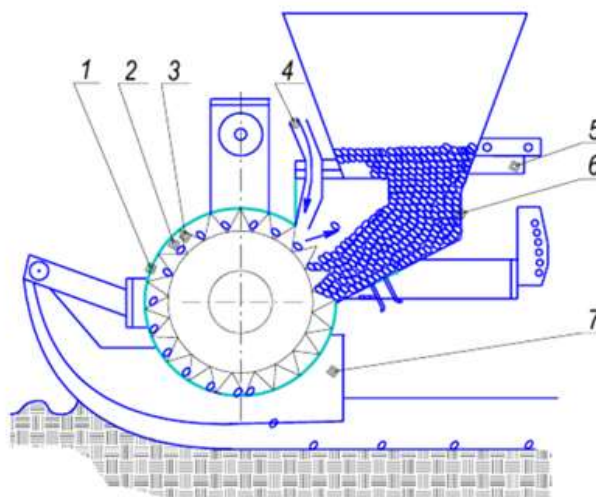


Рисунок 3 – Принципиальная схема высевающего аппарата фирмы «Карл Беккер»

Семена из бункера через питающий канал поступают в камеру заполнения. Ячеистый диск при вращении захватывает каждой ячейкой из слоя по несколько семян. При проходе под струей воздуха лишние семена выдуваются из ячейки, а одно (нижнее) семя прижимается воздушным потоком к вершине конуса с прорезью, закрывая сквозное отверстие. Затем одиночные семена транспортируются ячейками к выбросному окну, через которое выпадают в борозду, раскрытую сошником 7. Привод ячеистого диска каждой секции осуществляется от опорных колес сеялки через центральный вал и 4-б-ступенчатый редуктор. Принципиальной особенностью этого аппарата является то, что лишние семена из ячейки выдуваются потоком воздуха обратно в заборную камеру, а оставшееся семя прижимается к дну ячейки и транспортируется в зону выброса. Как показали испытания сеялок

«Аэромат» фирмы «Карл Беккер» высевающий аппарат избыточного давления обеспечивает лучшие показатели качества высева в сравнении с механическими и пневматическими вакуумными аппаратами, а также имеет небольшую высоту падения семян (7 см). В более поздней модели высевающего аппарата этой фирмы установлен механический выталкиватель, который обеспечивает выбрасывание семян из ячейки в строго фиксированной точке. Однако наличие такого выталкивателя создает предпосылки для дробления и

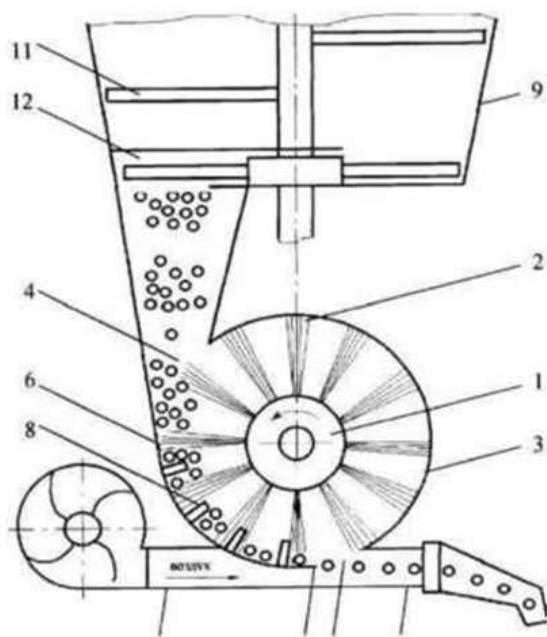


Рисунок 4 – Схема высевающего аппарата для трудносыпучих семян

повреждения семян, еще недостаток – необходимость шлифования (снятие опушенности, зацепов и т.п. шероховатостей) семян для придания им гладкой поверхности [5, 6].

Известен также высевающий аппарат (рис.4.) для высева трудносыпучих семян, образующих связанные группы. Он содержит высевающий валик 1, на ступице которого закреплены упругие иглы 2, горизонтально расположенный барабан 3. На боковой поверхности барабана выполнены загрузное окно 4 и высевное окно 5. Нижняя кромка 6 загрузного окна 4 выполнена по

образующей барабана 3 на уровне горизонтальной диаметральной плоскости последнего. А ближняя к кромке 6 кромка 7 высевного окна 5 выполнена на нижней образующей барабана 3. На внутренней поверхности последнего между кромкой 6 загрузного окна 4 и высевным окном 5 выполнены радиальные пальцы 8, расположенные рядами по образующим барабана 3. Ряды пальцев 8 расположены с интервалом друг относительно друга, а промежутки между пальцами одного ряда перекрываются в направлении окружного склона поверхности барабана 3 пальцами соседнего ряда. При этом ряд пальцев 8 перед высевным окном 5 выполнен с интервалом относительно кромки 7 последнего. Загрузное окно 4 сообщено с семенным бункером 9, а высевное окно - с семяпроводом 10.

Аппарат работает следующим образом. Из семенного бункера 9, оснащенного, например, ворошителем 11 и дозирующим устройством 12, семена порциями в виде отдельных единиц и связанных групп поступают в загрузное окно 4 барабана 3 и увлекаются вращающимся от внешнего привода высевающим валиком 1. Те иглы 2 высевающего валика 1, которые встречают пальцы 8, упруго изгибаясь, обходят последние, а затем, оказавшись между рядами пальцев, встают в исходное положение. В результате связанные группы семян разделяются и рассеиваются сначала встающими на их пути пальцами 8, а затем изгибающимися под действием последних иглами 2 высевающего валика 1. А проходя между пальцами 8, иглы 2 продвигают семена и, встречая

следующий ряд пальцев, продолжают рассеивание семян и их продвижение к высевному окну 5. Пройдя последний перед высевным окном 5 ряд пальцев 8, иглы 2, вставая в исходное положение, выравнивают окончательно слой семян на образованном между кромкой 7 высевающего окна 5 и упомянутым последним рядом пальцев участке барабана 3. В результате семена в высевное окно 5 поступают равномерным слоем и с постоянной скоростью при равномерном вращении высевающего валика 1, что обеспечивает равномерность высева трудносыпучих, образующих связанные группы семян, в том числе и в аппарате, оснащённом пневмоподающим устройством 13 [7].

Достоинством данного высевающего аппарата является равномерность высева трудносыпучих семян.

Заключение

Из анализа экспериментальных высевающих аппаратов применительно к высеву трудносыпучих семян следуют **выводы:**

– На сегодняшний день сеялки, способные производить сев нессыпучих и трудносыпучих сельскохозяйственных культур, в производстве не встречаются. Существуют лишь экспериментальные образцы, которые не в полной мере отвечают агротехническим требованиям. Это и указывает на целесообразность исследования направленного на разработку высевающего аппарата для трудносыпучих семян.

– Конструкция высевающего аппарата для высева трудносыпучих семян должна значительно отличаться от существующих высевающих аппаратов как пневматических, так и механических. Учитывать специфику физико-механических свойств трудносыпучих семян.

– Необходимо разработать высевающий аппарат, учитывающий все нюансы высева трудносыпучих семян и иметь простоту конструкции.

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MILLATLARARO TOTUVLIK VA DINIY BAG‘RIKENGLIK O‘ZBEK XALQINING YUKSAK QADRIYATI SIFATIDA AHAMIYATINING MUHIM JIHATLARI

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ANNOTATSIYA: Ushbu maqolada o‘zbek xalqining naqadar oliyjanob va bag‘rikengligi, yurtimizda millatlararo totuvlik, diniy bag‘rikenglik yuksak qadriyat sifatida ming yillardan buyon amal qilib kelinayotganligi va mamlakat miqiyosida bu borada amalga oshirilayotgan ishlarning ahamiyatli va muhim jihatlari hamda bunga yaratib berilayotgan shart sharoitlar haqida yoritib beriladi hamda millatlararo totuvlik, diniy bag‘rikenglikni yanada rivojlantirish bo‘yicha xulosa takliflar bayon qilinadi.

TAYANCH SO‘ZLAR: Millat va elat vakillari, etnik munosabatlar, urf-odatlar va an’analar, do‘stlik, madaniyat, festival, vijdon erkinligi, diniy tashkilot, harakatlar strategiyasi, Amir Temur, “Temur tuzuklari”, yangi O‘zbekiston, inauguratsiya, inson qadri, Taraqqiyot strategiyasi hamkorlik va hamjihatlik, Markaziy Osiyo, “Qo‘shning tinch-Sen tinch”, manfaat, an’ana va qadimiy urf-odatlar, “Jaholatga qarshi – ma’rifat”, Vatan taraqqiyoti, mamlakati tinchligi, el-yurt farovonligi.

ABSTRACT: This article explains how noble and tolerant the Uzbek people are, how interethnic harmony and religious tolerance have been practiced in our country for thousands of years, and the important and important aspects of the work being carried out in this regard at the national level, as well as the conditions created for this. will be given and suggestions for the further development of interethnic harmony and religious tolerance will be presented.

KEY WORDS: Representatives of nations and peoples, ethnic relations, customs and traditions, friendship, culture, festival, freedom of conscience, religious organization, action strategy, Amir Temur, "Temur's rules", new Uzbekistan, inauguration, human dignity, Progress strategy of cooperation and solidarity, Central Asia, "Neighbor is peaceful - You are peaceful", interests, traditions and ancient customs, "Enlightenment against ignorance", development of the Motherland, peace of the country, well-being of the nation.

KIRISH. Millatlararo totuvlik, bag‘rikenglik g‘oyasi - turli millat va elatlar vakillarining bir zamin, bir vatanda olijanob g‘oya va niyatlar yo‘lida hamkor va hamjihat bo‘lib yashashini anglatadi. Qadim-qadimdan milliy qadriyatlarimiz ezgulik g‘oyalariga asoslanib, yaxshilik, tinchlik, do‘stlik kabi fazilatlarga tayanib kelgan. Odamlarni halollik, poklik, mehr-oqibat va bag‘rikenglikka chorlagan.

Mustaqillik sharofati bilan 130 dan ortiq millat va elat vakillari yashaydigan O‘zbekistonda turli millat va elat vakillari farovon yashashi, osoyishta hayot kechirishi uchun qulay sharoitlar yaratilgan. Etnik munosabatlar va din sohasida olib borilayotgan izchil va oqilona siyosat tufayli mamlakatimizda millatlararo totuvlik, dinlar va konfessiyalararo hamkorlik qaror topdi. Konstitutsiyamizda “O‘zbekiston Respublikasida barcha fuqarolar bir xil huquq va erkinliklarga ega bo‘lib, jinsi, irqi, millati, tili, dini, ijtimoiy kelib chiqishi, e‘tiqodi, shaxsi va ijtimoiy mavqeyidan qat’i nazar, qonun oldida tengdirlar”, degan tamoyilning mustahkamlab qo‘yilganligi, shuningdek, 4-moddada “O‘zbekiston Respublikasi o‘z hududida istiqomat qiluvchi barcha millat va elatlarning tillari, urf-odatlar va an‘analarini hurmat qilinishini ta‘minlaydi, ularning rivojlanishi uchun sharoit yaratadi” deb belgilanganligi, 35-moddaga asosan “Hamma uchun vijdon erkinligining kafolatlanganligi va har bir inson xohlagan diniga e‘tiqod qilishi mumkinligi” belgilanganligi esa, bu boradagi ishlarning qonuniy asosi bo‘lib xizmat qilmoqda.

ASOSIY QISM. Mamlakatimizning Birinchi Prezidenti Islom Karimovning tashabbusi bilan 1992-yil 3-yanvarda O‘zbekiston Respublikasi baynalmilal madaniyat markazi ta‘sis etilganligini, “O‘zbekiston umumiy uyimiz” deb nomlangan do‘stlik va madaniyat festivalinig har yili o‘tkasib kelinayotgani, 1991 yilda “Vijdon erkinligi va diniy tashkilotlar to‘g‘risida”gi qonun qabul qilinganligi, O‘zbekiston Respublikasi Prezidentining 1992-yil 7-mart kunidagi Farmoniga muvofiq O‘zbekiston Respublikasi Vazirlar Mahkamasi huzuridagi Din ishlari bo‘yicha qo‘mita tashkil etilgan bo‘lib, u har bir shaxsning vijdon va diniy e‘tiqod erkinligi huquqi, fuqarolarning dinga bo‘lgan munosabatidan qat’i nazar tengligini ta‘minlash, shuningdek, diniy tashkilotlar faoliyati bilan bog‘liq munosabatlarni tartibga solish sohasidagi vazifalarni hal etib kelayotganligi fikrimning tasdig‘idir.

Bugungi kunda Mamlakatimizdagi davlat ta‘lim muassasalarida o‘qitish etti tilda olib boriladi. O‘zbekiston Milliy teleradiokompaniyasi o‘z ko‘rsatuvlarini o‘n ikki tilda namoyish etmoqda, o‘ndan ortiq tilda gazeta va jurnallar nashr etilmoqda. Millatlararo munosabatlar va xorijiy mamlakatlar bilan do‘stlik aloqalari qo‘mitasi qoshida 138 ta milliy madaniy markaz, bundan tashqari, 16 ta konfessiyaga tegishli 2300 ga yaqin diniy tashkilot faoliyat yuritib kelmoqda.

2017-2021-yillarda O‘zbekiston Respublikasi Prezidenti Shavkat Mirziyoyevning O‘zbekiston Respublikasini rivojlantirishning beshta ustuvor yo‘nalishi bo‘yicha Harakatlar strategiyasi doirasida mamlakatimizda millatlararo va konfessiyalararo muloqotni rivojlantirish borasida institutsional yondashuv yo‘lga qoyildi va mazkur sohaga yanada alohida e‘tibor qaratilmoqda. Prezidentimizning 2018 yil 16 apreldagi “O‘zbekiston Respublikasi Vazirlar Mahkamasi huzuridagi Din ishlari bo‘yicha qo‘mita faoliyatini takomillashtirish chora-tadbirlari to‘g‘risida”gi qaroriga muvofiq, din ishlari bo‘yicha qo‘mita huzuridagi Konfessiya ishlari bo‘yicha kengashning yangi tarkibi tasdiqlanib unga ko‘ra millatlararo munosabatlar va xorijiy mamlakatlar bilan do‘stlik aloqalari qo‘mitasining asosiy vazifalari qatoriga davlat organlarining respublika hududida joylashgan milliy madaniy markazlar va do‘stlik jamiyatlari bilan o‘zaro aloqasi va hamkorligini ta‘minlash va yanada rivojlantirish kiritildi.

O‘zbekiston Respublikasi Prezidenti Shavkat Mirziyoev tomonidan 2017-yil 19-sentyabr kuni Birlashgan Millatlar Tashkiloti Bosh Assambleyasining 72-sessiyasida bag‘rikenglik va o‘zaro hurmatni qaror toptirish, diniy erkinlikni ta‘minlash, e‘tiqod qiluvchilarning huquqini himoya qilish, ularning kamsitilishiga yo‘l qo‘ymaslikka ko‘maklashishga qaratilgan “Ma‘rifat va diniy bag‘rikenglik” deb nomlangan maxsus rezolyutsiyasini qabul qilish taklif etilishi va ushbu hujjatning 2018-yil 12-dekabrda qabul qilinishi mamlakatimizda bu borada amalga oshirilayotgan ishlarning mintaqalar orasida ham keng qo‘llanilishi borasidagi tajribasidan foydalanishda har tomonlama namuna bo‘la olishini anglatdi.

2020-yil 13-oktyabr kuni Birlashgan Millatlar Tashkiloti Bosh Assambleyasi sessiyasida bo‘lib o‘tgan saylovlarda O‘zbekiston milliy davlatchiligimiz tarixida ilk bor Birlashgan Millatlar Tashkilotining Inson huquqlari bo‘yicha kengashi a‘zolariga uch yil muddatga 2021-2023 yillarga saylandi. Bu ham yurtimizda millati va dinidan qat‘i nazar, inson huquqlarini ta‘minlashga qaratilgan, shu jumladan, millatlararo totuvlik va diniy bag‘rikenglik sohasida olib borilayotgan siyosatning e‘tirofi desak, fikrimiz xato bo‘lmaydi.

Shuningdek, O‘zbekiston Respublikasi Prezidentining 2019-yil 15-noyabrdagi PF-5876-son “Millatlararo munosabatlar sohasida O‘zbekiston Respublikasi davlat siyosati konsepsiyasini tasdiqlash to‘g‘risida” farmonining qabul qilinganligi va so‘nggi yillarda davlat siyosatining ustuvor yo‘nalishlaridan biri jamiyatda millatlararo totuvlik va bag‘rikenglikni ta‘minlash, do‘stlik muhitini va ko‘p millatli katta yagona oila tuyg‘usini mustahkamlash, yoshlarni Vatanga muhabbat va sadoqat ruhida, milliy va umuminsoniy qadriyatlarga hurmat bilan qarash ruhida tarbiyalash, xorijiy mamlakatlar bilan madaniy-ma‘rifiy aloqalarni kengaytirishga

yo'naltirilgan keng miqyosdagi ishlar amalga oshirilganligi to'g'risida va keyingi faoliyati davomida tegishli tashkilotlarning amalga oshirilishi lozim bo'lgan vazifalari belgilab o'tilgan. Bularning barchasi O'zbekistonning xalqaro munosabatlarda ishonchli va mas'uliyatli sub'ekt sifatidagi roli mustahkamlanayotganidan dalolat beradi.

Yurtimizda nafaqat bugungi kunda millatlararo totuvlik, bag'rikenglik g'oyasi qadim-qadimdan milliy qadriyatlarimiz ezgulik g'oyalariga asoslanib, yaxshilik, tinchlik, do'stlik kabi fazilatlariga tayanib kelganligi hech birimizga sir emas. Jumladan, Buyuk shoh va sarkarda Sohibqiron Amir Temur hukmronligi davrida davlatchilik, qo'shinlar tuzish, ilm-fan va san'at, adabiyot, tibbiyot, me'morchilik, xattotlik va kutubxonalar rivojida katta o'zgarishlar kuzatilgan. Taniqli fransuz olimi Lyusen Keren buyuk ajdodimiz xaqida "1336 yil 9 aprelda hozirgi Shahrisabzdan uncha uzoq bo'lmagan joyda, Osiyodan Yevropagacha bo'lgan xalqlarning va o'z davrining tarixini o'zgartirgan, jahon tamadduni tarixida yorqin iz qoldirgan shaxs dunyoga keldi", deb shunchaki yozmagan edi axir. Bu gap tag zamirida butun bir markaziy osiyoda millatlararo totuvlik, bag'rikenglik, do'stlik munosabatlarini o'rnatgan shaxs e'tirof etilayotganidir.

Amir Temurning ma'naviy merosi millatlararo totuvlik, islohotlarni amalga oshirishda yo'lchi yulduz, yosh avlodni vatanparvarlik tarbiyasi, milliy o'zlik va dunyoqarashni shakllantirish, bag'rikenglik manbaiga aylangan. U hayotligida qo'llagan va avlodlariga vasiyat qilib qoldirgan ma'naviy-axloqiy tamoyillari esa noyob asar "Temur tuzuklari"da o'z aksini topgan.

So'nggi olti asrdiki Temur haqida Yevropa tillarida 900 dan va Sharq tillarida 1000 dan ortiq asar yozilgan, uning merosini o'rganishga bag'ishlangan ilmiy simpoziumlar o'tkazilmoqda, taniqli tadqiqotchilar tomonidan ilmiy izlanishlar olib bormoqda.

O'zbekiston Respublikasi prezidenti Shavkat Miromonovich Mirziyoev inauguratsiya marosimida so'zlagan nutqida butun kuch va salohiyatimizni yagona ulug' maqsadimiz -Yangi O'zbekistonni barpo etishga qaratamiz deya alohida e'tirof e'tib "Inson qadri uchun" degan ustuvor tamoyilni to'la ro'yobga chiqarish bundan buyon ham faoliyatimizning bosh mezoni bo'lishi to'g'risida, shuningdek, bugun mamlakatimizda faoliyat ko'rsatayotgan xalqaro tashkilotlar vakillari va xorijiy davlatlar elchilari qatnashayotgani, so'nggi yillarda yurtimizda demokratik islohotlarni amalga oshirish, jumladan, inson huquq va erkinliklari hamda qonun ustuvorligini ta'minlash borasida olib borayotgan ishlar borasida hamda "Harakatlar strategiyasidan-Taraqqiyot strategiyasi sari" degan tamoyil asosida yangi dasturning

qabul qilinishi va yangi O‘zbekiston taraqqiyot strategiyasi milliy rivojlanishimizning yangi bosqichini boshlab berashini ta’kidlab o‘tdi.

MUHOKAMA. Ushbu qabul qilinagan Yangi O‘zbekiston taraqqiyot strategiyasi Bu-bejiz emas. Zero, ajdodlarimiz yetti raqamini baxt-saodat va omad keltiradigan, ezgu niyatni ro‘yobga chiqaradigan xosiyatli timsol, deb bilganlar. Taraqqiyot strategiyasining aynan beshinchi bo‘limi, “Yangi O‘zbekiston taraqqiyot strategiyasida ijtimoiy, iqtisodiy va siyosiy omillar bilan birga, ma’naviy va ma’rifiy sohalarda amalga oshirilayotgan islohotlar”ni rivojlantirish borasida bo‘lib, O‘zbekistonning ulkan imkoniyat va boyliklarga ega mamlakat ekanligi va bizning eng katta boyligimiz – turli millat va elatlar, diniy konfessiyalar vakillari o‘rtasidagi tinchlik va barqarorlik, o‘zaro hurmat va hamjihatlikning davom etib kelinayotgan, bugungi kunda mamlakatimizda 130 dan ziyod millat va elat vakillari yagona va ahil oila bo‘lib yashayotgani haqida yoritib berilgan. Shuningdek, ushbu millat va elat vakillarining fidokorona mehnati bilan jonajon O‘zbekistonimiz ravnaqiga munosib hissa qo‘shayotgani ayniqsa quvonarlidir. Bizning davlatimizda jamiyatimizning bor kuch va imkoniyatlarini bundan buyon ham barcha millat va elat vakillarining milliy o‘zligini, ona tili va madaniyatini, dini, urf-odat va an‘analarini saqlab qolish va rivojlantirishga, do‘stlik va ahillik muhitini yanada mustahkamlashga yo‘naltirish borasidagi amalga oshirilishi rejalashtirilayotgan ishlar turli millat va elatlar vakillarining bir zamin, bir Vatanda olijanob g‘oya va niyatlar yo‘lida yanada hamkor va hamjihat bo‘lib yashashini va rivojlanishini uchun katta imkoniyatlar eshigini ochadi.

Shuningdek, strategiyaning yettinchi bo‘limida, mamlakatimizda tinchlik va xavfsizlikni ta’minlashning ishonchli kafolatlari borasida amalga oshirilishi rejalashtirilgan ishlar pragmatik va chuqur o‘ylangan tashqi siyosat va iqtisodiy diplomatiya borasidagi munosabatlarimizni yanada rivojlantirish, ayniqsa Markaziy Osiyo mintaqasidagi barcha mamlakatlar bilan yaxshi qo‘shnichilik va strategik sheriklik munosabatlarini tobora kuchaytirish borasida strategig rejalarni amalga oshirish rejalashtirilayotgani bugungi dunyoda va mintaqamizda vujudga kelayotgan bugungi murakkab va tahlikali vaziyatda juda-juda muhimdir.

Dono xalqimizning “Qo‘shning tinch-Sen tinch” degan maqoliga ming yillardan buyon amal qilib kelayapdi. Bu bejizga emas. Bugungi kunda qo‘shni davlatlarda yuz berayotgan holatlar har birimizni tashvishga solishi shartdir. Jumladan, mintaqamizning ajralmas qismi, yaqin qo‘shnimiz bo‘lgan Afg‘onistonda tinch va osoyishta hayotni tiklash, bu mamlakatda iqtisodiy va gumanitar inqirozga yo‘l qo‘ymaslik uchun afg‘on xalqiga qo‘limizdan kelgan barcha yordamni ko‘rsatish

borasidagi ishlarning rejalashtirilgani bu-O‘zbek xalqining naqadar oliyjanob va bag‘rikengligidan dalolatdir.

Shuningdek, Rossiya, Xitoy, Amerika Qo‘shma Shtatlari, Turkiya, Hindiston, Pokiston, Germaniya, Fransiya, Janubiy Koreya, Yaponiya, Birlashgan Arab Amirliklari va dunyoning barcha mintaqalaridagi sheriklarimiz bilan o‘zaro manfaatli va ko‘pqirrali aloqalarni kengaytirishga alohida e‘tibor berilishi nafaqat mamlakat taraqqiyoti balki ilm-fan rivojiga va yurtimizga kadrlarni chet ellarda o‘qitish va malakasini oshirishi va yurtimizga kerakli kadr bo‘lib kelishiga imkoniyat yaratadi.

XULOSA. Biz, juda tez, mislsiz shiddat bilan o‘zgaryotgan zaminda yashayapmiz. Bu esa bugungi kunda quyida amalga oshirilishi lozim bo‘lgan bir qator takliflarni amalga oshirishni taqazzo etadi. Jumladan:

- Milliy qadriyatlarimizni yanada rivojlantirish va o‘zbek tilining ahamiyatini oshirish hamda bu qadriyatlarni keyingi avlodlarga aslicha yetkazish borasidagi salmoqli ishlarni amalga oshirish;

- Yo‘qolish arafasida turgan an‘ana va qadimiy urf-odatlarini tiklash;

- Muqaddas islom dinimizning insonparvarlik g‘oyalarini targ‘ib etish, “jaholatga qarshi – ma‘rifat” tamoyili asosida unib-o‘sib kelayotgan yoshlarimizni sog‘lom e‘tiqod ruhida tarbiyalashga alohida ahamiyat berish;

- Shuningdek, boshqa dinlar o‘rtasida nizolar va tushunmovchiliklar kelib chiqishini oldini olish va dinga bo‘lgan munosabatidan qat‘i nazar tengligini ta‘minlash;

- Yovuz niyatli shaxslarning ko‘p millatli xalqimiz orasiga kirib, kelishmovchilik va turli nizolar keltirib chiqarishini oldini olish va bu borada Huquqni muhofaza qiluvch organlar, hokimliklar, o‘zini-o‘zi boshqarish tizimi xodimlari bilan muntazam aloqada bo‘lish va hamkorlikda ishlash kabi rejalarni asdoidil amalga oshirish maqsadga muvofiqdir.

Vatan taraqqiyoti yo‘lida mamlakatimiz tinchligi, el-yurt farovonligi yo‘lida hamisha birdam bo‘lib, yurtimizda istiqomat qiluvchi barcha millat va elatlarning tillari, urf-odatlari va an‘analaridan qat‘iy nazar doimo bir xalq bo‘lib yashashni va birdamlikni saqlab qolishni ta‘minlash nihoyatda ahamiyatlidir.

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ЭКОЛОГИЧЕСКИЙ КОМПЛАЕНС: УСТОЙЧИВОЕ РАЗВИТИЕ И КОРПОРАТИВНАЯ ОТВЕТСТВЕННОСТЬ

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***Аннотация:** В статье рассматриваются аспекты экологического комплаенса в Узбекистане, его важность и влияние на устойчивое развитие страны. Анализируются международные и национальные экологические требования, роль корпоративной ответственности и практики экологического менеджмента.*

***Ключевые слова:** экологический комплаенс, устойчивое развитие, корпоративная ответственность, экологические нормы, корпоративное управление.*

ENVIRONMENTAL COMPLIANCE: SUSTAINABLE DEVELOPMENT AND CORPORATE RESPONSIBILITY

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***Abstract:** This article explores the facets of environmental compliance in Uzbekistan, its significance for sustainable development, and its impact on the country's progress. It examines international and national environmental requirements, the role of corporate responsibility, and practices of environmental management.*

***Key words:** environmental compliance, sustainable development, corporate responsibility, environmental regulations, corporate governance.*

Введение. В эпоху глобальных экологических вызовов, таких как изменение климата, истощение природных ресурсов и загрязнение окружающей среды, вопросы устойчивого развития и экологической ответственности становятся все более актуальными для корпоративного мира. Экологический комплаенс, или соблюдение экологических норм и стандартов, выходит на передний план как неотъемлемая часть корпоративной стратегии, направленной

на минимизацию отрицательного воздействия бизнеса на окружающую среду и общество.

Введение в экологический комплаенс открывает дискуссию о том, как компании могут сочетать стремление к прибыльности с необходимостью сохранения природных ресурсов и поддержания благополучия будущих поколений. Это требует переосмысления традиционных бизнес-моделей и внедрения инноваций, которые способны обеспечить экономическое развитие без ущерба для окружающей среды.

В статье 62 Конституции РУз, подчеркивается, что каждый гражданин обязан бережно относиться к окружающей среде [1]. Если проанализировать стратегию «Узбекистан – 2030», то одной из основных целей является создание благоприятных экологических условий для населения, что подкреплено целями 51, 66, 67, 69, 71, 72 и 91 [2]. В свою очередь, Президент Шавкат Мирзиёев в своем выступлении с национальным заявлением на пленарной сессии Конференции ООН по климату (COP28) 1 декабря 2023 года подчеркнул, что переход на рельсы «зелёной» экономики и достижение углеродной нейтральности являются «приоритетной стратегической задачей Нового Узбекистана» [3].

Цель данной статьи – осветить текущее состояние экологического комплаенса в Узбекистане, рассмотреть международные и национальные нормативы, которые регулируют эту сферу, а также выявить основные вызовы и возможности для улучшения экологической ответственности в стране. Статья также направлена на анализ роли корпоративной ответственности в соблюдении экологических стандартов и изучение лучших практик в этой области.

Методология. В процессе исследования использовались методы абстракционного логического исследования в форме суждений.

Анализ и результаты исследования. Комплаенс в буквальном переводе с английского означает – соответствие. Это обеспечение соответствия нормам и правилам установленное государством и международным сообществом, соблюдение правовых (в том числе корпоративных, внутренних локальных) и этических норм [4, с. 14]. Экологический комплаенс обозначает соблюдение предприятиями и организациями экологических норм и законов, как на международном, так и на национальном уровне. Это не просто юридическая необходимость, но и ключевой элемент корпоративной ответственности и устойчивого развития. В широком смысле экологический комплаенс охватывает политику, процедуры и действия, направленные на минимизацию воздействия деятельности компании на природу.

Соблюдение экологического комплаенса в частном секторе критически важно для государства и общества, поскольку это способствует устойчивому развитию и охране окружающей среды. Экологически ответственные практики бизнеса помогают предотвратить загрязнение окружающей среды, сохранить природные ресурсы и биоразнообразие, а также улучшить качество жизни людей. Кроме того, они могут привести к созданию новых рабочих мест в «зеленых» отраслях и стимулировать инновации. Для государства экологический комплаенс в частном секторе также важен для выполнения обязательств по сокращению выбросов парниковых газов и достижения целей устойчивого развития.

В Узбекистане экологические требования регламентируются национальным законодательством. Основой является Закон Республики Узбекистан, от 09.12.1992 г. № 754-ХІІ «Об охране природы» и Закон Республики Узбекистан, от 27.12.2013 г. № ЗРУ-363 «Об экологическом контроле», который включает положения по охране окружающей среды, рациональному использованию природных ресурсов и контролю за загрязнением. Другие законы, такие как Закон Республики Узбекистан, от 05.04.2002 г. № 362-ІІ «Об отходах», Закон Республики Узбекистан, от 06.05.1993 г. № 837-ХІІ «О воде и водопользования», Закон Республики Узбекистан, от 27.12.1996 г. № 353-І «Об охране атмосферного воздуха», Указ Президента Республики Узбекистан, от 30.10.2019 г. № УП-5863 «Об утверждении концепции охраны окружающей среды Республики Узбекистан до 2030 года», Постановление Кабинета Министров Республики Узбекистан, от 15.01.2019 г. № 29 «об утверждении положения о государственном комитете Республики Узбекистан по экологии и охране окружающей среды» и другие, также играют ключевую роль в формировании экологической политики страны.

Роль государства в регулировании экологического комплаенса в Узбекистане осуществляется через ряд министерств и ведомств, включая Государственный комитет Республики Узбекистан по экологии и охране окружающей среды. Этот орган ответственен за разработку и реализацию государственной политики в области экологии, контроль за соблюдением экологических норм и стандартов, а также координацию деятельности других государственных органов и организаций в этой сфере. Государство также стимулирует инвестиции в экологически чистые технологии и развитие возобновляемых источников энергии. В Узбекистане принимаются меры по улучшению экологического законодательства, включая усиление ответственности за экологические нарушения и расширение мониторинга за

состоянием окружающей среды. Кроме того, разрабатываются программы по адаптации к изменению климата, повышению энергоэффективности и уменьшению выбросов парниковых газов.

Следовательно, одной из основных целей, нормативно-правовых актов в области экологической безопасности и устойчивого управления природными ресурсами, является развитие зеленой экономики. Анализ упомянутых выше нормативных положений позволяет сформулировать неоспоримый аргумент: продвижение зеленой экономики должно быть достигнуто через юридические регуляции, которые гармонизируют интересы бизнеса, общества и правительства. Следовательно, вопросы равновесия юридических регуляций в экологических вопросах и согласования публичных и частных интересов в обеспечении экологической безопасности остаются актуальными и вызывают обширные дебаты в научном и юридическом сообществе.

Некоторые ученые предлагают рассмотреть юридическое регулирование экологических вопросов, отдав приоритет интересам государства и общества. Например, В. Н. Харьков подчеркивает, что конституционная природа природных ресурсов основана на принципе приоритета общественных интересов, требующего эффективного и рационального использования и защиты земли и других природных ресурсов [5, с. 193]. Это предполагает удовлетворение текущих потребностей в социальном и экономическом развитии через обеспечение природных ресурсов, а также сохранение природного потенциала для будущих поколений, представляя существенный аспект глобального экологического благополучия.

Тем не менее, другой исследователь утверждает, что общественные интересы не должны быть связаны исключительно с государством, публичными организациями или обществом в целом. Сохранение природного потенциала и рациональное использование природных ресурсов также являются частными экономическими интересами для любого общества. Поэтому ими предлагается принять комбинированный подход для балансировки частных и общественных интересов в этой области, а не ставить их друг против друга [6, с. 40]. Такой подход способствовал бы развитию зеленой экономики и бизнес-практик, ориентированных на охрану окружающей среды.

Корпоративная ответственность в контексте экологического комплаенса выходит за рамки простого исполнения законов. Она включает в себя разработку и реализацию стратегий, направленных на минимизацию вреда окружающей среде. Компании, которые активно работают в этом направлении, часто получают повышенное доверие со стороны потребителей, что способствует их

долгосрочному успеху. И по оценкам экспертов внедрение экологического комплаенса способно увеличить инвестиционную привлекательность компании [7, с. 46].

Следует отметить, что физические лица за нарушение экологических нормативных требований могут быть привлечены к административной ответственности (согласно главе VIII "Административная ответственность за правонарушения в области экологии, охраны окружающей среды и природопользования" Кодекса Республики Узбекистан об административной ответственности) или уголовной ответственности (согласно разделу "Преступления в сфере экологии" особенной части Уголовного кодекса Республики Узбекистан).

Международный опыт в области экологического комплаенса представляет собой широкий спектр практик и стандартов, направленных на снижение воздействия хозяйственной деятельности на окружающую среду. В последние десятилетия, на фоне усиления глобальных экологических проблем, таких как изменение климата и утрата биоразнообразия, вопросы экологического комплаенса приобрели особую актуальность.

На международном уровне экологический комплаенс регулируется рядом соглашений и стандартов. Важными документами являются Парижское соглашение по климату, Киотский протокол, Конвенция о биологическом разнообразии и многие другие. Эти документы направлены на сокращение выбросов парниковых газов, защиту биоразнообразия и управление природными ресурсами. Кроме того, стандарты ISO серии 14000, в частности ISO 14001, устанавливают требования к системам экологического менеджмента, позволяя организациям улучшать свою экологическую производительность.

Из анализа научной литературы и текущего корпоративного поведения можно сделать вывод, что внедрение экологического комплаенса характерно многих видов компаний. Однако поднимается вопрос о том, какая структура в корпорации несет ответственность за формулирование и одобрение соответствия, особенно в области экологического соответствия. Согласно системе управления окружающей средой (ISO 14001:2016), экологическая политика компании представляет собой официальные намерения и направление организации по отношению к экологической деятельности, формально утвержденные ее верхним руководством, определяемым как лицо или группа, контролирующая организацию на самом высоком уровне [7, с. 47]. Однако мы считаем, что ответственность за экологический комплаенс в организации должна быть совместной. То есть, руководство должно обеспечивать поддержку и

ресурсы для работы комплаенс-службы, а также создавать культуру, в которой соблюдение экологических норм и стандартов является приоритетом. Комплаенс-служба, в свою очередь, должна разрабатывать и внедрять соответствующие процедуры и контролировать их соблюдение, обучать персонал и проводить аудиты. Однако, без поддержки и участия руководства эффективное внедрение экологического комплаенса будет затруднено.

Преимущества внедрения международного стандарта ISO 14001:2016 и соблюдения требований законодательства могут быть следующими:

- Увеличение прибыльности компании благодаря эффективной системе управления окружающей средой;
- Минимизация и смягчение негативного воздействия на окружающую среду, возникающего в результате деятельности компании;
- Повышение участия и эффективности сотрудников по сравнению с фирмами, не имеющими международной аккредитации систем управления;
- Снижение расходов на энергию и материалы, что приводит к экономии;
- Сокращение расходов на выделение ресурсов;
- Улучшение репутации перед регуляторами, клиентами и общественностью;
- Возможность выхода на мировые рынки;
- Привлечение зарубежных инвестиций и финансовой поддержки;
- Конкурентное преимущество как на местном, так и на международном уровне в процессах закупок [8].

Кроме того, внедрение экологического комплаенса в частном секторе сталкивается с проблемами, такими как высокие затраты на новые технологии и методы производства, недоступность или несовершенство этих технологий, отсутствие законодательной поддержки и осведомленности о важности экологического комплаенса. Кроме того, существует сопротивление изменениям со стороны сотрудников и руководства, недостаток квалифицированных специалистов для внедрения и поддержания экологического комплаенса, а также необходимость времени для перехода на новые методы и технологии.

Кейс-стадии: «Дело Volkswagen». Агентство по защите окружающей среды США (US EPA) заявило, что 2-литровые дизельные двигатели VW серии AE 189 не соответствуют заявленному уровню выбросов. В зависимости от условий езды, моделей автомобилей и т. д. разница между заявленной и фактической чистотой выбросов может достигать 10-40 раз. Проблема оказалась очень значительной, поскольку, во-первых, количество проданных в США автомобилей с таким двигателем составило около 500 000 единиц, а в мире общее

количество автомобилей с двигателем АЕ 189 уже составило около 11 миллионов единиц [9]. Проблема, скорее всего, станет глобальной: несколько дней после заявления ЕРА о проведении аналогичных расследований и токсичных испытаний Франция и Южная Корея сделали аналогичные заявления; в конце сентября Швейцария просто запретила продажу автомобилей группы VW с дизельными двигателями объемом 1,2 л, 1,6 л и 2,0 л и стандартом токсичности «Euro-5». Volkswagen признал обман и выразил готовность устранить недостатки. Сумма компенсации, подлежащая выплате Volkswagen (14,7 миллиарда долларов владельцам автомобилей) и дополнительные 4,7 миллиарда на компенсацию ущерба окружающей среде и экологические проекты [10, с. 42].

Из этого кейса можно сделать вывод о важности соблюдения экологических стандартов и требований для компаний, особенно таких крупных и известных, как Volkswagen. Несоблюдение нормативов может привести к серьезным штрафам, убыткам для бренда и потере доверия со стороны потребителей. Это подчеркивает необходимость внедрения и соблюдения системы экологического комплаенса в деятельности компаний. Кроме того, данный кейс показывает, что нарушения могут быть обнаружены и привести к последствиям даже через длительное время после их совершения.

Заключение. Подводя итоги первоначальных результатов исследования соблюдения экологических норм, важно понимать, что этот аспект является неотъемлемой частью общей экологической стратегии корпорации и корпоративного управления. Факт того, что соблюдение экологических норм является добровольным, в сочетании с отсутствием юридических стимулов, высокими финансовыми затратами на создание системы комплаенса и неопределенностью в отношении компетентности корпоративного управления, все вместе создают препятствия для широкого принятия экологического комплаенс-контроля.

Для поощрения предприятий внедрять соблюдение экологических норм в свою управленческую практику предлагаются несколько мер:

1. государстве и частным компаниям необходимо активнее участвовать в международных экологических программах и проектах, что способствует обмену опытом и привлечению финансирования;
2. эффективное правоприменение является ключевым для обеспечения соблюдения экологических норм, требуется улучшение системы инспекций и увеличение штрафов за нарушения.
3. снижение штрафов за нарушения экологических законов при наличии программы соблюдения;

4. предоставление предпочтения при закупках, включая «соблюдение экологических норм» в качестве критерия в тендерной документации, позволяя клиентам отдавать предпочтение таким участникам, когда другие факторы равны;

5. важно обеспечить, чтобы экологические соображения были интегрированы во все аспекты государственной политики, от промышленности до транспорта и энергетики.

Внедрение этих предложенных изменений, вместе с стимулирующими нормами, будет мотивировать предприятия внедрять системы соблюдения, что в конечном итоге приведет к большему осознанию экологических проблем в предприятиях, юридическому соблюдению, усилению акцента на охране окружающей среды и, следовательно, способствует активному развитию «зеленой» экономики.

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IQTISODIY NOCHOR KORXONALARNI MOLIYAVIY SOG‘LOMLASHTIRISHNI TARTIBGA SOLISHDA DAVLATNING ROLI: RIVOJLANGAN XORIJ VA O‘ZBEKISTON TAJRIBALARI

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***Annotasiya:** Ushbu maqolada bugungi kunda bankrotlik institutini sog‘lomlashtirish choralari samaradorligi zamonaviy amaliy va nazariy muhokamalarning dolzarb masalalari haqida fikr yuritiladi.*

***Kalit so‘zlar:** kreditorlar va qarzdorlar, xodimlar bilan hisob-kitoblar va dividendlar, moddiy-texnika va texnologik baza.*

KIRISH

Bugungi kunda bankrotlik institutini sog‘lomlashtirish choralari samaradorligi zamonaviy amaliy va nazariy muhokamalarning dolzarb masalalaridan biridir. Bugungi kunda "monitoring" va "moliyaviy tiklanish" tartib-qoidalariga bo‘lgan so‘rovlar soni ortib bormoqda, ammo ular potensial bankrotlar uchun ijobiy natijalarga erishish ehtimoli kamroq. Korxonani moliyaviy sog‘lomlashtirish - bu kompaniyaning moliyaviy barqarorligi va to‘lov qobiliyatini (kompaniyaning o‘z majburiyatlariga muvofiq da‘volarni to‘lash qobiliyatini) oshirishga qaratilgan bankrotlik protseduralaridan biridir.

Inqirozlarning salbiy oqibatlari obyektiv metodologiyani ishlab chiqish va iqtisodiyotning real sektoridagi korxonalarni moliyaviy sog‘lomlashtirish vositalarini izlash muammosini dolzarb bo‘lib qo‘ydi. Chunki, birinchidan, bu beqaror xo‘jalik yurituvchi subyektlarning bankrotlik xavfini kamaytirishga yordam beradi, ikkinchi, u chinakam ishonchli korxonalar uchun yangi rivojlanish yo‘llarini ochadi. Korxonani moliyaviy sog‘lomlashtirishning samarali usullari va mexanizmlarini qo‘llash menejerlarga ongli va samarali boshqaruv qarorlarini qabul qilish imkonini beradi, bu esa o‘z navbatida biznesning rivojlanishiga, shuningdek, butun iqtisodiyotning o‘sishiga turtki bo‘ladi. Ushbu barqarorlik shartlariga quyidagilar kiradi:

- a) kreditorlar va qarzdorlar, xodimlar bilan hisob-kitoblar va dividendlar, ulushlar to‘lash;
- b) moddiy-texnika va texnologik bazani yaxshilash va yangilash uchun bank kreditlari va investitsiyalarini olish imkoniyati;

v) korxonaning tijorat banklari va investorlar oldidagi qarzini o'z vaqtida to'lash.

Davlat mamlakat iqtisodiy hayotidagi muhim institutdir. Shu bois mamlakat ichida sodir bo'layotgan jarayonlar jamiyat, korxonalar va alohida fuqarolar rivojlanishi uchun qulay shart-sharoit yaratuvchi muayyan mexanizmlar yordamida nazorat qilinishi kerak.

Korxonaning to'lov qobiliyatini yo'qotishi, shuningdek, moliyaviy majburiyatlarga ega bo'lishining ko'plab sabablari bor, ammo shuni ta'kidlash kerakki, bunday vaziyatda yuzaga keladigan muammolarni samarali hal qilish asosiy vositalarni yangilash, tuzilmani takomillashtirish, birlashgan doimiy monitoring qilishda davlat yordami kerak. Har qanday korxonada o'zining to'lovga layoqatsizligi va keyingi samarali rivojlanishning mumkin emasligi bilan bog'liq salbiy oqibatlar uchun duch kelishi mumkin. Korxonani inqirozdan olib chiqish uchun zarur bo'lgan tartib-qoidalar qonun bilan tartibga solinishi kerak. Bunday holda, davlat siyosati korxonaning moliyaviy holatini normallashtirish uchun bir nechta dastaklarni o'z ichiga oladi. Birinchidan, bu tartibga solish va qonunchilik choralari:

1. Sanatsiya (budjet mablag'lari bilan ta'minlash).
2. Majburiy to'lovlar bo'yicha qarzni qayta tuzish.
3. Soliq to'lovlarini kechiktirishni ta'minlash, investitsion soliq imtiyozlarini taqdim etish.
4. Bankrotlik institutida reabilitatsiya jarayonlarining mavjudligi.
5. Ayrim toifadagi tashkilotlar uchun bankrotlik, moliyaviy sog'lomlashtirish va qayta qurish xususiyatlarining mavjudligi .
6. Banklardan olingan kreditlar bo'yicha foiz stavkalarini subsidiyalash.
7. Davlat kafolatlarini ta'minlash.
8. Boshqa chora-tadbirlar.

Normativ-huquqiy hujjatlar orasida kreditlar bo'yicha foiz stavkalarini subsidiyalash, davlat kafolatlarini berish alohida o'rin tutadi. Ushbu usullar davlatdan moliyaviy yordam olish imkoniyatini beradi. Ularning davlat xaridlari tizimidagi korrupsiya darajasini pasaytirish bilan uyg'unlashishi esa korxonalarni moliyaviy sog'lomlashtirish mexanizmining shaffofligini ta'minlaydi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Tashkiliy va ma'muriy chora-tadbirlar korxonalarni inqirozdan samarali olib chiqishga qaratilgan bo'lib, ularga tashkilotlarning moliyasini nazorat qilish va boshqarish imkonini beradi. Bunday choralar qatoriga quyidagilar kiradi:

1. Tashkilotlar va ularning hamkorlari (etkazib beruvchilar, xaridorlar, kreditorlar) o'rtasida kelishuvlarga erishishda yordam berish.

2. Ularga nisbatan qo'llab-quvvatlovchi choralarni qo'llash uchun mezonlarni aniqlash va tashkilotlar ro'yxatini tuzish.
3. Tashkilotlarning moliyaviy holatini doimiy monitoringini tashkil etish.
4. Davlat xaridlarida ishtirok etish imkoniyatlarini kengaytirish.
5. Moliyaviy sog'lomlashtirish rejalarini (dasturlarini) ishlab chiqish talabi va ularning bajarilishini nazorat qilish.
6. Davlat xaridlari va buyurtmalari.

– Ammo korxonalarini moliyaviy sog'lomlashtirishning samarali mexanizmini ta'minlash uchun ushbu ikki guruh usullarini bir vaqtning o'zida qo'llash kerak, shunda davlat bankrot korxonalar foizini minimallashtirishga qodir bo'ladi.

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NATIJALAR

Bankrotlik sohasini davlat tomonidan tartibga solishni O'zbekiston Respublikasi Vazirlar Mahkamasi hamda bankrotlik to'g'risidagi ishlar bo'yicha davlat organi amalga oshiradi. Bankrotlik to'g'risidagi ishlar bo'yicha davlat organining o'z vakolatlari doirasida qabul qilgan qarorlari vazirliklar, davlat qo'mitalari, idoralar, davlat boshqaruvi boshqa organlari, yuridik va jismoniy shaxslar uchun majburiydir.

O'zbekiston Respublikasi Vazirlar Mahkamasining bankrotlik sohasidagi vakolatlari:

- pul majburiyatlari va (yoki) majburiy to'lovlar bo'yicha bankrotlik taomillarida

O‘zbekiston Respublikasining kreditor tariqasidagi talablarini taqdim etishning yagona tartibini tasdiqlaydi;

- sud boshqaruvchilari sifatida faoliyatni amalga oshiruvchi shaxslarning attestatsiyadan o‘tish tartibini, ularga nisbatan malaka va kasbga oid talablarni hamda sud boshqaruvchilarining yagona reyestrini yuritish tartibini tasdiqlaydi;
- sud boshqaruvchilari faoliyati tartibini tasdiqlaydi;
- sanatsiya fondini shakllantirish va uning mablag‘laridan foydalanish tartibini belgilaydi;
- ustav fondida davlat ulushi bo‘lgan bankrot korxonalarining mol-mulkini realizatsiya qilish tartibini belgilaydi;
- qonunchilikka muvofiq boshqa vakolatlarni amalga oshiradi.
- Bankrotlik to‘g‘risidagi ishlar bo‘yicha davlat organining vakolatlari:
 - to‘lov qobiliyatiga ega bo‘lmay qolgan, zarar keltirib ishlayotgan va iqtisodiy nochor korxonalarini aniqlash maqsadida ustav fondida davlat ulushi bo‘lgan korxonalarining moliyaviy ahvoli monitoringini yuritadi;
 - ustav fondida davlat ulushi bo‘lgan va (yoki) O‘zbekiston Respublikasi oldida pul majburiyatlari bo‘yicha qarzi bor korxonalarining bankrotligi to‘g‘risida ish qo‘zg‘atish haqida ariza bilan iqtisodiy sudga murojaat etadi;
 - sud boshqaruvchilari attestatsiyasini o‘tkazadi hamda sud boshqaruvchilarining yagona reyestrini yuritadi;
 - ustav fondida davlat ulushi bo‘lgan korxonalarini sudgacha sanatsiya qilish, ularning sud sanatsiyasi va tashqi boshqaruvi rejalarini kelishib oladi;
 - ustav fondida davlat ulushi bo‘lgan korxonalarini davlat tomonidan yordam ko‘rsatgan holda sudgacha sanatsiya qilish qanday borayotganligi, shuningdek bunday korxonalarining bankrotligi taomillari jarayoni ustidan nazoratni amalga oshiradi;
 - sud boshqaruvchilari faoliyati ustidan qonunchilikka muvofiq nazoratni amalga oshiradi, sud boshqaruvchisining faoliyatida qonunchilik muntazam ravishda yoki bir marta qo‘pol ravishda buzilganligi aniqlangan taqdirda uni vazifasini bajarishdan ozod qilish haqida iqtisodiy sudga ariza bilan murojaat etadi;
 - moliyaviy ahvoli monitoringi yuritilayotgan korxonalarining rahbarlari yoki boshqa mansabdor shaxslariga mazkur korxonalar moliya-xo‘jalik faoliyati haqidagi materiallar taqdim etilmaganligi yoki o‘z vaqtida taqdim etilmaganligi uchun jarima soladi;
 - qonunchilikka muvofiq boshqa vakolatlarni amalga oshiradi.

MUHOKAMA

Ko'plab xorijiy mamlakatlar (AQSH, Kanada, Buyuk Britaniya, Avstraliya, Shvetsiya, Gollandiya va boshqalar) amaliyotining tajribasi shuni ko'rsatadiki, nochorlik zamonaviy tizimining asosiy elementlaridan biri bankrotlik masalalari bo'yicha muayyan majburiyatlarga ega bo'lgan, qonun hujjatlari harakatlarini nazorat qilish va hukumatning ushbu sohadagi harakatlariga nisbatan mos keluvchi tavsiyalar tuzishga qodir bo'lgan maxsus hukumat muassasasi mavjudligi hisoblanadi (nochorlik tizimining boshqa asosiy elementlari qonun hujjatlari, mutaxassislar instituti, sud tizimi va jamiyatda bankrotlik zaruratini tushunib yetish hisoblanadi).

Xorijiy mamlakatlarda bankrotlik bo'yicha davlat organlarining eng ko'p uchraydigan funktsiya va vakolatlarini ajratib ko'rsatish mumkin:

- bankrotlik bo'yicha qonun hujjatlarini ishlab chiqish va ushbu sohada qonun tashabbuslari bilan chiqish;

- nochorlik xaqidagi ishlar bo'yicha statistika axborotlarini to'plash, tahlil qilish va hukumatga taqdim etish;

- bankrotlik xaqidagi ishlar bo'yicha turli qarorlarni amalga oshirish natijalari va oqibatlari haqida ma'lumot to'plash va tahlil qilish;

- nochorlik sohasida davlat siyosati bo'yicha hukumat uchun tavsiyalar ishlab chiqish;

- bankrotlik bo'yicha mutaxassislar tayyorlash tizimini tashkil qilish, ularning kasbiy darajasini baholash va litsenziyalash.

Qoidaga ko'ra, bankrotlik bo'yicha davlat organlarining vakolatlari va funksiyalari qonun hujjatlarida belgilab qo'yiladi. Shu bilan birga, ko'plab mamlakatlarda bankrotlik bo'yicha davlat organlari o'ziga xos xususiyatlarga ega bo'ladi.

Buyuk Britaniya uchun xos bo'lgan model kredit muomalasini himoya qilish, qarzdorning aktivlarini kreditorlar orasida taqsimlashning samarali va tezkor mexanizmlarini yaratishga yo'naltiriladi. Bankrotlik jarayoni davomida korxonalar ustidan nazoratni kreditorlar nomidan harakat qiladigan uchinchi tomon qo'lga kiritadi.

Britanacha modelning ko'zga yaqqol tashlanib turadigan kamchiligi shundaki, uning doirasida korxonani sog'lomlashtirish emas, balki uni tugatish yaqqol rag'batlantiriladi, chunki kreditorlar, birinchi navbatda, og'ir ahvolga tushib qolgan kompaniyani qutqarishdan emas, balki uning aktivlarini sotishdan manfaatdor bo'lar ekanlar.

AQShda va, ayniqsa, Fransiyada qabul qilingan modellar iqtisodiyotning barqaror o'sishi va barqarorlikni ta'minlash bo'yicha makroiqtisodiy vazifalar va qarzdorning aktivlarini taqsimlashning samarali mexanizmlarini yaratish bo'yicha

vazifalarni hal qilishning uyg'unlashuviga asoslanadi. Xususan, Fransiyada nochorlik instituti ko'p jihatdan qarzdor kompaniya manfaatlarini himoya qilishga, uni tarkibiy qayta qurishga yo'naltiriladi. AQSH qonunchiligi qarzdorga to'lovga qobiliyatsiz bo'lgan yuridik shaxs ustidan nazoratni saqlashga imkon beradi va qarzdorning belgilangan vaqt muddati davomida kompaniyani qayta tashkil etish bo'yicha o'z rejasini taqdim etish imtiyozli huquqini ta'minlaydi. Qarzdor foydasiga huquqlarning taqsimlanishi ko'p jihatdan siyosiy tanlov hisoblanadi, chunki ularga nisbatan tugatish yo'li bilan faoliyatni to'xtatish emas, faoliyat yuritayotgan korxonalar sifatida bankrotlik xaqida ish qo'zg'atilgan kompaniyalarni saqlab qolish ustuvor deb tan olinadi. Bu modelning jiddiy bir kamchiligi qarzdorning o'z huquqlarini suiste'mol qilishi mumkinligi hisoblanadi.

XULOSA

Rivojlangan xorijiy mamlakatlar tajribasi nochorlikni tartibga solish faqat kreditorlar manfaatlarini ta'minlash ustuvorligidan kelib chiqib tuzilishi lozim deb uzil-kesil tasdiqlashga imkon bermaydi. Nochorlikni tartibga solishning zamonaviy rivojlangan tizimlarining aksariyatiga xos bo'lgan jihat konkursli ishlab chiqarish davomida qarzdorning aktivlarini sotib yuborish kabi bankrotlikning klassik mexanizmiga qo'shimcha ravishda biznesni saqlab qolish bo'yicha reabilitatsiya jarayonlarining mavjudligi va rivojlanishidan iborat.

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THE INTRODUCTION OF THE DART PROGRAMMING LANGUAGE INTO THE CURRICULUM OF SECONDARY GENERAL EDUCATION

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ANNOTATION

In modern realities, in the context of digitalization, when the ability to program becomes a second literacy, all spheres of human activity, including the education system, are undergoing changes. These processes have influenced the transformation of some aspects related to schooling. They have led to the emergence of various problematic issues in the field of computer science teaching. In particular, the question concerning the choice of a programming language that would allow the formation of knowledge and skills so necessary for modern schoolchildren.

Keywords: *programming, programming language, general education, dart programming.*

INTRODUCTION

Programming is a branch of computer science designed to study the issues of software development of modern computers. In particular, programming can be considered as the process of building commands and algorithms. The written code is implemented by the performer in a specific programming language (programming language), in order to obtain a specific result.

Currently, there are many programming languages that differ from each other, each of which has its own unique syntax. Thanks to them, you can create various programs and develop various applications. Implementing a fairly wide range of functionality.

There are a number of specific requirements for choosing a programming language suitable for the learning process. The language should:

– be high-level (based on natural language and independent of the computer on which the programs will be executed);

- ensure the readability of the code;
- have a simple syntax;
- have strict typing;
- have versatility and flexibility;
- allow you to design complex programs in a simple way;
- be object-oriented;
- contain a set of standard libraries.

Most existing programming languages meet these requirements, which makes it possible to introduce and apply them in a school computer science course.

Turning to history, we note that in the 60s of the twentieth century, an experiment was conducted during which a previously unused format of the educational process, called "elective", was introduced into schools. As a result of testing this experience, students got acquainted with the basics of programming.

However, as a school subject, "Computer Science" appeared only in 1985 and was called "Fundamentals of Computer Science and Computer Engineering". This event marked the beginning of the process of learning various programming languages, which included Fortran, Basic and Pascal.

Currently, computer science is one of the rather "young" school subjects. More recently, the content of the computer science course and the choice of programming language directly depended on the teacher, as well as the teaching aid adopted at school. At the moment, programming languages such as Pascal, Python, Visual Basic and Idol are the most common in educational institutions, due to the list of programming languages recommended for study in the school computer science course in the updated Federal State Educational Standards. All of the above languages have their advantages and disadvantages. For example, one of the advantages is the fact that they were created specifically for training. However, this was the reason for their failure as tools for developing applications, creating web pages and processing large amounts of information.

Modern programmers prefer to use "C-like" languages in their work, which, in turn, being too difficult for schoolchildren to understand, cannot be introduced into the curriculum of a general education institution. Therefore, there is a need to learn a programming language that combines clarity and practical applicability.

To date, an independent choice by a teacher of a language that is not included in the above list can be carried out either as part of extracurricular activities in computer science, or when developing an optional or elective programming course.

Therefore, for students who are passionate about programming, an optional course may be offered designed to learn the Dart programming language. It is similar

in syntax to the C and JavaScript languages, which gives it the opportunity to become a good support for the subsequent development of these languages.

Thanks to Dart, students have many opportunities. For example, in this language, students will be able to try to create their first applications on their own. This type of work can interest them in learning programming not only at the level of an academic discipline, but also as a further professional activity.

Currently, small applications are being developed using Dart, which are part of huge web resources. Vivid examples of using this language are Gmail, Google AdSense, Google AdWords, which you can often meet in life. This fact can attract the attention of many schoolchildren. They will have the opportunity to learn not a standard abstract programming language, but one whose practical benefits can be seen in real life.

In order to interest students, it is necessary to talk about the advantages of Dart. One of the advantages is the ability to compile programs on various operating systems – Windows, Linux, Android, iOS. If students do not have the opportunity to install Dart at home, they can use the online Dartpad compiler. This fact suggests that this language is available to everyone who wants to study.

Another advantage lies in the strictness of the syntax, which allows you to immediately notice the mistake. The code written in Dart is concise and understandable. The language has a diverse set of functions and methods designed to set asynchronous operations, interact between them, and develop graphics and animations.

An equally important factor is the accessibility of the language. Google is actively developing and promoting Dart. Therefore, there is a lot of literature for studying it, which gives the teacher an information base that he can use when preparing material for students and additional sources for research for students.

Dart has an extensive library that provides a large number of opportunities for the teacher, as well as for the students themselves. A special CSS add-in called SASS has been created for this programming language. It contains many different styles and templates, which makes Dart convenient for developing interfaces and web programming. This language is often used to create mobile applications.

Another advantage of Dart is optional typing. That is, the developer can specify the type of the variable when creating it (static typing) or not declare it, then the language will determine the data type itself (dynamic typing). Each typification has its pros and cons, but it is the optional feature that allows you to use the most appropriate type of typing when solving each task.

Having considered the main features of Dart, we can conclude that it meets the

requirements of the school curriculum for programming languages, while having great opportunities for further practical implementation. Therefore, this course is not intended for the level of knowledge of the basic general school, it should be introduced as part of specialized training in grades 10-11.

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TO‘QIMALARNING KIRISHISHI VA BO‘YOQ MUSTAHKAMLIGINING O‘ZGARISHIGA TURLI TOLA TARKIBLI VA IKKILAMCHI MATERIAL RESURSLARINING TA’SIRI

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ANNOTATSIYA

Ushbu maqolada arqoq ipi uchun turli tarkibli tola va ikkilamchi material resurslari aralashmasidan olingan sarja o‘rilishida to‘qimalar ishlab chiqarildi va ularning kirishishi va bo‘yoq mustahkamligi aniqlandi.

***Kalit so‘zlari:** kam chiqindili yangi texnologiyalar, maishiy ikkilamchi material resurslari, to‘qimalarning kirishishi, manfiy kirishish, majburiy-kirishish, to‘qimalarning bo‘yoq mustahkamligi.*

ВЛИЯНИЕ РАЗЛИЧНОГО СОДЕРЖАНИЯ ВОЛОКНА И ВТОРИЧНЫХ МАТЕРИАЛЬНЫХ РЕСУРСОВ НА УСАДКИ ТКАНИ И ИЗМЕНЕНИЕ ПРОЧНОСТИ КРАСИТЕЛЯ

АННОТАЦИЯ

В данной статье были изготовлены переплетения для кордной пряжи из смеси волокон различного состава и вторичных материальных ресурсов, а также определены их введение и прочность красителя.

***Ключевые слова:** новые малоотходные технологии, бытовые вторичные материальные ресурсы, ввод тканей, отрицательный ввод, обязательный ввод, стойкость красителя для тканей*

THE EFFECT OF DIFFERENT FIBER CONTENT AND SECONDARY MATERIAL RESOURCES ON FABRIC PENETRATION AND DYE STRENGTH CHANGES

ABSTRACT

In this paper, sorghum weaves obtained from a mixture of fiber and secondary material resources of different compositions for jute yarn were produced and their penetration and dye fastness were determined.

Key words: *new low-waste new technologies, household secondary material resources, tissue insertion, tissue penetration, negative penetration, forced-penetration, tissue dye fastness.*

KIRISH

Jahonda to'quv-trikotaj sanoatidan chiqadigan ikkilamchi material resurslari umumiy xomashyoning 25% ni tashkil etadi. Hozirgi kunda jahonda ilmiy-texnik tarqqiyotning rivojlanishi, mahsulot assortimentlarini ortib ketishi natijasida ikkilamchi material resurslarining miqdori tobora ortib bormoqda. Natijada, bu ikkilamchi material resurslari chiqindilarga chiqarib tashlash natijasida atrof-muhitning ifloslanishiga olib kelmoqda. Buning uchun, ikkilamchi material resurslaridan samarali foydalanish asosida ularni qayta ishlashda kam chiqindili yangi texnologiyalarni yaratish hisobiga tannarxi past bo'lgan sifatli tayyor mahsulotlar ishlab chiqarish hozirgi kunda muhim ahamiyatga egadir [1].

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Jahonda aholining turmush darajasining oshishiga qayta tiklanmaydigan tabiiy resurslar hisobiga yalpi mahsulotning eksponensial oshishi hisobiga erishiladi. Ularning atigi 2%i iste'molga tayyor mahsulot ko'rinishida foydalaniladi, qolgan 98%i chiqindilar va chiqindilar ko'rinishida atrof-muhitni ifloslantiradi. Shu sababli, qayta tiklanmaydigan resurslar iste'molini va atrof-muhitning ifloslanishi-ni kamaytirish uchun shoshilinch va keskin choralar ko'rish kerak. Bu boradagi eng muhim yo'nalish ishlab chiqarish ikkilamchi material resurslaridan qayta foydalanish bo'lib, bu tabiiy resurslardan foydalanishni va natijada atrof-muhitning ifloslanishini sezilarli darajada kamaytiradigan tayyor mahsulot olishdir. Ikkilamchi material resurslarni qayta

ishlashga sarflanadigan ish va energiya miqdori birlamchi ishlab chiqarishga qaraganda 2-3 baravar kam bo'lganligi sababli, yengil sanoatning zamonaviy texnologik jihozlaridan foydalanish jarayonida atmosferaga zararli moddalarning chiqarilishini minimal darajaga tushiradi va ularning bir qismi ishlab chiqarish chiqindilarini to'liq qayta tiklaydi. ar juda qimmat bo'lib, ekologik muammolarni tubdan hal qila olmaydi [2].

Hozirgi kunda barcha yengil sanoat korxonalarida to'qimachilik chiqindilari hosil bo'lmoqda. Bunday chiqindilar juda ko'p miqdorda hosil bo'lib, tayyorlov va qayta ishlash korxonalarini tomonidan qabul qilinmaydi, balki utilizatsiyaga olib chiqiladi, bu esa mamlakatning ekologik holatini yomonlashtiradi. Shu sababli, to'qimachilik chiqindilaridan samarali foydalangan holda texnologik jarayonlarni ishlab chiqarishdan iborat muhim ilmiy-texnik muammo paydo bo'ladi [3].

To'qimalarni yuvganda, ho'llanganda, ho'llab dazmollanganda, nisbiy namligi katta bo'lgan havoda saqlanganda o'lchovlari o'zgaradi. Ana shunday o'lchovlarning o'zgarishi to'qimalarning kirishishi bo'lib, bu jarayonda ko'pincha to'qimalarning o'lchovlari kichrayadi [4].

To'qimalarning yana bir ko'rsatkichlaridan biri hozirgi paytda muammo bo'lib turgan asosiy ko'rsatkichlaridan biri matodagi bo'yoq mustahkamligi va ularni yuvgandagi kirishishidir.

To'qimalarni ishlatish jarayonida ularning dastlabki bo'yalgan rangi ko'p vaqt davomida aynimasligi lozim. Bo'yoq mustahkamligiga ko'ra zig'ir tolali matolar mustahkam bo'yalgan va maxsus mustahkam bo'yalgan guruhlarga bo'linadi. Qolgan matolar oddiy, mustahkam va maxsus mustahkam bo'yalgan guruhlarga bo'linadi [5].

To'qimalarning nimaga ishlatilishiga qarab ularning bo'yog'i turli fizik-kimyoviy ta'sirlarga: yorug'lik va ob-havo, quruq va ho'l holatda ishqalanishga, distillangan va dengizdagi suv, sovun va soda eritmalari, yuvish va dazmollash, ter va hokazolarga chidamliligi aniqlanadi [6].

NATIJALAR

Ikkilamchi material resurslar miqdori turlicha bo'lgan to'qimalarning sovun bilan ishlov berishdagi bo'yoq mustahkamligi, kirishishi va bo'yoq mustahkamligining o'zgarishi tadqiq etildi va olingan sinov natijalari quyidagi 1-jadvalda keltirildi.

1-jadval

To'qimalarning kirishishi va bo'yoq mustahkamligining o'zgarishiga tola va ikkilamchi material resurslarning ta'siri

t/r	To'qimaning tola tarkibi	Sovun bilan ishlov berishdagi bo'yoq mustahkamligi, ball	Kirishishi, %		Bo'yoq mustahkamligi, ball	
			tanda bo'yicha	arqoq bo'yicha	quruq	ho'l
1.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% viskoza tolasidan+6,6% nitron tolali ikkilamchi material resurslari	5/5/5	-1,5	-0,5	4	3
2.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% lavsan tolasidan+6,6% nitron tolali ikkilamchi material resurslari	5/5/5	-	+1,0	3	4
3.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% nitron tolasidan+6,6% paxta tolali ikkilamchi material resurslari	5/4,5/4	-	-1,5	4	4
4.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% lavsan tolasidan+6,6% viskoza tolali ikkilamchi material resurslari	5/5/5	-1,5	-1,5	4	4
5.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% viskoza tolasidan+6,6% lavsan tolali ikkilamchi material resurslari	5/4/4,5	-1,5	-1,5	3	3
6.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% paxta tolasidan+6,6% viskoza tolali ikkilamchi material resurslari	5/5/5	-	+1,5	4	3

XULOSA

To‘qimalarning fizik xossalarini tahlil qilishda tanda ipi 100% paxta tolasidan arqoq ipi uchun 66,4% paxta tolasi bilan 27,0% lavsan tolasi+6,6% nitron tolali ikkilamchi material resurslari aralashmasidan olingan va tanda ipi 100% paxta tolasidan arqoq ipi uchun 66,4% paxta tolasi bilan 27,0% lavsan tolasi+6,6% viskoza tolali ikkilamchi material resurslari aralashmasidan olingan to‘qimalarning sovun bilan ishlov berishdagi bo‘yoq mustahkamligi hamda quruq va ho‘l holatdagi bo‘yoq mustahkamligi boshqa to‘qimaning ko‘rsatkichlariga nisbatan yuqori ekanligi aniqlandi.

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TURLI TARKIBLI TOLA VA IKKILAMCHI MATERIAL RESURSLARI ARALASHMASIDAN OLINGAN TO‘QIMALARNING DEFORMATSION XOSSALARINING O‘ZGARISHI

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ANNOTATSIYA

Ushbu maqolada arqoq ipi uchun turli tarkibli tola va ikkilamchi material resurslari aralashmasidan olingan sarja o‘rilishida to‘qimalar ishlab chiqarildi va ularning deformatsion xossalari aniqlandi.

***Kalit so‘zlari:** tola va iplarga ta’sir etuvchi kuchlarning miqdoriga yo‘nalishiga va takrorlanishiga nisbatan har xil deformatsiyalar hosil bo‘ladi, qayishqoq deformatsiya, elastik deformatsiya va plastik (qoldiq) deformatsiya*

ИЗМЕНЕНИЕ ДЕФОРМАЦИОННЫХ СВОЙСТВ ТКАНЕЙ, ПОЛУЧЕННЫХ ИЗ СМЕСИ ВОЛОКОН И ВТОРИЧНЫХ МАТЕРИАЛЬНЫХ РЕСУРСОВ РАЗЛИЧНОГО СОСТАВА

АННОТАЦИЯ

В данной статье были изготовлены переплетения для кордной нити из смеси волокон различного состава и вторичных материальных ресурсов и определены их деформационные свойства.

***Ключевые слова:** различные деформации формируются в зависимости от ориентации и повторения сил, действующих на волокна и нити, кремообразная деформация, упругая деформация и пластическая (остаточная)*

CHANGE OF DEFORMATION PROPERTIES OF FABRICS OBTAINED FROM A MIXTURE OF FIBER AND SECONDARY MATERIAL RESOURCES OF DIFFERENT COMPOSITION

ABSTRACT

In this article, sorghum fabrics obtained from a mixture of fiber and secondary material resources with different compositions for jute yarn were produced and their deformation properties were determined.

***Key words:** Depending on the direction and repetition of the forces acting on fibers and yarns, various deformations are produced, such as elastic deformation, elastic deformation, and plastic (residual) deformation.*

KIRISH

Tikuvchilik va trikotaj mahsulotlari ishlab chiqarish ikkilamchi material resurslarini qayta ishlash usullarini tahlil qilish shuni ko'rsatdiki, ikkilamchi material resurslar to'qimachilik sanoatida qayta ishlanadigan barcha xomashyoning 25%ni tashkil etadi, bu esa yangi turdagi mahsulot ishlab chiqarish uchun katta zaxirani tashkil etadi. Biroq, bu ikkilamchi material resurslarini ishlash faqat 10% gina amalga oshiriladi, undan texnik maqsadlarda ishlatiladigan mahsulotlar ishlab chiqariladi. Qolgan ikkilamchi material resurslar miqdori tashlab yuboriladi [1].

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Yengil sanoat korxonalarini zamonaviy texnologik uskunar bilan jihozlash natijasida atmosferaga zararli moddalarning chiqishini minimal minimal darajada kamaytiradi yoki ishlab chiqarishdagi ikkilamchi material resurslarini qayta tiklash imkonini beradi. Biroq bunday ekologik toza texnologiyalarni joriy etish kata sarmoyalarni talab qiladi. Shunday qilib, faqat tozalash moslamalarining narxi mahsulot narxining taxminan 25% ni tashkil qiladi. Ko'pgina boshqa qo'shimcha uskunar ham kata investitsiyalarni talab qiladi va ekologik muammolarni tubdan hal qila olmaydi [2].

Korxonalarda kelgusida iplarni to'qish uchun qayta ishlatiladi. Yassi trikotaj mashinalari bilan jihozlangan kichik korxonalarda to'qish ishlari asosan qo'l yordamida amalga oshiriladi, bu trikotaj matolarini ishlab chiqarish uchun ko'p vaqt talab qiladi va mehnat xarajatini oshiradi. Bundan tashqari, iplarni qayta o'ragandan keyin, trikotaj mashinalarida to'qish jarayonida zarur bo'lgan yuqori sifatli o'ramni olish uchun iplarni o'rash moslamasiga o'rash kerak bo'ladi [3].

Tikuvchilik va trikotaj korxonalarida ikkilamchi material resurslarini qayta ishlash uchun kam chiqindili mahalliy texnologiyalarni yaratishda birinchi navbatda qayta ishlatiladigan iplarni bug'lash va quritish orqali amalga oshiriladi, hamda tikuv-trikotaj korxonalarida ikkilamchi material resurslarini qayta ishlash uchun yordamchi uskunar yaratiladi [4].

To'qimachilik tola, iplar olinishida va ulardan mahsulot ishlab chiqarish jarayonida har xil mexanik ta'sirlarga uchraydi. Tola va iplarga ta'sir etuvchi kuchlarning miqdoriga yo'nalishiga va takrorlanishiga nisbatan har xil deformatsiyalar hosil bo'ladi. Agar tola, iplarga ta'sir etuvchi kuchlarning miqdori ularning uzilish kuchidan katta bo'lsa, tola, iplar uziladi. Agar kuchlar tola, iplarning uzunligi bo'yicha ta'sir etsa, ular cho'ziladi, ko'ndalang bo'yicha ta'sir etsa siqilish, egilish deformatsiyalariga uchraydi [5].

To'qimachilik tola, iplarni ishlab chiqarishda va ulardan mahsulot tayyorlashda doimo bir davrli cho'zilish deformatsiyasiga uchraydilar. YA'ni tola, iplar ma'lum vaqt

ichida yuk ta'sirida bo'ladi, yukdan bo'shagandan keyin dam oladi. Ushbu yuklanish-dam olish jarayonida materiallarning xususiyatini o'rganish katta amaliy ahamiyatga ega. Agar materiallar yuk ta'sirida cho'zilib, dam olish jarayonida to'liq avvalgi holatiga kelmasa, bunday iplardan tayyorlangan materiallarning qayishqoq, elastik xususiyatlari past bo'ladi, ya'ni materiallar g'ijimlanadi, kiyimlarning shakl saqlash xususiyatlar nochor bo'ladi.

Materiallarni ishlatilish uchun ularning xususiyatlarini aniqlashda uchta davrli sinflarda olinadigan ko'rsatkichlarning ayrim turlaridan foydalaniladi.

Bir davrli cho'zilish deformatsiyasida hosil bo'ladigan to'liq deformatsiya uchta qismdan iborat: qayishqoq deformatsiya, elastik deformatsiya va plastik (qoldiq) deformatsiya. Bunda birinchi ikkita deformatsiya (qayishqoq, elastik) qaytadigan deformatsiya, uchinchi esa (plastik) qaytmaydigan qoldiq deformatsiya bo'lib hisoblanadi. Qayishqoq deformatsiyaning hosil bo'lishiga sabab tashqi kuchlar ta'sirida polimer moddalarining zarrachalar oralig'idagi masofa kichik miqdorda o'zgaradi. Bunda molekulalar va atomlar o'zaro bog'liqlari saqlanib qoladi. Lekin valentlik burchaklari ozroq o'sadi.

Qayishqoq deformatsiya natijasida jismning hajmi ortadi. Qayishqoq deformatsiyaning tarqalishi tovush tezligiga barobar bo'ladi.

Elastik deformatsiyaning hosil bo'lishiga asosiy sabab, tola, iplar cho'zilganda ularning modda zarrachalari ta'sir etuvchi kuch yo'nalishi bo'yicha tekislanib kattaroq masofaga siljiydi, molekulalar qaytadan guruhlarga to'planib ularning shakli o'zgaradi [6].

Elastik deformatsiya ma'lum vaqt ichida o'tadi. Bu deformatsiya tola, iplarning tuzilishida relaksatsiya jarayonini o'tishi bilan bog'liq. Relaksatsiya bu cho'zilish va dam olish jarayonida tola, iplarning tuzilishida muvozanat holatga kelishidir. Elastik deformatsiya kichik tezlik bilan rivojlanadi. Uning tezligi atrof-muhit parametriga bog'liq. Yuqori haroratda va suv bug'larini yutishi bilan tola, iplarning elastik deformatsiyasini rivojlanishi tezlanadi, chunki modda molekulalarining o'zaro tortish kuchi kamayadi [7].

Tashqi kuch ta'sirida makromolekula zarrachalari qaytmaydigan katta masofaga siljish natijasida plastik deformatsiya hosil bo'ladi. Plastik deformatsiyaning o'sishi tola makromolekulalarining mustahkam molekula-lararo bog'larini uzishi bilan amalga oshadi. Plastik deformatsiya qaytmaydi, chunki tola, iplar ta'sir etuvchi yukdan bo'shagandan keyin uni qaytaradigan kuchlar yo'q. Plastik deformatsiya natijasida tolalarning shakli o'zgaradi, ya'ni uzunligi bo'yicha yo'g'onligi har xil bo'ladi [8].

NATIJARLAR

Turli tarkibli tola va ikkilamchi material resurslari aralashmasidan olingan to‘qimalarning bir davrli cho‘zilish deformatsiyasini aniqlash borasida tadqiqot ishlari olib borildi va sinov natijalari 1-jadvalda keltirildi.

1-jadval

Turli tarkibli tola va ikkilamchi material resurslari aralashmasidan olingan to‘qimalarning bir davrli cho‘zilish deformatsiyasining o‘zgarishi

t/r	To‘qimaning tola tarkibi	Deformatsiya tarkibi		
		Qayishqoq deformatsiya	Elastik deformatsiya	Qoldiq (plastik) deformatsiya
1.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% viskoza tolasidan+6,6% nitron tolali ikkilamchi material resurslari	0,60	0,25	0,15
2.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% lavsan tolasidan+6,6% nitron tolali ikkilamchi material resurslari	0,70	0,23	0,07
3.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% nitron tolasidan+6,6% paxta tolali ikkilamchi material resurslari	0,62	0,25	0,13
4.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% lavsan tolasidan+6,6% viskoza tolali ikkilamchi material resurslari	0,67	0,24	0,09
5.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% viskoza tolasidan+6,6% lavsan tolali ikkilamchi material resurslari	0,64	0,24	0,12
6.	Tanda ipi 100% paxta tolasidan va arqoq ipi uchun 66,4% paxta tolasidan bilan 27,0% paxta tolasidan+6,6% viskoza tolali ikkilamchi material resurslari	0,58	0,26	0,16

MUHOKAMA

Turli tarkibli tola va ikkilamchi material resurslari aralashmasidan olingan to‘qimalarning bir davrli cho‘zilish deformatsiyasining o‘zgarishi bo‘yicha olingan sinov natijalarini tahlil etadigan 1-variant bo‘yicha olingan to‘qimaning ko‘rsatkichlariga nisbatan solishtiradigan bo‘lsak, 2-variant bo‘yicha olingan to‘qimaning qayishqoq deformatsiya tarkibi 14,3% ga oshdi, elastik deformatsiya tarkibi 8,0% ga, plastik (qoldiqli) deformatsiya tarkibi 53,7% ga kamaydi, 3-variant bo‘yicha olingan to‘qimaning qayishqoq deformatsiya tarkibi 3,2% ga oshdi, elastik deformatsiya tarkibi o‘zgarmadi, plastik (qoldiqli) deformatsiya tarkibi 13,3% ga kamaydi, 4-variant bo‘yicha olingan to‘qimaning qayishqoq deformatsiya tarkibi 10,4% ga oshdi, elastik deformatsiya tarkibi 4,0% ga, plastik (qoldiqli) deformatsiya tarkibi 40,0% ga kamaydi, 5-variant bo‘yicha olingan to‘qimaning qayishqoq deformatsiya tarkibi 6,2% ga oshdi, elastik deformatsiya tarkibi 4,0% ga, plastik (qoldiqli) deformatsiya tarkibi 20,0% ga kamaydi va 6-variant bo‘yicha olingan to‘qimaning qayishqoq deformatsiya tarkibi 3,3% ga kamaydi, elastik deformatsiya tarkibi 3,8% ga, plastik (qoldiqli) deformatsiya tarkibi 6,2% ga oshdi.

To‘qimalarning bir davrli cho‘zilish deformatsiyasi tarkibining o‘zgarishi, avvalambor tola tarkibiga, pardoatlanishiga va zichligiga bog‘liq bo‘ladi. To‘qima tarkibida qayishqoq deformatsiya tarkibi qanchalik yuqori bo‘lsa, shunchalik cho‘ziluvchan hamda kirishuvchanligi yuqori bo‘ladi.

XULOSA

Tadqiqot natijalari tahlili shu narsani ko‘rsatdiki, tanda ipi 100% paxta tolasidan arqoq ipi uchun 66,4% paxta tolasi bilan 27,0% lavsan tolasi+6,6% nitron tolali ikkilamchi material resurslari aralashmasidan olingan to‘qimaning qayishqoq deformatsiya tarkibi boshqa variantdagi to‘qimalarning ko‘rsatkichlariga nisbatan yuqori ekanligi aniqlandi.

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COMPLEX EVALUATION AND JUSTIFICATION BASED ON PHYSICAL-MECHANICAL PROPERTIES OF GASES

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ABSTRACT: *in this article, 5000 tex pelts were made on the JFA-226 carding machine at the production enterprise, 3 types of pelts were made on the HSR-1000 type pelting machine in the laboratory of TTESI under the "Spinning Technology" department, JAT of the Japanese company "Toyota" in the laboratory under the "Textile Fabric Technology" department On the 810 loom, yarn made of 100% cotton fibers was thrown into the warp thread, and yarn mixed with secondary fibers was thrown into the loom yarn.*

KEYWORDS: *completely disposes and recovers production waste, production waste in the textile and clothing industry, disinfected with steam, ultrasound, ultraviolet rays, dust, excess, removes residual organic residues from washing, and oily waste is dry cleaned, average comprehensive assessment on the level of quality indicators*

I.INTRODUCTION

At present, it is important to produce low-cost fabrics used in weaving based on the effective use of scraps in the sewing industry.

Globally, fibers obtained from waste and secondary material resources from the sewing process make up 25% of all textile raw materials. This is a huge stock that can be used for production. However, only 10% of these scraps are used. Basically, they are processed into materials that cannot be used for various purposes, or they are made into simpler, lower-cost ropes, furniture and technical fabrics, for wiping and other purposes.

Modern technological equipment of light industry minimizes the release of harmful substances into the atmosphere during use, and some of them completely dispose of and recover production waste. However, these environmentally friendly technologies are very expensive (sometimes the price of cleaning devices is up to 25% of the product price), because. these networks have many additional devices, which require more human, material and energy costs and cannot fundamentally solve environmental problems.

Textile waste processing problems exist worldwide. Production waste in the modern textile and clothing industry accounts for up to 25% of raw materials. Yarns and gauzes cause economic damage due to the release of waste in the production.

High-quality textile waste is disposed of in garment factories. Consumer waste is processed in the following stages: disinfected with steam, ultrasound, ultraviolet rays; cleaned of dust; excess items are removed; removes residual organic residues as a result of washing; and oily waste is cleaned dry.

The main part of textile waste consists of a mixture of fibers and rags and is divided into the following groups: natural, synthetic fabrics and mixed raw materials.

The process of using natural and synthetic materials is completely different.

An automated conveyor consisting of the following elements is mainly used for textile processing: a hopper for cleaning the material, drying, a knife for cutting patches, scissors for separating foreign impurities. There are many modifications of tissue processing equipment that can be fully automated without human intervention.

Although the consumers of textile industry products are wide-ranging, the industries of their processing are mainly tailoring, sewing-knitting and footwear production. In these industries, various sizes of waste are generated in the cutting and sewing shops of gauze and knitted fabrics from the textile industry.

Cuttings in shearing shops are mainly obtained from fabrics of the same fineness. According to the fiber content, the yarns are divided into types made of yarn, made of wool, silk and other fibers or knitted fabrics. According to the analysis of the current indicators, it was found that up to 9% of waste is generated when cutting fabrics in the garment industry.

Currently, many enterprises of the sewing and knitting industry are conducting a number of activities on the effective use of scraps produced. For example, various products are produced from wool, spun yarn, waste from gas processing.

Kharkiv textile factory produced non-woven material for clothing from the following mixture: semi-wool spun fiber - 70%, viscose staple fibers - 20%, production returns - 10%.

Textile consumption waste is sorted into more than 90 types and divided into groups in accordance with current regulatory and technical documents: woolen, semi-woolen rags; fur clothing; felt products; cotton, linen, semi-linen and mixed rags; rags for wiping and cleaning; edge; fried products; twisted products; rags made of synthetic fibers; rags made of artificial fibers; low quality rags.

The main areas of economic use and processing of textile waste are the production of regenerated fibers; obtaining recovered wool; obtaining recycled cotton, linen and chemical fibers; production of non-woven fabrics; cotton production;

production of cleaning materials; coarse fiber production; production of building materials.

Knitting industry waste is generated in the process of processing kalava yarn, as well as in the production of knitted fabrics and various products from it, as a result of the production of gloves and socks. Almost all waste from the knitting industry is then used as secondary raw materials.

In the garment industry, waste is generated during the preparation of materials and the cutting of sewing details, which are the weight of gauze and are used as secondary raw materials for the production of secondary textile materials.

The evaluation of the quality of gas production is based on the results of the determination and measurement of its quality indicators, as well as the comparison with standard and regulatory documents. Because the methods of determining gas properties are mainly detailed in standards and other normative documents.

There are several methods of evaluating the quality of sodas, including experimental, organoleptic, expert, sociological, computational, differential, complex and mixed.

The method of complex evaluation of quality is that joint evaluation of gas for individual indicators of quality sometimes leads to the need to evaluate a number of complex main properties of gas in one indicator. As a result, it is called a general assessment of the quality of these products, for example, the number of raw flax fiber, the quality of homogeneous wool, etc.

II. METHODOLOGY

Depending on the nature of the complex assessment, the quality indicators of the gases are divided into real and approximate complex assessment.

For example, a true composite evaluation has a defined physical objective, which often represents the tensile strength of the fiber, as well as the lifetime of the product in use.

A true composite estimate is better than any constant approximation. For example, the amount of defects and waste in cotton fiber is a real complex feature.

The advantage of a comprehensive assessment is that it concludes on a number of final assessments. This assessment is not without its advantages and disadvantages, that is, we will not have complete information about its individual properties. In order to choose the raw materials correctly, it is necessary to know the rational use of gas during the management of the technological process and during its use.

A comprehensive assessment of quality can be obtained from different calculations of individual quality indicators. The average comprehensive assessment

may not change according to the level of several quality indicators, some of them may have a lower level, and some may have a higher level.

Thus, it is possible to complete a comprehensive assessment without changing the individual quality indicators of the gas.

Based on the physico-mechanical properties of gasses obtained from a mixture of different composition and processed fibers, a comprehensive evaluation was carried out and the diagram is given in Fig. 1.

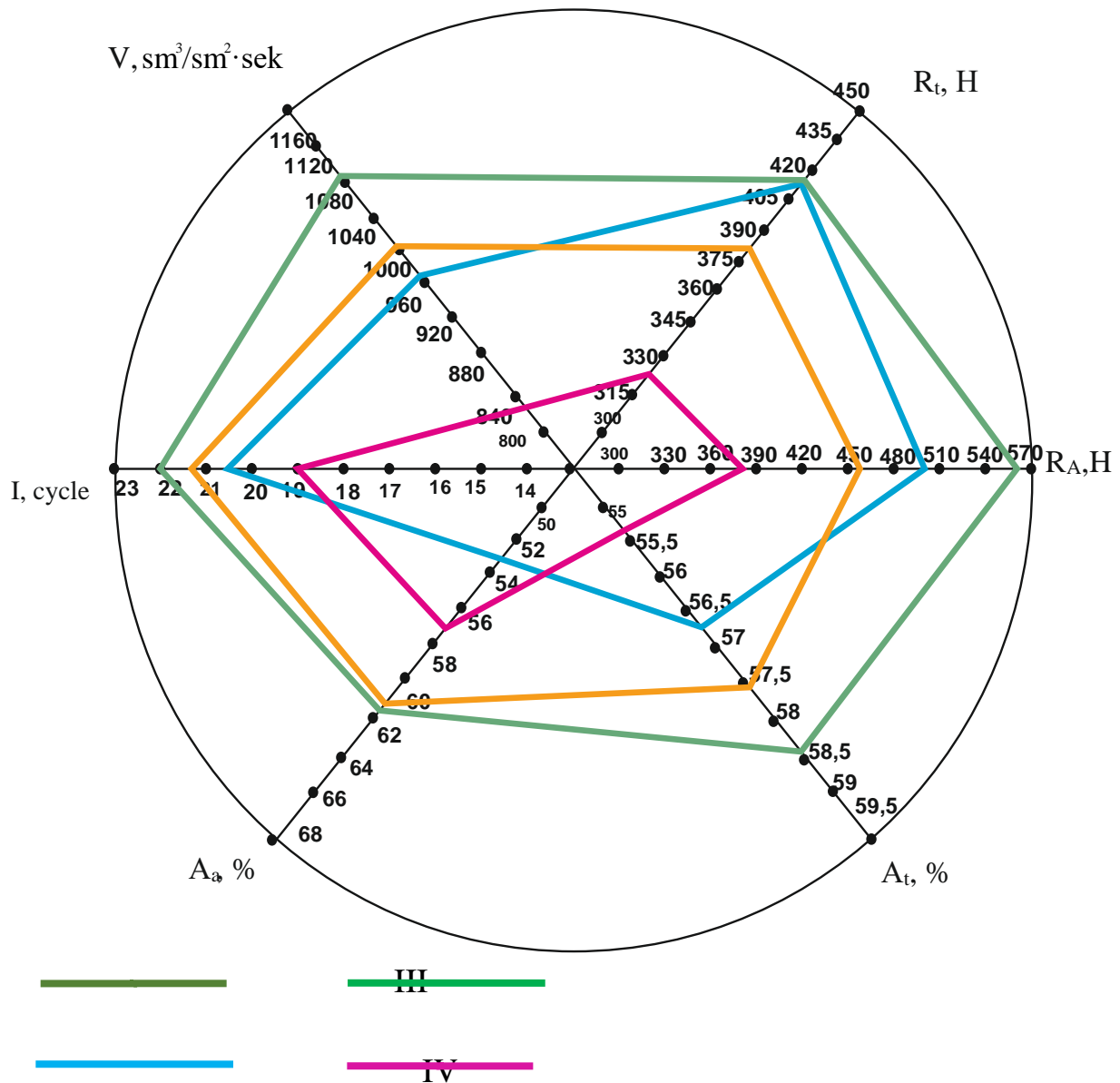


Figure 1. Diagram of comprehensive assessment of quality indicators of gasses obtained from a mixture of different composition and processed fibers.

A comparative histogram of the comprehensive evaluation based on the physical and mechanical properties of gasses obtained from a mixture of different compositions and processed fibers is presented in Fig. 2.

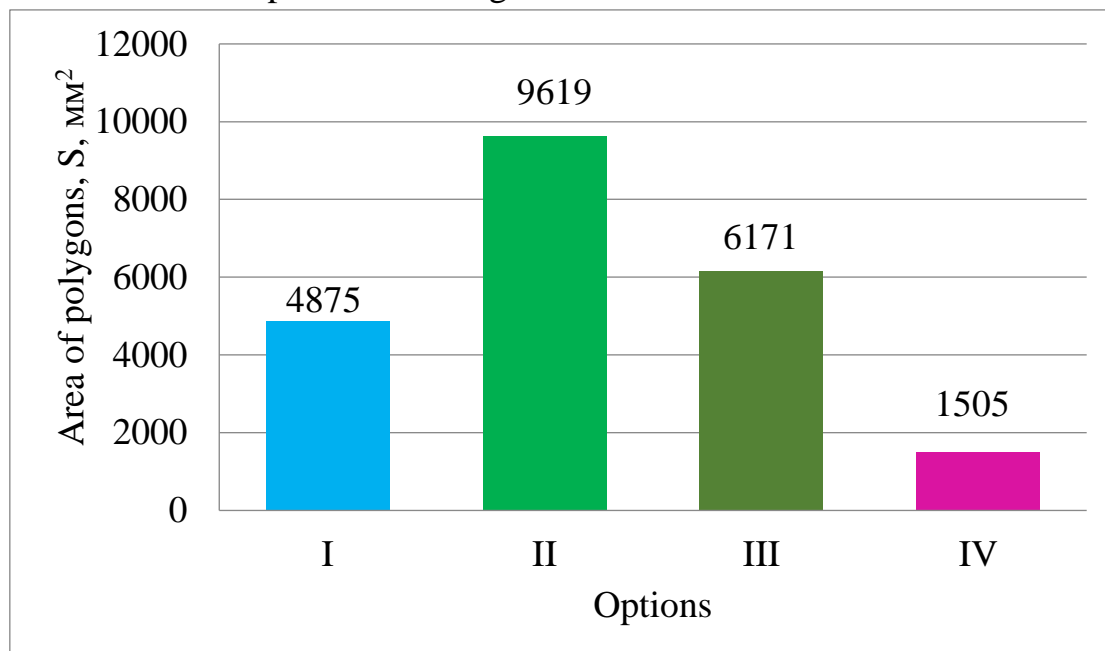


Figure 2. Comparative histogram of the quality indicators of gasses obtained from a mixture of processed fibers with different composition.

III. RESULTS AND DISCUSSION

The analysis of the results of the comprehensive assessment based on the physico-mechanical properties of the gauzes obtained from a mixture of different composition and processed fibers showed that the area of polygons according to the quality indicators of the gasses obtained from a mixture of 10% nitron, 60% cotton and 30% secondary fibers under production conditions is 4875 mm², 1- The area of polygons according to the quality indicators of the gas obtained according to the option was 9619 mm², the polygon area according to the quality indicators of the gas obtained according to the 2nd option was 6171 mm², the area of polygons according to the quality indicators of the gas obtained according to the 3rd option was 1505 mm². If we compare the obtained results with the quality indicators of the gauze obtained from a mixture of 10% nitron, 60% cotton and 30% secondary fibers under production conditions, the area of polygons according to the quality indicators of the gauze obtained according to option 1 increased by 49.4%, The area of polygons according to the quality indicators of gas obtained according to option 2 increased by 21.1%, according to the quality indicators of gas obtained according to option 3, the area of polygons decreased by 69.1%.

IV.CONCLUSION

Based on the results of a comprehensive assessment of the physico-mechanical properties of gasses obtained from a mixture of different composition and processed fibers, it was determined that the area of polygons according to the quality indicators of gasses obtained according to option 1 is higher than the quality indicators of gasses obtained according to other options.

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THE IMPORTANCE OF USING DESIGN THINKING METHODOLOGY IN TEACHING ENGLISH

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ABSTRACT

This article explores the integration of design thinking methodology in English language teaching, emphasizing its impact on creativity, critical thinking, and language acquisition. Drawing insights from related research and analysis of its application, the article highlights enhanced creativity, critical thinking development, improved language acquisition, increased student engagement, and holistic skill development as key outcomes. The methodology includes a comprehensive literature review, case studies, and educator interviews. By examining the importance of design thinking in the English language classroom, the article aims to guide educators in creating dynamic and effective learning environments.

Keywords: *Independent learning, foreign language education, higher education institutions, language acquisition, self-directed approaches, language proficiency, teaching methodologies.*

INTRODUCTION

In the ever-evolving landscape of education, the quest for innovative and effective teaching methodologies has become a cornerstone of pedagogical discourse. One such methodology that has garnered considerable attention in recent years is design thinking. Originally rooted in the realms of product design and innovation, design thinking has transcended its traditional boundaries and found its way into diverse fields, including education. This article delves into the compelling realm of integrating design thinking methodology into the teaching of English, exploring the potential it holds for transforming language education.

Evolution of Design Thinking:

Design thinking, initially conceived as a problem-solving approach in design and engineering, has undergone a transformative journey. Originating from design consultancies like IDEO, the methodology gained recognition for its human-centric

focus, iterative processes, and emphasis on empathy. It evolved into a versatile framework applicable to various domains, and educators have increasingly embraced its principles to reimagine the learning experience.

The Significance of Design Thinking in Education:

As the education landscape grapples with the demands of the 21st century, the role of educators extends beyond imparting knowledge to nurturing skills that prepare students for an unpredictable future. Design thinking, with its emphasis on creativity, critical thinking, and collaboration, aligns seamlessly with these goals. Its application in education is not a mere trend but a response to the evolving needs of students in a complex, interconnected world.

Language Education and the Need for Innovation:

Language education, specifically teaching English, plays a pivotal role in preparing individuals for global communication and collaboration. However, traditional language teaching methods often fall short in addressing the dynamic nature of language acquisition. There exists a compelling need for innovative approaches that not only facilitate language learning but also foster the development of essential skills vital for the 21st-century learner.

Objectives of the Article:

This article aims to unravel the multifaceted significance of incorporating design thinking methodology into the teaching of English. By examining the evolution of design thinking, its growing relevance in education, and the unique challenges in language education, we seek to provide educators with a comprehensive understanding of the potential benefits and transformative impact this methodology can have on language learning.

Structure of the Article:

The exploration unfolds in subsequent sections, each dedicated to dissecting a crucial aspect of the integration of design thinking in English language education. We delve into related research to understand the existing landscape, analyze the potential outcomes of incorporating design thinking methodologies, and propose practical applications for educators. Through this comprehensive examination, we aspire to offer insights that inspire educators to embrace innovation in language education.

In navigating the intricate intersection of design thinking and English language teaching, this article aspires to contribute to the ongoing dialogue surrounding innovative pedagogies. As we embark on this exploration, the overarching goal is to envision a future where language education becomes not just a means of linguistic proficiency but a transformative journey that equips learners with the skills and mindset needed to navigate a rapidly changing world.

RELATED RESEARCH

"Design Thinking in Language Education: A Systematic Review" (2019)

This comprehensive review explores the existing literature on the application of design thinking in language education. It analyzes key themes, methodologies, and outcomes, providing a foundational understanding for educators interested in adopting design thinking principles.

"The Impact of Design Thinking on Student Creativity in English Classrooms" (2020)

This empirical study investigates the influence of design thinking methodologies on students' creative abilities within the context of English language learning. The research assesses creativity metrics before and after the implementation of design thinking strategies.

"Empathy in Language Teaching: Integrating Design Thinking Pedagogy" (2018)

Focused on the empathetic aspect of design thinking, this research explores how integrating empathy-driven strategies into language teaching enhances students' understanding and appreciation of diverse linguistic and cultural perspectives.

"Collaborative Learning through Design Thinking in ESL Classrooms" (2021)

This study delves into the collaborative dimensions of design thinking within English as a Second Language (ESL) settings. It examines how collaborative problem-solving using design thinking principles contributes to language acquisition and communication skills.

"Design Thinking and Language Assessment: Rethinking Evaluation Strategies" (2017)

Addressing the intersection of design thinking and language assessment, this research explores innovative approaches to evaluating language proficiency. It considers how design thinking principles can inform the development of more dynamic and authentic language assessments.

"Teacher Perspectives on Integrating Design Thinking in English Language Teaching" (2019)

Through interviews and surveys, this qualitative research captures the perspectives of language educators regarding the challenges, benefits, and potential adaptations when incorporating design thinking into their English language teaching practices.

"Cognitive Processes in Design Thinking: Implications for Language Learning" (2020)

Focusing on the cognitive aspects of design thinking, this study explores how the thinking processes inherent in design thinking can be leveraged to enhance language learning strategies and cognitive engagement in English classrooms.

"Design Thinking and Multimodal Literacy in Language Education" (2018)

Investigating the intersection of design thinking and multimodal literacy, this research explores how incorporating visual, auditory, and kinesthetic elements through design thinking methodologies enriches language learning experiences and communication skills.

These selected research studies provide a diverse panorama of the intersection between design thinking and language education. From the cognitive processes involved to the collaborative and empathetic dimensions, these investigations offer valuable insights for educators seeking to integrate design thinking into their English language teaching practices.

ANALYSIS AND RESULTS

Research consistently demonstrates that the integration of design thinking in English language teaching leads to a notable enhancement in students' creativity. Creative thinking is fostered through problem-solving scenarios, ideation exercises, and collaborative projects. Students exhibit a greater willingness to explore unconventional solutions, thereby expanding their creative capacities.

Critical Thinking Development:

The application of design thinking principles contributes significantly to the development of critical thinking skills among students. Engaging in real-world problem-solving tasks within the context of language learning prompts students to analyze, evaluate, and synthesize information. This process enhances their ability to think critically and make informed decisions.

Improved Language Acquisition:

Design thinking methodologies prove to be effective in improving language acquisition outcomes. The interactive and experiential nature of design thinking activities creates a dynamic language learning environment. Students are immersed in meaningful language use, leading to enhanced language proficiency, vocabulary expansion, and improved communication skills.

Increased Student Engagement:

One consistent finding across various studies is the notable increase in student engagement when design thinking is integrated into English language classrooms. The hands-on, collaborative nature of design thinking activities captures students' interest and encourages active participation. This heightened engagement positively influences the overall learning experience.

Holistic Skill Development:

Design thinking goes beyond language proficiency, contributing to holistic skill development. Students not only enhance their linguistic abilities but also cultivate skills

such as teamwork, adaptability, and empathy. The multifaceted approach of design thinking aligns with the broader goal of education to prepare students for the complexities of the modern world.

Positive Impact on Educators:

Research indicates a positive impact on educators who embrace design thinking methodologies. Teachers report increased job satisfaction, a sense of innovation in their teaching practices, and a greater connection with students. Professional development initiatives incorporating design thinking empower educators to create dynamic and student-centered learning environments.

Challenges and Adaptations:

While the benefits are evident, studies also acknowledge challenges in implementing design thinking in language education. Common challenges include time constraints, resistance to change, and the need for additional resources. However, researchers propose adaptive strategies, such as incorporating design thinking gradually, providing training, and aligning activities with curriculum goals.

Long-Term Impact on Learners:

Longitudinal studies suggest a lasting impact on learners who experience design thinking in their language education journey. Beyond immediate improvements in creativity and language skills, students develop a mindset characterized by resilience, curiosity, and a willingness to navigate linguistic challenges in diverse contexts.

In essence, the analysis of research outcomes underscores the transformative potential of integrating design thinking into English language teaching. The observed enhancements in creativity, critical thinking, language acquisition, and overall student engagement contribute to a compelling narrative advocating for the continued exploration and implementation of design thinking methodologies in language education.

METHODOLOGY

The exploration of the impact of design thinking on English language teaching involved a comprehensive approach that integrated various research methods to capture both quantitative and qualitative data. The methodology aimed to provide a nuanced understanding of the outcomes and challenges associated with incorporating design thinking into language education.

Literature Review:

A systematic literature review was conducted to establish a theoretical foundation. This involved scrutinizing academic databases, journals, and relevant publications to identify existing research on design thinking in language education. The review helped identify key themes, methodologies, and gaps in the current body of knowledge.

Case Studies:

Multiple case studies were conducted in diverse educational settings where design thinking methodologies were integrated into English language teaching. The cases involved different demographic groups, including various age ranges and language proficiency levels. Data were collected through classroom observations, interviews with educators, and focus group sessions with students.

Surveys and Questionnaires:

Quantitative data were collected through surveys and questionnaires distributed to language educators and students who experienced design thinking in their English language classrooms. The surveys aimed to measure perceived improvements in creativity, critical thinking, language proficiency, and overall satisfaction with the learning experience.

Interviews:

In-depth interviews were conducted with language educators who actively implemented design thinking methodologies. These qualitative interviews explored educators' perspectives on the challenges, benefits, and adaptations necessary for integrating design thinking into language teaching. The interviews provided rich insights into the pedagogical impact from an educator's viewpoint.

Student Assessments:

Pre- and post-assessments were administered to students participating in design thinking-infused language lessons. These assessments measured changes in language proficiency, creative thinking, and critical thinking skills. Both formative and summative assessments were employed to capture ongoing progress and final outcomes.

Professional Development Workshops:

Professional development workshops were organized for language educators interested in adopting design thinking methodologies. These workshops aimed to provide training, resources, and practical guidance for educators to integrate design thinking into their teaching practices. Feedback and reflections from participants were collected to gauge the effectiveness of the training.

Longitudinal Studies:

Longitudinal studies were initiated to observe the sustained impact of design thinking on learners over an extended period. Follow-up assessments and interviews were conducted to track the continued development of language skills, creativity, and critical thinking among students who experienced design thinking in their earlier language education years.

Analysis Framework:

The collected data underwent a rigorous analysis using both qualitative and quantitative methods. Qualitative data, including interviews and case study narratives, were analyzed thematically to identify recurring patterns and insights. Quantitative data were subjected to statistical analysis to measure the significance of observed changes.

By employing a multi-methodological approach, this research aimed to provide a holistic and comprehensive understanding of the impact of design thinking on English language teaching. The combination of diverse data sources allowed for triangulation, enhancing the validity and reliability of the findings. The synthesis of both qualitative and quantitative data offered a nuanced portrayal of the transformative potential and challenges associated with integrating design thinking into language education.

CONCLUSION

The exploration of the intersection between design thinking and English language teaching has illuminated a transformative landscape in educational practices. The integration of design thinking methodologies into language education emerges as a dynamic and innovative approach, fostering a range of positive outcomes for both educators and learners. The synthesis of research findings culminates in a general conclusion that underscores the significance of design thinking as a catalyst for holistic skill development and enhanced learning experiences in the realm of language education.

Enhanced Creativity and Critical Thinking:

Design thinking, when applied in language classrooms, consistently demonstrates its potential to enhance creativity and critical thinking skills among students. The emphasis on problem-solving, ideation, and collaborative projects creates a dynamic learning environment that encourages students to think innovatively and critically analyze linguistic challenges.

Improved Language Proficiency:

The integration of design thinking methodologies positively influences language proficiency. Students engaged in design thinking activities not only exhibit increased language skills but also a deeper understanding of language usage in real-world contexts. This approach aligns with the evolving nature of language education, emphasizing practical application and communication.

Student Engagement and Motivation:

One of the standout outcomes is the substantial increase in student engagement and motivation. Design thinking activities captivate students by providing hands-on, interactive learning experiences. The collaborative nature of these activities fosters a

sense of ownership and enthusiasm for the language learning process, contributing to sustained interest and participation.

Positive Impact on Educators:

Educators who embrace design thinking methodologies report a positive impact on their teaching practices. The approach not only rejuvenates pedagogical methods but also instills a sense of innovation and adaptability. Professional development initiatives incorporating design thinking empower educators to navigate the evolving landscape of language education with creativity and resilience.

Holistic Skill Development:

Design thinking contributes to holistic skill development, extending beyond language proficiency. Students cultivate essential skills such as teamwork, adaptability, and empathy. This aligns with the broader goals of education to prepare students for the multifaceted challenges of the contemporary world, emphasizing the interconnectedness of linguistic and interpersonal skills.

Challenges and Adaptive Strategies:

The exploration acknowledges challenges associated with implementing design thinking in language education, including time constraints and resistance to change. However, research consistently proposes adaptive strategies, such as gradual integration, professional development, and alignment with curriculum goals, to address these challenges effectively.

Long-Term Impact on Learners:

Longitudinal studies emphasize the enduring impact of design thinking on learners. Beyond immediate improvements, students develop a mindset characterized by resilience, curiosity, and a willingness to navigate linguistic challenges in diverse contexts. This long-term impact aligns with the overarching goal of education to equip students with skills for lifelong learning and adaptability.

In conclusion, the synthesis of research findings underscores the transformative potential of design thinking in English language teaching. The approach not only enriches language learning experiences but also cultivates a holistic set of skills crucial for success in the ever-evolving global landscape. As language educators and institutions continue to explore innovative pedagogies, the integration of design thinking emerges as a promising avenue for shaping dynamic, engaged, and proficient language learners.

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ҲАРБИЙЛАР ОИЛАСИДА ОТА ВА БОЛА МУНОСАБАТЛАРИНИНГ ПСИХОЛОГИК ХУСУСИЯТЛАРИ

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Аннотация: Ўзбекистон республикасида ҳозирги кунда амалга оширилаётган сиёсий, иқтисодий, тарихий ва маънавий ўзгаришлар жамиятимиз ижтимоий ҳаётида туб бурилишни бошлаб берди ва улар ўзбек халқининг бундан кейинги тақдирини белгилаб беришида муҳим роль ўйнайди.

Эркин демократик жамият қуриши йўлидан илдам бораётган мамлакатимизда оилани мустаҳкамлашга алоҳида эътибор бермоқда. Оила тинч, мустаҳкам ва фаровон бўлсагина, жамиятда барқарорлик вужудга келади. Бу эса ўз навбатида маънавий ва руҳий муҳитнинг соғломлиги, ислоҳатлар муваффақияти учун тегишли замин яратади. Ҳозирги кунда фуқаролар, айниқса ёшларнинг онги ва дунёқараши қай даражада шаклланишига бефарқ қараб бўлмайди. Келажакда баркамол, билимдон ва ишбилармон жамият тараққиётига ҳисса қўшадиган, онгли ва фаол, Ватан олдидаги бурчига садоқатли, эркин шахсни тарбиялаш барчамизнинг бурчимиз. Эркин шахс мутаассибликдан озод ҳолда ақл-идроки, куч-гайратига таяниб, виждонан, ҳалол меҳнати билан фаровон турмушга интиладиган бўлиши даркор. Эркинлаштириши жамиятни маънавий янгилаш биринчи навбатда ёш авлод онгига маънавий ахлоқий анъаналар, инсонпарварлик ва демократик қадриятларни сингдириши орқали таъминланади. Мақолада оилавий муносабатларда ота-она ва бола муносабатлари масаласи, бу муносабатларнинг харбий хизматчилар оиласида ўзига хос хусусиятлари ёритилган.

Калит сўзлар: оила, ота-она, бола, ўзаро муносабат, хусусият, миллий, феномен, шахс, қадрият.

Аннотация: Политические, экономические, исторические и духовные изменения, происходящие в Республике Узбекистан, положили начало коренным изменениям в социальной жизни нашего общества и играют важную роль в определении дальнейшей судьбы узбекского народа. В нашей стране, идущей по пути построения свободного демократического общества, укреплению семьи уделяется особое внимание. Только если семья будет мирной, крепкой и

благополучной, в обществе установится стабильность. Это, в свою очередь, создает здоровую духовную и духовную среду, создает соответствующую основу для успеха реформ. Сегодня нельзя быть безразличным к тому, насколько сформировано сознание и мировоззрение граждан, особенно молодежи. Долг каждого из нас – воспитать сознательного и активного человека, преданного своему долгу перед Родиной и который будет способствовать развитию компетентного, знающего и бизнес-ориентированного общества в будущем. Свободный человек должен быть свободен от фанатизма, полагаться на свой ум и энергию и стремиться к благополучному браку добросовестным и честным трудом. Либерализация и духовное обновление общества обеспечивается, прежде всего, путем внедрения в сознание подрастающего поколения духовно-нравственных традиций, гуманизма и демократических ценностей. В статье раскрывается проблема детско-родительских отношений в семейных отношениях, специфика этих отношений в семье военнослужащих.

Ключевые слова: семья, родитель, ребенок, взаимодействие, особенность, национальный, явление, личность, ценность.

Annotation: *The political, economic, historical and spiritual changes taking place in the Republic of Uzbekistan have marked the beginning of fundamental changes in the social life of our society and play an important role in determining the future fate of the Uzbek people. In our country, which is moving towards building a free democratic society, special attention is paid to strengthening the family. Only if the family is peaceful, strong and prosperous will stability be established in society. This, in turn, creates a healthy spiritual and spiritual environment, creating an appropriate basis for the success of reforms. Today one cannot be indifferent to the extent to which the consciousness and worldview of citizens, especially young people, have been formed. It is the duty of each of us to raise a conscious and active person, dedicated to his duty to the Motherland and who will contribute to the development of a competent, knowledgeable and business-oriented society in the future. A free person should be free from fanaticism, rely on his own intelligence and energy, and strive for a prosperous marriage through conscientious and honest work. Liberalization and spiritual renewal of society is ensured, first of all, by introducing spiritual and moral traditions, humanism and democratic values into the consciousness of the younger generation. The article deals with the problem of parent-child relations and the features of these relations in the family of military personnel.*

Key words: family, parent, child, interaction, feature, national, phenomenon, personality, value.

Оила ижтимоий институт сифатида, инсониятнинг онгли ҳаёти билан қадам бақадам мавжуд, ҳамда жуда кўхна қадимий тарихга эга бўлсада, бироқ уни шакллантириш, ривожлантириш, бирлаштириш, жипслаштириш, оила аъзоларининг ягона мақсад сари сафарбар этишининг, танҳо ташхиси ҳозиргача ишлаб чиқилмаган. Ўзбек миллий характерида оиланинг буюк қадрият эканлигини эътиборга олган ҳолда, унинг мустаҳкамлиги ва софлигини сақлаб қолиш, барчамизнинг бурчимиз эканлигини англаш жуда муҳимдир. Оила феномени дунёдаги энг умрбоқий қадриятлардан бири ҳисобланади. Оила инсониятнинг ибтидоий ҳаётдан маданийлашган, цивилизациялашган турлари ва ҳаётга ўтишини таъминланган энг муҳим омиллардан бири. Оила ўзига хос ижтимоий институт сифатида жуда узоқ тарихий даврни босиб такомиллашди, ижтимоий аҳамияти ҳамда вазифалари ортиб боради. Оила доимо ривожланиб боровчи, такомиллашувчи, янги мазмун, моҳият билан бойиб боровчи маскан. Дунёда бирорта инсон ўзини оиласиз тасаввур эта олмайди. Шунинг учун ҳам оила феноменига қизиқиш катта. Оилавий ҳамда авлодлараро муносабатлар масалаларини ўрганиш борасида илмий тадқиқот ишлари сўнгги йиллар мобайнида бутун дунё миқёсида жадал тус олиб бормоқда. Жумладан, чет эл психолог ва социолог олимлари, Францияда А.Вилли, Э.Дюркгейм, П.Жане, Германияда Т.Шрайбер Америкада К.Бюлер, В.Мэтьюза, Дж.Брунер, С.Холл, У.Джеймс, Д.Чейни, Швейцарияда Э.Клапаред ва бошқа кўплаб тадқиқотчилар томонидан бу соҳада бир қанча ишлар амалга оширилди.

Ҳарбий хизматчилар оиласини сақлаб қолиш унинг софлигини таъминлаш учун қуйидаги ишларни амалга ошириш мақсадга мувофиқдир:

- оила ва жамият манфаатларида уйғунликка эришиш жуда зарурдир.
- сўнгги пайтларда ғарб дунёси оиласидаги инқирозли ҳолатларнинг айримлари бизнинг ҳаётимизга ҳам кириб келаётганлигини сезмаслигимиз мумкин эмас. Бундан 15-20 йил аввал қариялар уйи фарзанднинг ўз ота-онасини шундай уйларга ташлаб кетишини тасаввур этиш ҳам қийин эди.
- оиланинг мустаҳкамлиги унинг маънавий баркамоллиги соғлом эҳтиёжларнинг мавжудлигига ҳам боғлиқдир. Соғлом эҳтиёж оилани доимо ҳаракатга солиб туради, уни “туртиб” туради, уюштиради, жипслаштиради.
- оиладаги ижтимоий-иқтисодий, маънавий, ахлоқий барқарорлик ота-онанинг ушбу муқаддас масканда тутган ўрни ҳамда ролига боғлиқдир.
- оиланинг мустаҳкамлиги оилавий муносабатлар маданиятининг даражасига боғлиқдир. Маълумки оилавий муносабатлар жамият ва миллат ижтимоий муносабатларининг таркибий қисми ҳисобланади.

Оилавий муносабатлар айниқса ота-она ва фарзандлар ўзаро алоқалари, жамият юзага келган илк даврлардан буён энг муҳим муаммолардан бири бўлиб келган. Жамият ривожланиб борган сари бу муаммонинг аҳамияти янада ортиб

бораверади. Чунки инсоният томонидан эришилган ютуқлар айнан оила муҳитида ота-она ва фарзандлар муносабатлари тизимида бошқа ҳар қандай ижтимоий институтлар орасидаги узвийлик сифатида олиб қаралганда кўпроқ даражада ўзлаштиради ва анъана маънавий мерос тарзида авлоддан авлодга ўтади. Шундай экан, у ёки бу жамият халқ ва миллатнинг истиқболи кўп жиҳатдан шу муносабатларнинг ҳолатига боғлиқ.

Бугунги кунда ҳарбий хизматчилар оиласида ота-она ва бола муносабатларини ўрганиш, уларда юзага келадиган муаммоларни бартараф этиш муҳим аҳамият касб этади.

Ҳарбий хизматчилар оиласида болалар ва ота оналар муносабати эр-хотинлик муносабатлари билан бир қаторда замонавий нуклеар оилаларнинг асоси бўлиб хизмат қилади. Ота-оналар ва болалар ўртасидаги муносабатлар ички оилавий муносабат тизимининг барча таркибий қисмида ихтиёрийликка эга бўлиб, у боланинг ижтимоийлашувини таъминловчи катта аҳамиятга эга бўлган шартлардан биридир.

Бизнинг нуқтаи назаримизча, ҳарбий хизматчилар оиласида болалар ва ота-оналар муносабати, ота-оналик муносабати ва ота-оналик установакалари каби бир-бири билан боғлиқ, лекин шу билан бирга бир-бирини тўлдирувчи ҳамда кўпинча синоним тарзида қўлланиладиган тушунчаларни бир-биридан фарқлаш лозим.

Дарҳақиқат оила–ҳар бир шахснинг илк ёшлигидан бошлаб шаклланувчи инсоний фазилатлар, эзгу-истаклар, қадриятлар, минг йиллар давомида таркиб топувчи ўзбек халқининг маънавий мероси равнақини таъминловчи тарбия масканидир.

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ПСИХОПРОФИЛАКТИЧЕСКИЕ ОСОБЕННОСТИ ЭМОЦИОНАЛЬНОГО ВЫГОРАНИЯ

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Аннотация: С пониманием важности влияния выгорания на состояние врачей и других специалистов и их эффективности при выполнении своей работы проводится все больше исследований на эту тему. Помимо выяснения факторов, которые могут приводить к эмоциональному и профессиональному выгоранию, не менее важна разработка стратегии его раннего выявления и преодоления. Большая часть исследований посвящена таким профессиям, как учителя, работники медицинской сферы и правоохранительных органов, адвокаты, а также студенты. Считается, что эти профессии больше подвержены синдрому выгорания, так как профиль их работы связан с постоянной коммуникацией, в том числе, и с проблемными людьми. Однако изучение как можно больших аспектов эмоционального выгорания у врачей является необходимым по причине социальной значимости профессии и возрастающему запросу на высококвалифицированную и эффективную медицинскую помощь. С активным ростом технических новаций и увеличением объема информации вопрос психогигиены начал стоять острее. Как следствие, психогигиена стала отдельной научной и практической дисциплиной.

Ключевые слова: выгорание, синдром, психогигиена, продуктивность, фактор, пессимизм, цинизм, стресс, деятельность, эмпатия, социальная активность.

Annotatsiya: Kuyish sindromi fenomeniga qiziqish doimiy ravishda o'sib bormoqda. Kuchlanishning shifokorlar va boshqa mutaxassislarining ahvoliga ta'siri va ularning o'z ishini bajarishdagi samaradorligi muhimligini tushunish bilan ushbu mavzu bo'yicha ko'proq tadqiqotlar olib borilmoqda. Hissiy va kasbiy charchashga olib kelishi mumkin bo'lgan omillarni aniqlash bilan bir qatorda, uni erta aniqlash va bartaraf etish strategiyasini ishlab chiqish ham bir xil darajada muhimdir. Tadqiqotlarning aksariyati o'qituvchilar, sog'liqni saqlash va huquqni muhofaza qilish organlari xodimlari, huquqshunoslar va talabalar kabi kasblarga qaratilgan. Ushbu kasblar charchash sindromiga ko'proq moyil bo'ladi, deb ishoniladi, chunki ularning ish profili doimiy muloqot, shu jumladan muammoli odamlar bilan bog'liq. Biroq, shifokorlar orasida hissiy charchashning iloji boricha ko'p jihatlarni o'rganish kasbning ijtimoiy ahamiyati va yuqori malakali va samarali tibbiy yordamga bo'lgan talab ortib borayotganligi sababli zarur. Butun dunyo (AQSh, Xitoy, Italiya, Yaponiya)

tadqiqotchilarining 2020 yilda - pandemiya davrida berilgan ma'lumotlari, umuman olganda, shifokorlar orasida charchashning yuqori foizini ko'rsatadi - 55% gacha. Rossiyada kichik va o'rta biznes byurosi 2019 yilda shifokorlarning 70 dan 99 foizigacha kasbiy charchashga duchor bo'lganligini taxmin qilmoqda, shuningdek, rossiyalik shifokorlar orasida xorijiy shifokorlarga nisbatan "sinizm" va "pessimizm" ko'rsatkichlarining oshgani haqida ma'lumot beradi. Sanoat ishlab chiqarishining rivojlanishi bilan birinchi navbatda mehnat unumdorligi darajasiga, uning ishchilarning ruhiy va jismoniy holatiga bog'liqligiga e'tibor berildi. Texnik innovatsiyalarning faol o'sishi va axborot hajmining oshishi bilan aqliy gigiena masalasi yanada keskinlasha boshladi. Natijada ruhiy gigiena alohida ilmiy va amaliy fanga aylandi. 1910-yilda ruhiy gigiena tibbiy tashkiloti tashkil etildi va bu masalaga ko'proq e'tibor berildi.

Kalit so'zlar: *charchash, sindrom, psixogigiena, mahsuldorlik, omil, pessimizm, sinizm, stress, faollik, empatiya, ijtimoiy faollik.*

Abstract: *Interest in the phenomenon of burnout syndrome is steadily growing. With the understanding of the importance of the impact of burnout on the condition of doctors and other professionals and their effectiveness in doing their job, more and more research is being done on this topic. In addition to finding out the factors that can lead to emotional and professional burnout, it is equally important to develop a strategy for its early detection and overcoming. Most of the research focuses on professions such as teachers, healthcare and law enforcement workers, lawyers, and students. It is believed that these professions are more prone to burnout syndrome, since the profile of their work is associated with constant communication, including with problem people. However, the study of as many aspects of emotional burnout among doctors as possible is necessary due to the social significance of the profession and the increasing demand for highly qualified and effective medical care. The data of researchers from around the world (USA, China, Italy, Japan), given in 2020 - in the era of a pandemic - indicate a high percentage of burnout among doctors in general - up to 55%. In Russia, the Bureau of SMEs suggests that in 2019, from 70 to 99% of doctors were subject to professional burnout, and also provides data on increased rates of "cynicism" and "pessimism" among Russian doctors compared to foreign ones. With the development of industrial production, attention was first paid to the level of productivity, its dependence on the mental and physical condition of workers. With the active growth of technical innovations and the increase in the volume of information, the issue of mental hygiene began to become more acute. As a result, mental hygiene has become a separate scientific and practical discipline. In 1910, the Medical Organization for Mental Hygiene was established, and more attention was paid to this issue.*

Key words: *burnout, syndrome, mental hygiene, productivity, factor, pessimism, cynicism, stress, activity, empathy, social activity.*

Известно что для наиболее полного и всестороннего понимания картины эмоционального выгорания, его становления и динамики, важно рассмотреть некоторые социально-психологические факторы, которые могут оказывать влияние на феномен эмоционального выгорания. Все факторы, так или иначе способствующие развитию эмоционального выгорания, как отмечает В.В. Бойко, могут быть разделены на внешние и внутренние. Среди внешних факторов упомянуты постоянная напряженная деятельность, требующая интенсивного и эмоционального общения; отсутствие стабильной, четкой и ясной организации труда; чрезмерная ответственность за выполняемые профессиональные функции; дискомфортная психологическая атмосфера в коллективе, в котором приходится работать; трудные с психологической точки зрения клиенты, с которыми работнику необходимо общаться.

К внутренним факторам В.В. Бойко относит склонность к слабо выраженной эмоциональной восприимчивости и реактивности или, другими словами, к достаточно выраженной эмоциональной ригидности; интенсивная, иногда чрезмерная эмоциональная вовлеченность в события, происходящие на работе, переживание этих обстоятельств; отсутствие выработанного навыка выражать сопереживание клиентам или отсутствие желания осуществлять подобную эмоциональную отдачу; отсутствие способности и готовности учитывать мораль и этику при взаимодействии с людьми (в частности, уважение к личности другого, доброжелательность и добропорядочность, совесть и честность) или определенная дезориентация в этих категориях, вызываемая например, слабо сформированным умением отличать благоприятные действия от вредных.

Фазы или стадии эмоционального выгорания, которые выделил В.В. Бойко, являются теми же фазами стресса, которые были сформулированы Г. Селье, поскольку, по мнению В.В. Бойко, в течение синдрома эмоционального выгорания ярко и отчетливо проявляются существующие фазы стресса.

В.В. Бойко считал эмоциональное выгорание эмоциональным стереотипом поведения, чаще профессиональным, потому опросник эмоционального выгорания, разработанный им состоит из вопросов, связанных с профессиональной деятельностью.

Другим фактором можно назвать плохой уровень организации самой деятельности внутри лечебного учреждения. Сюда включается недостаток нужного оборудования, высокий уровень бюрократии, нечеткие требования к работе, отсутствие четко прописанных должностных обязанностей. Эти пункты

также негативно влияют непосредственно на пациентов, что приводит к конфликту между ними и сотрудниками организации.

Помимо формальной части организации процессов работы важным является психологическая атмосфера деятельности. Тут важны взаимоотношения как с пациентами, так и с коллегами, руководством.

Немаловажным фактором является повышенный уровень ответственности за людей, с которыми приходится иметь дело. Требуется постоянно повышенная концентрация, включение в эмоциональную составляющую пациента. Тут все зависит от стратегии, которую выбирает сам врач. Он может либо растрачивать свои ресурсы в полной мере, либо экономить свои ресурсы. Обе эти стратегии ведут за собой негативные последствия. В первом случае происходит быстро растрачивание своих ресурсов, во втором - понижение качества положительной коммуникации с коллегами и руководством. Ключевым моментом здесь является умение находить баланс между этими двумя стратегиями.

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CATERING BINOLARINING VA CATERING XIZMATINING PAYDO BO'LISHI VA RIVOJLANISH TARIXI

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Annotatsiya: Mazkur maqolada “keytering” xizmatining paydo bo'lishi va rivojlanish tarixi ya'ni keytering binolarining uzoq muddatli rivojlanish strategiyasini o'rganish, paydo bo'lish sabablarini o'rganib, ilmiy tadqiqotlarning natijalari ifodalangan. Shuningdek, maqolada mazkur masala yuzasidan muallif tomonidan shakllantirilgan ilmiy taklif va amaliy tavsiyalar o'z ifodasini togan.

Kalit so'zlar: ovqat, ichimlik, cater, catering, ziyofat, sivilizatsiya, Qadimgi Misr, Yunoniston, Rim, qadimgi Xitoy, oshpazlik san'ati, xizmatchilar, Angliya qirolligi, o'rta asrlar, mehmonxona va tavernalar, diniy ovqatlanish qoidalari.

Аннотация: В данном исследовании история производства, то есть изучения стратегии внешнего ремонта здания общественного питания, научные исследования путем изучения факторов возникновения. В этом номера были выражены научно-практические рекомендации, сформулированные автором этого номера.

Ключевые слова: пища, напиток, Обслуживать, питание, банкет, цивилизация, древний Египет, Греция, Рим, Древний Китай, кулинарное искусство, Слуги, Королевство Англия, средневековье, гостиницы и таверны, религиозные диетические правила.

Annotation: This article describes the history of the emergence and development of the “Catering buildings and catering services” the long-term development strategy of catering buildings and the results of scientific research on the causes of its emergence. Also, in the article, the author's scientific proposals and practical recommendations regarding this issue are expressed.

Key words: food, drink, cater, catering, banquet, civilization, Ancient Egypt, Greece, Rome, Ancient China, culinary arts, servants, kingdom of England, middle ages, inns and taverns, religious dietary rules.

KIRISH

Ovqatlanish tarixi oziq -ovqat, ichimliklar va boshqa tadbirlar xizmatlarini ko'rsatadigan xizmat ko'rsatish sanoatining rivojlanishi va evolyutsiyasini o'z ichiga oladi. *Catering* so'zi lotincha *cater* so'zidan kelib chiqqan bo'lib, *ta'minlash* degan ma'noni anglatadi. Ziyofatlar, yig'ilishlar va boshqa yig'ilishlarni oziq-ovqat bilan ta'minlash biznesi ming yillar davomida mavjud bo'lib, qadimgi sivilizatsiyalarga oid izlar mavjud. Vaqt o'tishi bilan bu kasb o'sib bordi va bugungi kunda turli xil sanoatga aylandi. Ovqatlanish tushunchasi qadimgi davrlarga borib taqaladi. Qadimgi Misr, Yunoniston va Rim kabi sivilizatsiyalarda hukmron tabaqalar tomonidan katta ziyofatlar uyushtirilib, ovqat tayyorlash va tarqatish uchun oshpazlar va xizmatkorlar xizmati talab qilinardi.

NATIJALAR

Qadimgi Xitoyda qirollik a'zolari va aristokratlar bayramlar va maxsus kunlarda katta ziyofatlar uyushtirishar, keyinchalik oshpazlik san'ati va ovqatlanish amaliyotiga ta'sir ko'rsatadigan professional oshpazlarni ishga olishardi. Ushbu tadbirlar ko'pincha xudolarni ulug'lash, harbiy g'alabalarni nishonlash yoki shunchaki boylik va kuchni namoyish qilish uchun o'tkazildi. Bu davrdagi umumiy ovqatlanish sanoati asosan qirol va zodagon xonadonlarining bir qismi edi. Oziq-ovqat ularning madaniyati va diniy urf-odatlarining muhim qismi edi va bu hodisalar uchun tayyorlangan ko'plab taomlar, masalan, non, baliq va turli xil go'shtlar odatda ushbu sivilizatsiyalarning ratsionida topilgan. Qadim zamonlarda umumiy ovqatlanish xodimining roli odatda ovqat tayyorlash va xizmat qilish uchun mas'ul bo'lgan qullar yoki xizmatchilar tomonidan to'ldirilgan.

O'rta asrlardagi ovqatlanish



Banket du paon

O'rta asrlarda umumiy ovqatlanish sanoati ko'proq tuzilmani rivojlantira boshladi. Oshpazlar va xizmatchilar ko'pincha zodagonlar yoki qirollik uyidagi uy xodimlarining bir qismi bo'lgan. Angliyada qirollik o'yin-kulgilarini, shu jumladan

ovqat tayyorlash va taqdimotni boshqarish uchun mas'ul bo'lgan "Master of Revels" lavozimi o'rnatildi. Ziyofatlar va ziyofatlar bayramlarni nishonlash va mehmondo'stlik ko'rsatishning mashhur usuli bo'lib qoldi. O'rta asrlarda tavernalar va mehmonxonalar tashkil etilishi bilan ovqatlanish xizmatlarining o'zgarishi kuzatildi, bu sayohatchilarni oziq-ovqat bilan ta'minlashda muhim rol o'ynadi. Biroq yirik ziyofatlar va ziyofatlar hali ham birinchi navbatda zodagonlar tasarrufida edi. O'rta asrlar oshxonasiga diniy ovqatlanish qoidalari va oziq-ovqatning mavsumiy mavjudligi katta ta'sir ko'rsatdi. Savdo yo'llarining paydo bo'lishi va salib yurishlari oshpazlik g'oyalari va ingredientlari almashinuviga olib keldi. Bu davrda ziravorlardan foydalanish keng tarqaldi va taom tayyorlash va taqdim etishning yangi usullari ishlab chiqildi.

Uyg'onish davri ovqatlanishi



Bassen, Bartholomeus van, Banketchilar bilan Uyg'onish davri interyeri, 1618-1620

Uyg'onish davri ovqatlanish amaliyotini o'zgartirdi va oshpazlar va serverlar uchun professional gildiyalarning paydo bo'lishiga olib keldi. Oziq-ovqat taqdimoti san'at turiga aylandi va ziyofatlar ko'pincha yangi oshpazlik ijodlarining namoyishi edi. Ziravorlar keng qo'llanilgan va yangi, mahalliy ingredientlardan foydalanishga e'tibor qaratildi. Ovqatlanish xizmatlari ko'pincha ijtimoiy markazga aylangan mehmonxonalar va tavernalar tomonidan taklif qilingan. Bu davrda oshpazlik kitoblarining rivojlanishi umumiy ovqatlanish va oshpazlik san'atining o'sib borayotgan murakkabligini aks ettiradi.

OVQATLANISH TARIXI

Amerika Qo'shma Shtatlarida ko'rsatilayotgan yirik xizmatlarning eng qadimgi hisobi 1778 yilda Filadelfiyalik Uilyam Xou uchun bo'lib o'tgan tadbir edi. Tadbirda mahalliy taomlar taqdim etildi, ular ishtirokchilarga manzur bo'ldi va ular pirovardida

ovqatlanishni martaba sifatida ommalashtirdilar. Rasmiy sanoat 1820-yillarda tan olindi, umumiy ovqatlanish korxonalari nomutanosib ravishda afro-amerikaliklar edi. WZ Umumiy ovqatlanish biznesi taxminan 1820-yillarda shakllana boshlagan, uning markazi Filadelfiyada joylashgan.

Robert Bogle - Sanoat "ovqatlanishning asoschisi" sifatida tan olingan Robert Bogle hukmronligi davrida professionallasha boshladi. Ovqatlanish dastlab badavlat elita xizmatkorlari tomonidan amalga oshirilgan. Ko'pincha qora tanli butlerlar va uy qullari umumiy ovqatlanish uchun yaxshi holatda edi. Asosan, 1860-yillarda umumiy ovqatlanish korxonalari ijtimoiy yig'ilishning oziq-ovqat tomonini tashkil qilish va amalga oshirishda "jamoat qo'riqchilari" edi. Ommaviy butler bir nechta uy xo'jaliklarida ishlaydigan butler edi. Bogle jamoat butler rolini o'z zimmasiga oldi va mehmondo'stlik sohasida oziq-ovqat xizmatlari bozorida foydalandi. Bogle kabi umumiy ovqatlanish korxonalari to'ylar va dafn marosimlari kabi bugungi kunda taqdim etilishi mumkin bo'lgan tadbirlarda ishtirok etishgan. Bogle shuningdek, umumiy ovqatlanish korxonalari gildiyasini yaratish va boshqa qora tanli taomlarni tayyorlashga yordam berish bilan ham mashhur. Bu juda muhim, chunki catering nafaqat qora tanlilarga ish bilan ta'minlabgina qolmay, balki Filadelfiya jamiyatining elita a'zolari bilan bog'lanish imkoniyatini ham berdi. Vaqt o'tishi bilan umumiy ovqatlanish korxonalarining mijozlari o'rta sinfga aylandi, ular dabdabali yig'ilishlarni o'tkaza olmadilar va oq ta'minotchilarning raqobati kuchayishi qora tanli ovqatlanish korxonalarining pasayishiga olib keldi. Birinchi maktab tushliklarini 1790 yilda Myunxenda (Germaniya) amerikalik tug'ilgan fizik Benjamin Tompson, shuningdek, Count Ramford nomi bilan ham tanilgan. Tompson o'zining ilk kunlarini Yangi Angliyada o'tkazgan, ammo Amerika inqilobiy urushi davrida qirollik tarafdori sifatida unga ishonchsizlik paydo bo'lgan va 1784 yilda Angliyaga jo'nab ketgan. Myunxenda Tompson Kambag'allar institutiga asos solgan. nemis armiyasi. Ular ovqatlantirilib, ish uchun kiyindilar, bolalar o'qish, yozish va arifmetikani o'rgatishdi. Yillar o'tgach, Tompson kuniga 60 000 kishini oshxonadan ovqatlantiradi London. Buyuk Britaniyada 19 - asrda Elizabet Burgvin va boshqalar tomonidan maktab taomlari joriy qilinganidan beri sezilarli o'zgarishlar amalga oshirildi. Birinchi Milliy maktab taomlari siyosati 1941-yilda Buyuk Britaniya bo'ylab chop etilgan. Siyosat maktab tushliklari uchun birinchi oziqlanish qoidalarini o'rnatdi, ular oqsil, yog' va kaloriyalarning tegishli darajasini o'z ichiga olgan muvozanatli ovqatlanishni talab qiladi. Vallila, Xelsinki, Finlyandiyadagi Vallila xalq maktabida maktab taomlarini yeyayotgan o'quvchilar (1913)

JAHON URUSHLARIDAN KEYINGI HOLATLAR

Ikkinchi jahon urushi boshlanganidan so'ng, mahalliy urush davridagi oziq-ovqat tanqisligi tufayli mamlakatning ko'p joylarida maktab tushliklari qisqartirildi yoki qisqartirildi. 1944 yilda Yaponiyaning oltita yirik shahrida taxminan ikki million boshlang'ich maktab yoshidagi bolalar maktabda tushlik qilishdi. 1945-yilda urush tugagan bo'lsa-da, oziq-ovqat taqchilligi davom etdi, ko'plab bolalar to'yib ovqatlanmaydilar. Taxminlarga ko'ra, o'sha paytdagi boshlang'ich maktab oltinchi sinf o'quvchilari o'sishi sekinlashgani sababli hozirgi to'rtinchi sinf o'quvchilarinikiga teng tanaga ega edi. 1946 yilda uchta hukumat vazirligining o'rinbosari butun mamlakat bo'ylab maktab tushliklarini keng joriy qilishni rag'batlantirish to'g'risida farmon chiqardi. Binobarin, o'sha yilning 24-dekabrida Tokio, Kanagava va Chiba prefekturalaridagi barcha maktablarda maktabda tushlik qilish tizimi joriy etildi. Bugungi kunda ushbu mintaqalardagi ba'zi maktablar 24-30 yanvar kunlarini xotirlash uchun maxsus menyu taklif qiladi (chunki bayramlar odatda dekabr oyining oxirgi haftasiga xalaqit beradi va baribir maktabda tushlik berilmaydi). 1947 yilda butun mamlakat bo'ylab taxminan uch million bola maktabda tushlik qilishni boshladi, shu jumladan Amerikadan sovg'a qilingan yog'siz sut kukuni. Ikki yil o'tgach, UNICEF ham quruq sutni bepul etkazib berdi. 1950 yilda Yaponiyaning sakkizta yirik shahridagi boshlang'ich maktab yoshidagi bolalar Amerikadan bug'doy unidan tayyorlangan non qo'shilgan holda to'liq maktab tushliklarini olishdi. Kartoshka pishirig'i, kroket, to'g'ralgan karam va sut bilan birlashtirilgan non rulosi bu yil davomida beriladigan odatiy tushlik qanday ko'rinishiga misoldir. Bundan tashqari, non bo'laklari uzoq vaqtdan beri odatiy hol bo'lgan bo'lsa-da, 1950-yillarning oxiriga kelib, qovurilgan non va pishirilgan nonning boshqa shakllari maktab tushliklariga kiritila boshlandi. Yaponiyaning markaziy Kanto mintaqasidagi ba'zi maktab tushliklarida ham yumshoq noodlelar paydo bo'la boshladi 1951 yil butun mamlakat bo'ylab maktab tushliklarini qisman hukumat subsidiyalari hisobidan moliyalashtirish harakati boshlandi. Kelgusi yilga kelib hukumat maktabdagi tushlik nonida ishlatiladigan bug'doy unining yarmini moliyalashtirdi. Aprel oyidan boshlab butun mamlakat bo'ylab barcha maktablarda boshlang'ich maktab yoshidagi bolalar maktabda to'liq tushlik oldilar. Keyingi yillardagi tushliklarga bir nechta qovurilgan menyular kiradi.

1954-yilda maktabda tushlik to'g'risidagi qonun amalga oshirildi. Maktab tushligi oziq-ovqat qanday ishlab chiqarilganligi va ovqatlanishning muhim odatlari haqidagi bilimlarni o'rgatish usuli sifatida bolalar ta'limining qonuniy qismi sifatida tan olingan. Bu, shuningdek, sinfdoshlar o'rtasida va maktab ichida sog'lom ijtimoiy o'zaro munosabatlarni rag'batlantirdi, bu qoida bugungi kungacha targ'ib qilinmoqda.

1958-yilda Ta'lim, Madaniyat, Sport, Fan va Texnologiya Vazirligining (MEXT) ma'muriy direktori sutni maktab tushliklariga kiritish rejasini ilgari surdi. Keyingi bir necha yil ichida yangi sigir suti asta-sekin kukun sutini almashtirdi.

1971-yilda maktab tushliklarining mazmuni hukumat qarori bilan ko'proq yoki kamroq standartlashtirildi. Issiq, yangi pishirilgan guruchli taomlar 1976 yilda taqdim etila boshlandi. Bundan tashqari, atigi yigirma yil oldingi tanlovga nisbatan taqdim etilgan taomlar xilma-xilligi oshgan. Ilgari shishaga solingan sut nihoyat sut qutilari bilan almashtirildi.

1993 va 1994-yillar sholi ekinlari uchun yomon yillar bo'ldi, shuning uchun maktab tumanlariga hukumat nazorati ostida bo'lmagan guruch bilan maktab tushliklarini to'ldirishga alohida ruxsat berildi. 2000-yilga kelib, bu turdagi guruch umumiy foydalanishga ruxsat berildi.

XULOSA. Xulosa qilib aytadigan bo'lsak bu maqolada har bir rivojlanayotgan sohalar singari ovqatlanish faoliyati ham qadimgi davrlardan beri sekin astalik bilan rivojlanayotganini ko'rishimiz mumkin. Bundan tashqari bu sohaga bo'lgan talab har doim yuqori bo'lganini ko'rish. Shuning uchun ham qadimgi xonliklar davrida bu sohaga alohida e'tibor kuchli bo'lgan ya'ni ovqat tayyorlaydigan joyga ham oshpazlar ham alohida e'tibor berishgan. Urush yillarida ham ovqatga bo'lgan talab har doim kuchli bo'lgan chunki ovqat tanqisligi yuzaga kelgan. Shuning uchun bu sinov kam ta'minlangan oila farzandlariga juda qiyin bo'lgan sababi maktabda tushlik ularga muommoli vaziyatlar ko'p bo'lgan. Bunday vaziyatlarni yechimini topish maqsadida zodagonlar kam ta'minlangan oila farandlariga yordam berish maqsadida maktabdagi bolalarga bepul tushlik tarqatishni yo'lga qo'yishgan.

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SHAHAR SHAROITIDA AVTO TURARGOHLAR BINOLARI ARXITEKTURASIGA TALABLAR

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ANNOTATSIYA

Ushbu maqolada shahar hududlarida avtoturargoh binolarini qurish va ularning arxitekturasiga qo'yiladigan talablar haqida bir qancha ko'rsatmalar berib o'tilgan.

Kalit so'zlar: *Avtomobil, transport, yer osti to'xtash joyi, loyihalashtirish, inshootlar.*

АННОТАЦИЯ

В данной статье даны некоторые указания о строительстве зданий парковок в городских условиях и требованиях к их архитектуре.

Ключевые слова: *Автомобиль, транспорт, подземный паркинг, проектирование, конструкции.*

ANNOTATION

In this article, some instructions have been given about the construction of parking buildings in urban areas and the requirements for their architecture.

Key words: *Car, transport, underground parking, design, structures.*

XXI asr axborot texnologiyalari asridir. Bugungi kunga kelib texnologiyaning jadal rivojlanishi tufayli odamzot farovon hayot kechirmoqda. Ammo shu bilan birga, bu yutuqlar bir qancha muammolarga sabab bo'lmoqda. Buni transport vositalari misolida ko'radigan bo'lsak, umumjahon transport vositalariga egalik qilish va transport vositalarini ishlab chiqarish statistikasiga ko'ra, avtomobillar soni doimiy ravishda o'sib bormoqda. Dunyoda avtomobillar soni 2020 yilda 1 milliarddan oshishi va 2035 yilga kelib 1.7 mlrd.ni tashkil etishi kutilmoqda¹. Ko'plab mamlakatlar yo'llarida transport vositalari harakat miqdorining ko'payishi natijasida tirbandliklar vujudga kelmoqda. Bu tirbandliklarni kamaytirish uchun tadqiqotchilar tomonidan ilmiy izlanishlar olib borilmoqda.

¹ Miralimov M.M., Sayfiddinov S., Babajanov M.B. Arxitektura. Darslik.

Transport vositalarining to‘xtash va to‘xtab turish qoidalarini buzilishi kabi salbiy oqibatlarni kamaytirish bo‘yicha ko‘plab davlatlar mana shu jarayonni boshqaradigan intellektual parkovka tizimini ishlab chiqishga harakat qilmoqdalar¹.

Avtoturargoh turar-joy, ofis, ma‘muriy majmualar, shuningdek, savdo va ko‘ngilochar markazlarning ajralmas qismi hisoblanadi. Bugungi kunda deyarli har bir qurilish obyekti uchun u yoki bu tarzda tashrif buyuruvchilarning avtomobillarini joylashtirish masalasi hal qilinib kelinmoqda. Avtomobil to‘xtash joylarining mavjud turlarini hisobga olgan holda, biz to‘xtash joylarining quyidagi tasnifini qabul qilishimiz mumkin:

- biznes markazlarida yoki turar-joylarda avtomobil to‘xtash joylari;
- biznes markazlarida yoki turar-joylarda yer osti to‘xtash joyi;
- qurilish zonalarida yer osti va yer usti avtoturargohlari;
- tunu kun to‘xtash joyi (to‘siq bilan o‘ralgan)².

Shaharlar hududlarida ko‘p qavatli avtoturargohlar juda qulay, masalan, isitish, qo‘riqlash uskunalari, xavfsizlik va yong‘in signalizatsiyasi, ventilyatsiya, qo‘llab-quvvatlash xizmatlari mavjud.. Shu bilan birga, ular bir qator muhim afzalliklarga ega:

- ushbu to‘xtash joylarida qoldirilgan avtomobillar atrof-muhitning salbiy ta‘siridan (yomg‘ir, qor, loy va boshqalar) himoyalangan;
- ko‘p qavatli binolarda binoning egallagan maydoni nisbatan kichik³.

So‘nggi paytlarda yer osti to‘xtash joylari binolar yonida yoki to‘g‘ridan-to‘g‘ri ostida joylashgan bo‘lishi keng tarqaldi. Ushbu turdagi to‘xtash joyining shubhasiz afzalligi - aholining o‘z avtomobillariga qulay kirish imkoniyati, bundan tashqari, avtomobillar tabiiy muhit holatidan qat‘i nazar, saqlash uchun maqbul sharoitlarda bo‘lishidir. Ammo turar-joy binolarini rejalashtirishning o‘ziga xos xususiyatlarini, ushbu turdagi inshootlarni tashkil etish bo‘yicha me‘yoriy hujjatlar talablarini va boshqa omillarni hisobga olgan holda, turar-joy binolari ostidagi yer osti to‘xtash joylari, asosan, bir qavatda ishlab chiqilgan bo‘lib, ularning sig‘imi, to‘xtash joylariga bo‘lgan ehtiyojning 40-60% ni ta‘minlaydi.

Ochiq sirdagi avtoturargohlar

Ushbu turdagi to‘xtash joylari tegishli perimetr bo‘ylab ochiq va to‘silgan maydonni nazarda tutadi, avtomobillarni to‘xtash uchun mo‘ljallangan va qarama-

¹ Harshitha Bura, Nathan Lin, Naveen Kumar, Sangram Malekar, Sushma Nagaraj, Kaikai Liu. An Edge Based Smart Parking Solution Using Camera Networks and Deep Learning.

² Harshitha Bura, Nathan Lin, Naveen Kumar, Sangram Malekar, Sushma Nagaraj, Kaikai Liu. An Edge Based Smart Parking Solution Using Camera Networks and Deep Learning.

³ Абелев М.Ю., Ильичев В.А., Ухов С.Б. и др. Строительство зданий и сооружений в сложнѣх грунтовѣх условиях

qarshi tomonlarda joylashgan kamida ikkita chiqish joyiga ega¹. Avtomobillar uchun ochiq to'xtash joyida panjara ham bo'lmisligi mumkin, ushbu maqsad uchun mo'ljallangan belgilardan iborat bo'lishi shart. Bunday avtoturargohlardagi joyning narxi ob-havo sharoitidan himoyalanganligi sababli yopiq joylarga qaraganda arzonroq bo'ladi.

Ko'p qavatli avtoturargohlar

Avtomobil egalari minimal maydonda yetarli miqdordagi joylar bilan ta'minlashga qodir bo'lgan eng istiqbolli yopiq to'xtash joylaridan biri. Ko'p qavatli avtoturargohlar alohida bino sifatida yoki uning kengaytmasi sifatida qurilishi mumkin. Ba'zan, erni tejash uchun ular magistral yo'llar yoki shahar ko'chalari ustiga o'rnatiladi. Mijozlarning xavfsizligi va qulayligi uchun ushbu turdagi avtoturargohlar odatda barcha zarur turdagi zamonaviy mexanizatsiyalashgan uskunalari bilan jihozlangan.

Yer osti avtoturargohlari

Yer osti avtoturargohlari katta miqdordagi kapital qo'yilmalarni talab qiladi, lekin avtomobil transporti uchun eng qulay, amaliy va sig'imli joy bo'lib qolmoqda. Bunday majmualar elita hisoblanadi, ular o'z hududida yuzlab mashinalarni joylashtirishga imkon beradi va asosan avtomobillar ko'p bo'lgan joylarda quriladi. Yer osti avtoturargohlarini qurish to'g'risidagi qarorlar ko'p sabablarga ko'ra transport vositalarini yerga joylashtirish imkonsiz bo'lgan joylarda qo'llaniladi².

Uning maqsadi, muddati va saqlash xususiyatlariga ko'ra avtoturargohlar ham bir necha guruhlarga bo'linadi:

- uzoq muddatli - ma'lum bir hududda yashovchi fuqarolarning avtomobillarini saqlash uchun mo'ljallangan;
- mavsumiy - ma'lum bir dam olish zonasida avtoulavlarni vaqtincha saqlashni o'z ichiga oladi;
- kunduzi - ommaviy dam olish joylarida, sport, savdo va ko'ngilochar obyektlar yaqinida joylashgan;
- tungi - avtotransport vositalarini vaqtinchalik tungi to'xtash uchun mo'ljallangan³.

¹ Chaogang Tang, Xianglin Wei, Chunsheng Zhu, Wei Chen and Joel J. P. C. Rodrigues. Towards Smart Parking Based on Fog Computing.

² Архитектура гражданских и промышленных зданий. Том 5. Промышленные здания

³ Буга П.Г. Гражданские, промышленные и сельскохозяйственные здания.



Ularning jozibadorligi, shuningdek, avtoullovchilar orasida mashhurligi to'xtash joylari uchun to'xtash joylarining sifatli qurilishiga bog'liq, ammo ularni jihozlashni boshlaganda, ushbu turdagi faoliyatga qo'yiladigan talablarni diqqat bilan o'rganish kerak.

Avtomobillar to'xtash joyini taklif etilayotgan yer uchastkasi qonuniy ravishda ushbu faoliyat turi uchun maxsus mo'ljallangan bo'lishi kerak. Bu esa kelajakda qurilish, shuningdek, uning ishlashi bilan bog'liq muammolardan qochishga kafolatdir.

Yopiq avtoturargohni qurish bo'yicha loyiha va biznes-rejani ishlab chiqish bir nechta davlat tashkilotlarida, tasdiqlash va ro'yxatdan o'tishni talab qiladi. Ayniqsa, qiyinchilik, qoida tariqasida, loyihaning o'zini tasdiqlash bilan bog'liq masalani hal qilishdir, bu yerda kelajakdagi avtoturargohning egasi uzoq vaqt davomida shahar kommunal xizmatlari bilan aloqa qilishiga to'g'ri keladi.

Avtomobil transporti uchun to'xtash joyini tashkil qilishda duch keladigan birinchi muammolardan biri bu kerakli o'lchamlarni topish va yaratishdir, chunki qonunchilik darajasida ushbu parametrlarni aniq ko'rsatadigan qoidalar mavjud emas. Ochiq va yopiq sirtli avtoturargohlar uchun umumiy qabul qilingan standart 2,5x4,5 metr o'lchamdagi deb hisoblanishi mumkin¹.

Joylar sonini hisoblash, to'xtash joyidagi to'xtab turgan transport vositalarining qatorlari orasidagi minimal masofa 7 metr bo'lishi kerakligini hisobga olgan holda amalga oshiriladi.

¹ Harshitha Bura, Nathan Lin, Naveen Kumar, Sangram Malekar, Sushma Nagaraj, Kaikai Liu. An Edge Based Smart Parking Solution Using Camera Networks and Deep Learning.

Yopiq avtoturargohning chegaralari odatda uning perimetri bo‘ylab aniq belgilanadi va sathning o‘zi to‘xtash joyi va transport vositalariga kirish joylarini belgilaydigan chiziqlar bilan bo‘linadi.

Sanitariya me‘yorlariga ko‘ra, avtomobil ostidagi yopiq to‘xtash joyi qattiq sirtga ega bo‘lishi kerak, bu esa neft mahsulotlarining sirtga singib ketishining oldini olish uchun maxsus eritma bilan qoplanishi kerak.

Sun‘iy, shuningdek, tabiiy yoritishga katta e‘tibor berilishi kerak, mavjud sanitariya me‘yorlariga ko‘ra, sun‘iy yoritish 10 lyuksga to‘g‘ri kelishi kerak.

Yopiq avtoturargoh to‘siqlari bo‘lgan kirish va chiqish eshiklari, transport vositalarini evakuatsiya qilishda favqulodda chiqish joyi, kechayu kunduz xavfsizlik xonasi, ma‘muriyat xonasi va telefon aloqasi bilan jihozlangan bo‘lishi kerak. Bularning barchasi to‘xtash joyini ishlatish jarayonini boshlash uchun yetarli bo‘ladi. Kelajakda avtoturargoh videokuzatuv tizimi bilan jihozlanishi, shuningdek, qo‘shimcha xizmatlar ko‘rsatish uchun binolarni qurish mumkin.

Avtotransport vositalarining kichik sig‘imi (50 donagacha) bilan, kengligi kamida 4,5 metr bo‘lishi kerak bo‘lgan bitta kombinatsiyalangan kirish-chiqishga ruxsat beriladi. Kattaroq sig‘imga ega yopiq avtoturargohlarda avtotransport vositalarining kirish va chiqish eshiklari joyning qarama-qarshi uchlarida joylashgan bo‘lishi kerak¹.



¹ Chaogang Tang, Xianglin Wei, Chunsheng Zhu, Wei Chen and Joel J. P. C. Rodrigues. Towards Smart Parking Based on Fog Computing

Binolar yaqinida yopiq to‘xtash joyini joylashtirishga qo‘yiladigan talablar:

Yuzaki avtoturargohlarni qurishni tartibga soluvchi sanitariya me‘yorlari va qoidalariga amal qilgan holda, kelajakdagi korxonaga egasi qo‘shni binolardan o‘zi qurayotgan obyekt chegaralarigacha xavfsiz masofani belgilashi mumkin¹.

Belgilangan reglamentga ko‘ra, turar-joy binosining derazalaridan masofa bo‘lishi kerak:

- kamida 10 m - 1 dan 10 gacha transport vositalarini o‘z ichiga olgan to‘xtash joyi uchun;
- kamida 15 m - hududida 10 dan 50 tagacha avtomobil bo‘lgan to‘xtash joyi uchun;
- kamida 50 m - o‘z hududida 101 dan 300 tagacha transport vositalarini o‘z ichiga olgan to‘xtash joyi uchun.

Avtoturargoh egasi ham xavfsizlikni ta‘minlash uchun tegishli shart-sharoitlarni yaratishi kerak, chunki inson ishining sifati va samaradorligi ko‘p jihatdan bunga bog‘liq. Izolyatsiya qilingan xonada butun avtomobil maydonini, kerakli mebel va telefonni ko‘rish imkonini beruvchi katta oyna bo‘lishi kerak².

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² Архитектура гражданских и промышленных зданий. Том 5. Промышленные здания

KOGNITIV RADIO ORQALI IOT (INTERNET OF THINGS) QURILMALARINING ISHLASHI

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***Annotatsiya.** Hozirgi vaqtda texnologiyalar rivojlanishning boshlang'ich bosqichida bo'lganligi sababli inson ishtirokisiz IoT qurilmasi hech bir jarayonni amalga oshira olmaydi. Hozircha "aqli" narsalar, asosan, ba'zi jarayonlarni avtomatlashtirish uchun ishlaydi. Kunduzi va kechasi iqlim sharoitini saqlashning turli rejimlarini ta'minlaydigan zamonaviy konditsionerlar bunga misol bo'la oladi. Ammo ularning aksariyati odamning borligi yoki yo'qligidan, xonadagi odamlarning soni va boshqa sharoitlardan qat'iy nazar, berilgan dasturni bajaradi.*

***Kalit so'zlar:** Internet, texnologiya, IoT tizimi, Tarmoq, Tizimlar, Global ekotizim.*

OPERATION OF IOT (INTERNET OF THINGS) DEVICES THROUGH COGNITIVE RADIO

***Abstract.** Currently, since the technologies are at the initial stage of development, an IoT device cannot perform any process without human participation. So far, "smart" things work mainly to automate some processes. An example of this is modern air conditioners that provide different modes of maintaining climate conditions during the day and at night. But most of them perform the given program regardless of the presence or absence of a person, the number of people in the room and other conditions.*

***Keywords:** Internet, technology, IoT system, Network, Systems, Global ecosystem.*

РАБОТА УСТРОЙСТВ ИОТ (ИНТЕРНЕТ ВЕЩЕЙ) ЧЕРЕЗ КОГНИТИВНОЕ РАДИО

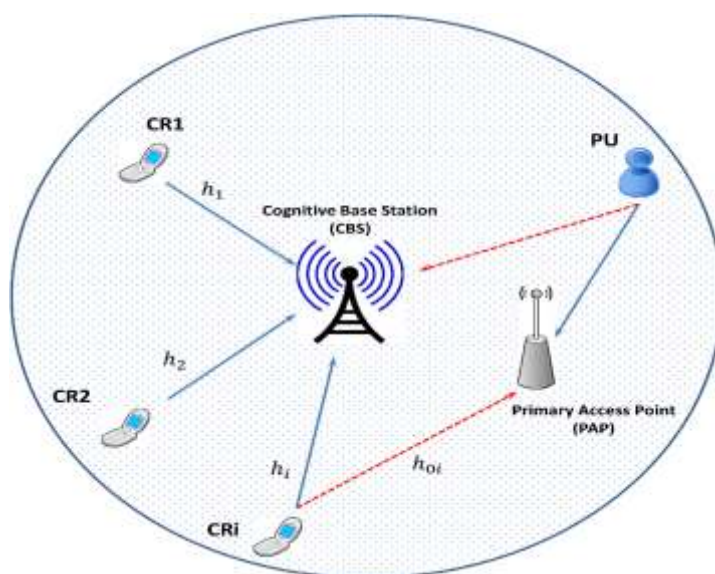
***Аннотация.** В настоящее время, поскольку технологии находятся на начальной стадии развития, IoT-устройство не может выполнять ни один процесс без участия человека. Пока что «умные» вещи работают в основном для автоматизации некоторых процессов. Примером тому являются современные кондиционеры, обеспечивающие разные режимы поддержания климатических условий днем и ночью. Но большинство из них выполняют заданную программу независимо от присутствия или отсутствия человека, количества людей в помещении и других условий.*

***Ключевые слова:** Интернет, технология, система IoT, сеть, системы, глобальная экосистема.*

Kognitiv radio (CR) haqida ma'lumot

Kognitiv radio (*Cognitive Radio System, CRS*) – bu o'z ishlatilishi o'ziga xos xususiyatlari haqida ma'lumotlarni ola oladigan va bu ma'lumotlar asosida o'zining ishlash parametrlarini tuzata oladigan radio tizim hisoblanadi. Bunday tizim alohida radioaloqa xizmati hisoblanmaydi, balki mavjud radioxizmatlardan istalgani doirsida texnologiya sifatida ishlatiladi. Buning uchun u mos chastotalar polosasida birlamchi yoki ikkilamchi asosida ishlatilishi imkoniyati bo'lishi kerak [1].

Kognitiv radio texnologiyasi ishlatiladigan radiochastota spektri resurslarini samaraliroq boshqarish uchun terminlar va bir nechta radio tizimlar, radioaloqa tizimlari operatorlari orasida bog'lanishlarni rekonfiguratsiyalashda, shuningdek radiochastotalar spektriga yanada tez moslashuvchan ulanish tashkil etiladi va jamoviy vosita sifatida ishlatilishi mumkin[2].



1– rasm. Kognitiv radioda signalni tarqalishi.

Kognitiv radio tamoyilini ishlatadigan va Kognitiv radio deyiladigan bunday qurilmalarning birinchilaridan biri Nyu-Jersida yaratilgan. Ishlab chiqilgan yuqori tezlikli namuna bo'lishi mumkin maksimal 100 MHz dan 7.5 GHz gacha chastotalar diapazonlarida, shu jumladan televideniye, Wi-Fi va HZM uchun chastotalarda ishlash mumkin va spektrdan samaraliroq foydalanishga imkon beradi. Qurilma band bo'lmagan chastotalarni detektorlay oladi va ular orasida 50 mikrosekundda qayta ulana oladi. Alohida hollarda esa video oqimlarni translyasiyalash uzilmasdan 1 mikrosekundda qayta ulana oladi. Shuningdek qurilma tijorat mahsulotlarida ishlatiladigan dasturiy ta'minotlarni ishlatishi va testlashi mumkin. Ma'lumotlar sekundiga 400 Mbit tezlikda uzatiladi, bu mavjud Wi-Fi qurilmalardagidan ancha tez hisoblanadi [2].

Kognitiv radio qator yangi xizmatlarni yaratishi mumkin. Masalan, u sotali qo'ng'iroqlarni Wi-Fi ga yo'naltirishi mumkin. Bugungi kunda uncha katta bo'lmagan simsiz microcell bazaviy stansiyalarda amalga oshirilmoqda va internetga ulash uchun optik toladan foydalanishni inkor etish mumkin. Buning o'rniga esa mavjud 400 MHz diapazondagi televideniya spektri ishlatilishi mumkin.

Barcha bunday loyihalardagi eng katta muammo katta chastotaning tez qayta ulanishi va yuqori o'tkazish qobiliyati hisoblanadi. Katta unimdorlikni ishlatilishi uchun ko'p ishlar chip dizayni, interfeys va boshqa ko'p ishlarni amalga oshirilishi turgan bo'lsada kognitiv radio bunday loyihalar uchun ideal to'g'ri keladi[3].

Shu bilan birga, dunyoda ehtiroslar jo'sh urmoqda, chunki mobil tarmoqlarga talablar ortmoqda. Bell Labs 2020 – yilga kelib mobil trafik 25 martaga, Cisco 18 martaga oshadi deb hisoblaydi, FCC esa mavjud spektr yaqin yillarda tugashini va bu holda yangi texnologiyalar hayotiy zarur bo'lishini ta'kidlaydi. Bularning barchasi sohani yangi texnologiyalarini rivojlantirishga majburlaydi.

Hozirgi vaqtda rivojlangan davlatlarda butun chastotalar spektri taqsimlangan va qat'iy litsenziyalanadi. Chastotalar doimo eshitmaydi, lekin bunda ular juda samaralisiz ishlatiladi. Kognitiv radioning (yoki yana intellectual radioaloqa deyiladigan) asosiy tamoyili chastotaning yuklanishini dinamik boshqarilishidan iborat. Bu juda murakkab texnik jarayon bo'lib, uning ma'nosi shundan iboratki, bitta aloqa kanalili sotali tarmoqda bitta foydalanuvchi ikkinchi foydalanuvchiga kanal kerak bo'lmaganida undan foydalanishi mumkin. Oddiy aytganda, kimgadir ajratilgan chastotalar egasiga kerak bo'lmagan mamentda ishlatilishi mumkin. Binobarin, yuklanganlik ko'pincha yuqori emas, masalan, abonent ma'lum vqat mobaynida mobil telefon bo'yicha so'zlashadi, qolgan vqatlarda esa telefon kutish rejimida bo'ladi, u holda shunday qilib, qoshimcha chastotalarni qidirish zaruratisiz sezilarli chastotalar resurslari mumkin bo'lib qoladi [7].

Kognitiv radioning o'ziga xos xususiyatlari turli chastotalardagi signallarni olish va uzatish hisoblanadi. Bunday tizimlarning xususiy hollari taqsimlangan spektr va fazo vaqt bo'yicha multiplekslash texnologiyalari hisoblanadi. Bunday tizimlarning ishlatilishi alohida oxirgi qurilmalarning funksionalligini oshirish va ularning konvergensiyanishini ko'zda tutadi, televideniya, mobil aloqa va radio uchun faqat bitta qurilma talab qilinadi. Bu sinfdagi texnologiyalarning alohida sinfini "intelektual" radio tashkil etadi, u elektromagnit muhitni tahlil qilishni o'tkazish uchun vaqtincha yoki doimo ishlatilmaydigan chastotalarni topadi, bu har bir bunday chastotada uzatiladigan ma'lumotlar sonini oshirishga imkon beradi. Kognitiv radio bu ma'nosi bo'yicha hisoblash modeli hisoblanadi [4].

Kognitiv Internet- qurilmalar - kognitiv M2M aloqalari - bu mutlaqo o'rganilmagan soha bo'lib, unda cheklangan miqdordagi tadqiqotlar olib borilgan. M2M qurilmalari narsalar internetining asosiy qurilish bloklari hisoblanadi. Shu sababli, bundan buyon ushbu dissertatsiyada "M2M" va "IoT" atamalari bir-birining o'rnida ishlatiladi. IoT kommunikatsiyalaridagi asosiy muammo IoT qurilmalari sonining tobora ortib borayotganiga spektrni taqsimlashdir. Ericsson ma'lumotlariga ko'ra, 2020 yilga kelib ulangan qurilmalar soni 30 milliardga yetadi. Simsiz spektr uchun raqobatlashayotgan ko'plab qurilmalar jiddiy tiqilib qolishga olib keladi. Spektrning tiqilib qolishi IoT ga CRni kiritishning asosiy sababidir. Ushbu tezisda taqdim etilgan tadqiqot qisqa masofali IoT qurilmalari bilan cheklangan, shuning uchun uyali qurilmalar bundan keyin muhokama qilinmaydi. Kapillyar IoT qurilmalari Zigbee va Wi-Fi kabi qisqa masofali aloqa texnologiyalaridan foydalangan holda bir-biri bilan muloqot qiladi[5].

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KAM QAVATLI TURAR-JOY BINOLARINI ARXITEKTURAVIY LOYIHALASHDA BIM TEXNOLOGIYANING O‘RNI

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ANNOTATSIYA

Ushbu maqolada kam qavatli turar-joy binolarini loyihalashda bino ma'lumotlarini modellashtirish (BIM) dan foydalanishning hozirgi tendentsiyalari ko'rib chiqiladi. Tadqiqot samaradorlikni oshirish, jadvallarni qisqartirish, manfaatdor tomonning rollarini qo'llab-quvvatlash va aks ettirish uchun BIMga ma'lumotlarni kiritish, ajratib olish, yangilash yoki o'zgartirish uchun obyektning hayot siklining turli bosqichlarida turli manfaatdor tomonlarning hamkorligining asosiy shartlarini inobatga olib, loyiha ishtirokchilari o'rtasida muvofiqlashtirishni yaxshilash va xarajatlarni kamaytirish kabi BIMni joriy etishning afzalliklarini muhokama qiladi.

Kalit so'zlar: BIM, kam qavatli binolar, qurilish, samaradorlik, muvofiqlashtirish, ma'lumotlarni kiritish, obyektning hayot sikli, xarajatlar.

ROLE OF BIM TECHNOLOGY IN ARCHITECTURAL DESIGN OF LOW-STORY RESIDENTIAL BUILDINGS

ABSTRACT

This article reviews current trends in the use of Building Information Modeling (BIM) in the design of low-rise residential buildings. The study takes into account the basic conditions of the cooperation of various stakeholders at different stages of the object's life cycle in order to add, extract, update or change information in BIM to improve efficiency, reduce schedules, support and reflect stakeholder roles, project participants discuss the benefits of implementing BIM, such as improved coordination and cost reduction.

Key words: BIM, low-rise buildings, construction, efficiency, coordination, data entry, object life cycle, costs.

KIRISH

Hozirgi rivojlanayotgan davr talabidan kelib chiqqan holda, butun dunyo bo'ylab raqamli texnologiya jadal ravishda rivojlanib bormoqda. Har bir sohani keng qamrab olayotgan axborot texnologiyalarining afzaliklari insonlar turmush tarzini qulay va samarali qilishida.

O'zbekiston Respublikasi qator islohotlarni ko'plab jabhalarda amalga oshirayotgan paytda, asta-sekinlik bilan qurilish sohasi ham raqamlashtirish texnologiyasiga o'tib bormoqda. O'zbekiston Respublikasi Qurilish va uy-joy kommunal xo'jaligi vazirligining "Qurilish sohasiga joriy etilayotgan BIM texnologiyalari haqida" brifingida BIM texnologiyasiga o'tishning yo'l xaritasi tuzilganligi aytib o'tildi.

So'nggi yillardagi qurilish sohasidagi loyihalash uslublarining rivojlanishi va buning loyihalovchi dasturlar orqali amalga oshirilish natijasida loyihani yaratish jarayoniga sarflanadigan vaqt sezilarli darajada qisqargani, moliyaviy jihatdan sarf harajatlarning kamaygani va samaradorlikning oshganini yaqqol ko'rish mumkin. Jahon tajribasini kuzatishimiz natijasida BIM texnologiyasini qo'llash orqali obyekt haqidagi ma'lumotlarni yig'ish, tahlil qilish va ularni ko'rib chiqish yagona information bazada bo'lishi BIM mutaxassislari va loyihachilarni birgalik ish olib borishlariga zamin yaratadi.

BIM (inglizcha Building Information Model) modelni yaratishdan maqsad qurilish loyihasida bunday modelni yaratish bosqichida ham, obyektning hayot siklini keyingi bosqichlarida ham qaror qabul qilishdir. Qurilish axborotini modellashtirish - bu qurilish obyektlari haqidagi ma'lumotlarni yaratish va o'zgartirish jarayoni. Ushbu jarayonning asosiy natijalaridan biri qurilish obyektining axborot modeli yoki qurilgan obyekt xususiyatlarining raqamli tavsifidir. Model hamkorlik uchun ishlatiladi va loyihaning asosiy bosqichlarida yangilanadi. Qurilish maydonchasining raqamli modelni yaratish u bilan o'zaro aloqada bo'lganlarga o'z harakatlarini optimallashtirishga imkon beradi, natijada obyektning qiymatini oshiradi (aktiv sifatida).

Qurilish ma'lumotlarini modellashtirish (BIM) - bu jarayon bo'lib, uning natijasida har bir bosqichda qurilish axborot modeli (shuningdek, BIM) yaratiladi (ishlab chiqiladi va takomillashtiriladi).

Tarixiy jihatdan, BIM qisqartmasi bir vaqtning o'zida ikkita holatda qo'llaniladi: jarayon va model uchun. Odatda, hech qanday chalkashlik yo'q, chunki har doim kontekst mavjud. Ammo agar vaziyat munozarali bo'lib qolsa, biz jarayonning asosiy ekanligini va modelning ikkinchi darajali ekanligini unutmasligimiz kerak, ya'ni BIM, birinchi navbatda, jarayon.

Bino axborot modeli (BIM) - kompyuterda ishlov berish uchun mos bo'lgan rejalashtirilgan yoki mavjud qurilish loyihasi haqida ma'lumot bo'lib, quyidagilarni qamrab oladi:

- to'g'ri muvofiqlashtirilgan, muvofiqlashtirilgan va o'zaro bog'langan,
- geometrik moslamaga ega bo'lish;
- hisob-kitoblar va tahlillar uchun mos;
- zarur yangilanishlarga ruxsat berish.

Oddiy qilib aytganda, qurilish ma'lumotlari modeli - bu tegishli kompyuter dasturi yordamida boshqariladigan ushbu bino haqidagi ma'lumotlar bazasi. Ushbu ma'lumot asosan mo'ljallangan va quyidagilar uchun ishlatilishi mumkin:

- aniq dizayn qarorlarini qabul qilish;
- binoning birliklari va tarkibiy qismlarini hisoblash;
- obyektning operatsion sifatlarini oldindan ko'ra olish;
- loyiha hujjatlarini yaratish;
- smeta va qurilish rejalarini tuzish;
- materiallar va jihozlarni buyurtma qilish va ishlab chiqarish;
- bino qurilishini boshqarish;
- obyektning butun hayotiy sikli davomida operatsiyani boshqarish;
- tijorat faoliyati obyekti sifatida binoni boshqarish;
- binoni rekonstruksiya qilish yoki ta'mirlashni loyihalash va boshqarish;
- binoni buzish va utilizatsiya qilish;
- bino bilan bog'liq boshqa maqsadlar

So'nggi o'n yilliklarda qurilish va dizayn texnologiyalarining rivojlanishi bilan bino ma'lumotlarini modellashtirish (BIM) samarali va barqaror qurilish loyihalarini yaratishda asosiy vositaga aylandi. Ushbu maqolada biz BIM ning kam qavatli turar-joy binolarini loyihalashdagi rolini o'rganamiz, bunda afzalliklar, jarayonni optimallashtirish va yakuniy mahsulot sifatini yaxshilashga e'tibor qaratamiz.

“Endilikda qurilish ishlari BIM texnologiya asosida amalga oshirilishini, mazkur texnologiya binoning raqamli modelini yaratishni ko'zda tutadi. 2023-yilda manzilli dasturga kiritilgan har bir hududda 5 tadan obyektни raqamli texnologiya asosida loyihalashtirish nazarda tutilmoqda. Hozirgi kunning rivojlangan mamlakatlari loyihalash va qurilish jarayonlarini BIM texnologiyalari asosida amalga oshiradi. Bu borada Buyuk Britaniya va Singapur yetakchilik qiladi. O'zbekistonda BIM texnologiyalarini joriy etish va qurilish jarayonlarini raqamli boshqarish bo'yicha xalqaro tajriba tahlil qilindi. Bu yo'nalishda Xitoy, Germaniya, Rossiya va Qozog'iston tajribasi ham o'rganildi. Konsultativ muzokaralar o'tkazildi. Qurilish Vazirligi

tomonidan sohaga BIM texnologiyalarini joriy etishning 2024-yilgacha bo‘lgan yo‘l xaritasi ishlab chiqildi. Unga ko‘ra BIM texnologiyasi va qurilish jarayoni ishtirokchilari o‘rtasidagi munosabatlar yagona standartlar asosida markazlashgan server orqali muvofiqlashtirib boriladi. Hududlardagi yagona buyurtmachi xizmatlari injinering kompaniyalari BIM modellar bilan ishlashga tayyorlash yo‘lga quyiladi” deb vazirlik hodimining BIM texnologiyasini davlat miqyosida rivojlanishini taminlovchi rejalar haqida bildirgan fikri buning yaqqol ko‘rinishidir.

O‘zbekiston Respublikasi Vazirlar Mahkamasining 18.01.2019-yildagi 48-sonli qaroridagi qurilish sohasida obyektlarni tashkil qilish, o‘zgartirish yoki buzish bilan bog‘liq tashkiliy, tadqiqot, loyihalashtirish, qurilish-montaj va ishga tushirish ishlarini o‘z ichiga olgan innovatsion texnologiyalarni “Aqlli qurilish” konsepsiyasida bayon etilgan.

Hozirgi kunda BIM texnologiyalariga bo‘lgan yuqori qiziqish va e‘tibor faqat buyurtmachi va quruvchilar tomonidan emas balki davlatimiz tarafidan ham qo‘llab quvvatlanmoqda. O‘zbekiston Respublikasi Prezidentining “Qurilish sohasiga axborot-kommunikatsiya texnologiyalarini keng joriy etish chora-tadbirlari to‘g‘risidagi **2019-yil 20-sentabrdagi PQ-4464-sonli** qarori bunga yaqqol misol. Shuningdek, “Qurilish sohasini davlat tomonidan tartibga solishni takomillashtirish qo‘shimcha chora tadbirlari to‘g‘risida”gi **2018-yil 14-noyabrdagi 5577-sonli** Prezident Farmonida obyektlarni loyihalashtirish va qurishdagi normalashning mavjud ko‘rsatma beruvchi usuli innovatsion loyihaviy yechimlar va yangi ilmiy-texnik ishlanmalarni qo‘llashga to‘sqinlik qilayotgani, ichki va xorijiy investitsiyalarni qurilish sohasiga jalb qilishni sekinlashtirayotganidan raqamlashtirish texnologiyasiga o‘tish zamon talabi ekanligini anglash mumkin.

Kam qavatli turar-joy binolarini loyihalashda BIM dan foydalanish loyihani yanada to‘liq va aniq ko‘rish imkonini beradi. Bu muhandislar, arxitektorlar va quruvchilarga yagona raqamli makonda ishlash imkonini beradi, loyihalash jarayonida xatolar va nomuvofiqliklarni minimallashtiradi. Bundan tashqari, BIM loyihani dastlabki bosqichda tasavvur qilish imkoniyatini beradi, bu esa ko‘proq xabardor qarorlar qabul qilishga olib keladi.

Muammo bayonoti. Kam qavatli binolarning arxitektura dizaynida BIM (Building Information Modeling) ni amalga oshirish bir nechta to‘siqlarga duch kelishi mumkin. Ushbu omillarni aniqlash va ularni bartaraf etish strategiyalarini ishlab chiqish muhimdir. Uchratishimiz mumkin bo‘lgan to‘siqlar:

- Ta‘lim va malakaning etishmasligi
- Moliyaviy xarajatlar
- O‘zgarishlarga qarshilik

- Standartlashtirish va muvofiqlik
- Cheklangan infratuzilma
- Madaniy xususiyatlar va amaliyotlar
- Maqsad va natijalarda noaniqlik

Ushbu to'rsiqlarni bartaraf etish uchun puxta rejalashtirish, BIMga o'tish vaqtida xodimlarni o'qitish va qo'llab-quvvatlash. Ta'lim va sertifikatlashtirish dasturlarini amalga oshirish., strategik o'zgarishlarni boshqarish va manfaatdor tomonlar bilan faol hamkorlik kerak. Amalga oshirish uchun byudjetni ishlab chiqish, mavjud BIM yechimlarini tanlash, uzoq muddatda tejashni asoslash lozim.

TADQIQOT METODOLOGIYASI

Ushbu maqolada statistik, qiyosiy, internet materiallari va mavjud loyihalarni tahlil qilish, kuzatish, qiyosiy tahlil qilish va umumlashtirish kabi usullardan foydalanilgan.

NATIJALAR

Garchand BIM texnologiyasiga bizning yurtimizda yaqin yillardan boshlab katta etibor qaratib, o'tilayotgan bo'lsakda, kerakli natijalarga erishishimiz uchun ma'lum bir to'rsiqlarni yengib o'tgandan keyin erishishimiz mumkin. Bunda xorij tajribalari asosiy tajriba va manba bo'lib xizmat qiladi. Kam qavatli turar-joy binolarining arxitektura dizaynida BIMdan muvaffaqiyatli foydalanishning aniq misollari.

"The Cascade House" loyihasi (AQSh): Kieran Timberlake arxitektura firmasi BIM-dan "The Cascade House" deb nomlanuvchi energiya tejamkor turar-joy binosini loyihalash va qurish uchun foydalangan. BIM arxitektorlarga barqarorlik va energiya tejash omillarini loyihalash jarayoniga kiritgan holda batafsil raqamli modelni yaratishga imkon berdi.



"The Edge" loyihasi (Niderlandiya): PLP Architecture Amsterdamdagi Edge ofis binosini loyihalash uchun BIMdan foydalangan, u shuningdek turar-joylarni ham o'z ichiga oladi. BIM makondan foydalanishni optimallashtirish, barqaror texnologiyalarni joriy etish va loyihani turli manfaatdor tomonlar bilan muvofiqlashtirish uchun ishlatilgan.



"Oaks" loyihasi (Buyuk Britaniya): BIM Levitt Bernshteyn tomonidan Londondagi The Oaks turar-joy qurilishida foydalanilgan. Arxitektorlar BIM-dan bino tafsilotlarini aniq modellashtirish, dizayning turli jihatlarini muvofiqlashtirish va saytdagi nizolarni oldini olish uchun foydalanganlar.

Yashil maydon kutubxonasi loyihasi (Avstraliya): BIM Avstraliyaning Sidney shahridagi Yashil maydon kutubxonasi qurilishida ishlatilgan. Ushbu loyiha nafaqat jamoat joylarini, balki turli xil tizimlar va muhandislik yechimlarini muvofiqlashtirish va o'zaro ta'sir qilish uchun BIM ishlatilgan turar-joylarni ham o'z ichiga oladi.



XULOSA

Xulosa qilib shuni aytishim mumkinki, BIM texnologiyalarni turar joy binolarini arxitekturaviy loyihalashda qo'llash orqali qator afzalliklarga erishib ko'plab muammolarga yechim topshimiz mumkin. Bunda zamonaviy modellash jarayoniga bosqichma-bosqich, aniq reja asosida, xorij tajribalaridan xulosa chiqargan holda erishishimiz mumkin.

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РОЛЬ BIM-ТЕХНОЛОГИИ В ПРОЕКТИРОВАНИИ МИКРОРАЙОНОВ

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Аннотация:

Современные технологии в области проектирования городской среды требуют инновационных подходов. Предоставляя общую платформу для всех участников проекта, BIM способствует созданию атмосферы сотрудничества, устраняя несоответствия и сокращая количество ошибок. Она позволяет архитекторам, инженерам, подрядчикам и управляющим объектами работать вместе, обеспечивая целостный подход от начала до завершения проекта. В данной статье рассматривается роль информационного моделирования зданий (BIM) в проектировании микрорайонов. BIM обещает революционизировать процессы проектирования, управления и эксплуатации, обеспечивая более эффективное и устойчивое градостроительство.

Статья анализирует влияние BIM на проектирование микрорайонов. Обсуждаются преимущества BIM, такие как улучшенная координация, оптимизация ресурсов и повышение устойчивости. Работа предоставляет обзор практических применений BIM в контексте создания современных и функциональных городских пространств.

***Ключевые слова:** BIM, микрорайон, градостроительство, проектирование, устойчивость.*

Преимущества BIM в проектировании микрорайонов:

BIM обеспечивает трехмерное визуализированное моделирование, что способствует более точному и интуитивному проектированию микрорайонов. Таким образом все участники процесса будут иметь одно общее представление о проекте и быть в полном взаимопонимании.

При проектировании микрорайона в BIM, оно позволяет проникать во все сферы жизнедеятельности человека, и при этом учесть различные аспекты в процессе построения целого микрорайона. В учет принимаются следующие параметры:

Пространственное

планирование

ВІМ позволяет создавать трехмерные модели микрорайонов учитывая географические особенности, что позволяет более наглядно представить конфигурацию зданий, дорог, зеленых зон и инфраструктуры. Помимо этого, оно обеспечивает точное позиционирование зданий и инфраструктуры, учитывая их взаимное влияние, эффективное использование пространства обеспечивая логическое взаимодействие дорог и транспорта, тем самым создавая все условия для удобной городской среды.

Учет Инфраструктуры:

ВІМ объединяет данные по инфраструктуре, включая дороги, водоснабжение, электроснабжение, канализацию и другие системы, в единую цифровую модель, ко всему этому проводит анализ коллизий для выявления пересечений и конфликтов между различными инфраструктурными элементами. Для обеспечения стабильности структуры проводится оценка производительности инженерных систем, а также анализ потребления ресурсов, таких как энергия и вода, для оптимизации использования и снижения нагрузки на инфраструктуру.

Анализ Уровня Услуг:

Для того чтобы все люди имели к широкому спектру услуг, ВІМ умеет делать анализ определения потребностей жителей, оптимизацию размещения инфраструктуры, анализ транспортной доступности, создание экологически устойчивых услуг, учет социокультурных потребностей, оптимизацию расходов, прогнозирование роста населения и обеспечивает гибкость в развитии. Совместная работа с заинтересованными сторонами, также возможна благодаря ВІМ, обеспечивает эффективное согласование и внедрение услуг, соответствующих потребностям и стратегии развития микрорайона.

Социокультурные Аспекты:

В мире существует много различных народов с их особенной традицией и культурой. Для удовлетворения различного рода культурных аспектов людей, в ВІМ социокультурные аспекты включают создание моделей общественных и жилых пространств, учет культурных особенностей и традиций, адаптацию дизайна под уникальные черты сообщества, анализ взаимодействий людей, участие стейкхолдеров на ранних этапах проектирования, создание инклюзивных пространств и анализ культурных индикаторов. ВІМ также облегчает совместную работу с градостроителями для создания уникальных и

социокультурно адаптированных проектов микрорайонов, способствуя адаптивному управлению городским пространством в соответствии с изменениями в обществе и культуре.

Моделирование Зеленых Площадей:

В BIM моделирование зеленых площадей включает точное размещение растительности, оптимизацию ландшафтного дизайна, анализ эффективности использования зон, учет экологических факторов, создание удобных и эстетичных пространств, моделирование водных элементов, оптимизацию систем ирригации. Эта технология обеспечивает совместную работу с ландшафтными архитекторами, позволяет оценивать экологические плюсы зеленых зон и интегрирует их в общий городской контекст, способствуя созданию гармоничной и устойчивой городской среды.

Из вышесказанного можно делать выводы, что применение BIM в строительстве микрорайонов предоставляет возможность учесть специфические потребности и особенности данного типа застройки, содействуя созданию устойчивых и жизнеспособных жилых сообществ.

Практические применения BIM:

1. HafenCity, Гамбург, Германия:



Проект HafenCity в Гамбурге, Германия, иллюстрирует внедрение технологии BIM (Building Information Modeling) в различные аспекты городского проектирования, подчеркивая его ключевые особенности. Используя BIM, проект управлялся интегрированно, обеспечивая взаимодействие между различными дисциплинами и консистентность данных. Трансформация прибрежных зон осуществлялась с использованием BIM, включая инфраструктуру и общественные пространства, с акцентом на эффективное использование городского пространства. BIM также применялась для проектирования устойчивой инфраструктуры, включая энергоэффективные здания и инженерные системы, а также для эффективного управления рисками и обеспечения высокого стандарта качества. Уникальной особенностью было создание интерактивных платформ с использованием BIM, которые позволяли жителям активно участвовать в процессе принятия решений. Проект включал в себя не только функциональные зоны, но и культурные и развлекательные пространства, где BIM обеспечивала сбалансированное городское планирование. Таким образом, HafenCity стал примером успешного городского проектирования, где технология BIM играет ключевую роль в создании умного, устойчивого и социально активного городского пространства.

2. Vauban, Фрайбург, Германия:



Проект Vauban в Фрайбурге, Германия, отличается выдающимся использованием технологии BIM в различных аспектах проектирования. Основной фокус проекта включает устойчивость, и BIM активно применялась для создания энергоэффективных зданий, интеграции возобновляемых источников энергии, и оптимизации общего энергопотребления. Особенностью является проектирование интегрированной транспортной инфраструктуры, включая велосипедные дорожки и общественный транспорт, что подчеркивает важность BIM в формировании удобных и экологически устойчивых транспортных систем. Важным аспектом является также создание пешеходных зон, зон отдыха, а также зеленых зон и экологических коридоров, где BIM обеспечивает оптимальное использование городского пространства. Уникальность проекта заключается в том, что BIM не только применяется для технических аспектов, но также вовлекается в создание социокультурных центров, и даже в участие жителей в проектировании через интерактивные платформы. Наконец, BIM играет ключевую роль в мониторинге энергопотребления и экологических показателей, обеспечивая постоянное улучшение устойчивости городского пространства. Таким образом, Vauban демонстрирует, как BIM становится неотъемлемым инструментом для создания устойчивых, интегрированных и жизнеспособных городских пространств, где технология поддерживает не только технические аспекты, но и социокультурные и участие общества.

3. Songdo, Южная Корея:



Проект Songdo в Южной Корее является образцовым примером успешного использования технологии BIM (Building Information Modeling) в проектировании, где интегрированное управление проектом выделяется как ключевая особенность. С BIM осуществлялась не только координация между архитектурными, инженерными и градостроительными элементами, но и формирование умного городского пространства с высокотехнологичной инфраструктурой и системами связи.

Особое внимание уделялось энергоэффективности, где BIM играла ключевую роль в создании зданий с оптимальным использованием энергии, а также в оптимизации транспортной инфраструктуры, включая дороги и парковки. Экологические инновации, включая зеленые зоны и парки, также проектировались с применением BIM, создавая природо-близкую среду и поддерживая баланс с природой.

Важной особенностью было гармоничное соседство зданий и архитектурная согласованность, где технология BIM обеспечивала структурированное и единое городское пространство. Активное вовлечение жителей в процесс проектирования и управления через интерактивные платформы дополняло этот подход, а мониторинг и анализ данных с использованием BIM обеспечивали постоянную оптимизацию городской среды. Таким образом, Songdo демонстрирует, как BIM становится неотъемлемым инструментом для создания современных, умных и устойчивых городов, где технология поддерживает все аспекты проектирования, от энергоэффективности до активного взаимодействия с обществом.

В заключение, статья о роли технологии BIM в проектировании микрорайонов подчеркивает ее важность в современной градостроительной практике. BIM обеспечивает интегрированный и эффективный подход к созданию устойчивых и функциональных микрорайонов. От оптимизации пространств до управления энергоэффективностью и взаимодействия с обществом, технология BIM становится неотъемлемым инструментом в проектировании городской среды. Используя BIM, проектировщики получают возможность создавать не только технически сложные инфраструктуры, но и учитывать социокультурные и экологические аспекты. Все это содействует формированию умных, устойчивых и комфортных микрорайонов, соответствующих современным требованиям и ожиданиям жителей. Таким образом, внедрение BIM в проектирование микрорайонов становится ключевым элементом для создания инновационных, жизнеспособных и гармоничных городских пространств.

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CREATIVITY IS THE KEY OF PROBLEM SOLVING AND INNOVATION

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ABSTRACT

Edward de Bono believes that without creativity, there would be no progress, and we would be forever repeating the same patterns. Over the course of the previous decade, several useful frameworks have been established to solve complicated organizational issues. But in terms of creative thinking, what we truly want, and need are the abilities that will assist us in addressing difficulties in a holistic manner, both in our professional and personal lives. Fortunately, the ability to solve problems is one that can be honed with practice and experience. In order to solve a problem, we must first identify the problem that needs to be solved. We can figure out what triggered it and why once we get to that point. After that, we will be able to devise a solution. If we can solve problems effectively, we will be able to go to the bottom of problems and find lasting answers to them, rather than just applying temporary fixes. The ability to effectively solve problems may also assist enhance personal and professional connections.

Key words: *creativity, creative thinking, critical thinking, problem-solving, innovation.*

Introduction

According to author and specialist on visual thinking, Tom Wujec, “We instinctively think breaking down complicated things into basic things and then put them all back together again.” While doing so, we may lessen the unknowns involved with a problem’s complexity. Understanding that is borne of creativity does not forsake itself, its own position in time, or its own culture; moreover, it does not forget anything. It is of the utmost importance for the person who understands to be placed outside the object of his or her knowledge, whether that be in time, in space, or in culture. This is necessary for the person to comprehend. Because it is impossible to truly see one’s own exterior and comprehend it in its entirety, and because mirrors and photographs are of no assistance in this regard, the only people who can see and comprehend our

true exterior are other people, because they are located outside of us in space and because they are different from us. (Bakhtin, 1986, p. 7)

As Welby Altidor noted that not everyone is artistic, but we are all creative. There is a life hack for pretty much every conceivable issue that might arise over a normal day, but there are certain aspects of life that we are so used to that we never even considered the possibility that they could be improved. Until someone demonstrated it to us! Who would have ever guessed, for example, that we would want a vending machine stocked with fresh eggs from a farm, a color-chart label on the appropriate time to eat avocados, or a ramp for frogs to use when they get out of the pool? After viewing some of the items on this list, you won't be able to imagine your life without some of them. Below, we have compiled a list of innovative life solutions to issues that you were unaware required fixing, as well as those things that are necessary.

In the TED presentation that was given by organizational psychologist Adam Grant, we can learn more about the sometimes strange behaviors that innovative thinkers have. Adam focuses his research on what might be referred to as "originals" or extremely creative people. These are individuals that come up with novel ideas that end up influencing the world in which they live. One of the most striking tendencies shown by these individuals is their desire to welcome and celebrate defeat. According to Grant, "the most creative and innovative people are the ones that have the most failures because they are the ones who attempt the most." "In order to acquire a few brilliant ideas, you need a lot of stupid ones to work through first." What is it that keeps us from making this behavior a regular part of our lives?

Researches

If there is no difficulty, there will be no solution and no innovation. Our basic replies to the simple challenge we confront every day are the major source that steers us to innovation and creativity. Teeth are essential to our well-being because they enable us to chew the food we eat and make us seem happier. We make it a daily habit to wash our teeth to maintain their pristine condition. The act of squeezing toothpaste out of a tube may be quite aggravating. We always run out of toothpaste while we're during a hurry. Pulling and squeezing until all the minty paste has been squeezed out of the tube is what we do with one hand while squeezing it between the 4 thumb and fingers of the other hand. Our next step is to try to remove the final remaining toothpaste from the tube's shoulders using a type of gripping/twisting/squeezing action. However, these shoulders are then torn apart, allowing any remaining toothpaste to dry up within hours.

People's brains do not just randomly generate original concepts out of thin air for no apparent reason. Rather, they are the outcome of an attempt to find a solution to a

particular issue or to accomplish a certain objective. The theories of relativity developed by Albert Einstein were not the result of spontaneous inspiration. Rather, they were the outcome of an enormous amount of mental problem solving done to reconcile a difference between the rules of physics and the laws of electromagnetism as they were known at the time. This was done to narrow the gap between the two sets of laws. The dripping of toothpaste is one of the most common issues that everyone, including adults and children, must deal with twice a day. However, the loss of cleanliness in the bathroom is the most concerning issue for those of us who are female. I believe that every invention that might make our lives simpler can be considered creative or innovative in some way. As I indicated before, anybody may run across such difficulty; but younger children can take advantage of such ingenuity by holding an adult hostage (if they have teeth, of course). Even though many people think of brainstorming when they hear the term "creative issue solving," it's not all those creative problem-solving entails. According to Jeffrey Baumgartner, it is truly a well-defined procedure that may assist you from the beginning stages of issue description all the way through the implementation of solutions. Most of us are always looking for ways to save money. This includes the bottle of toothpaste in our bathroom cabinet. "Squeeze tube from the bottom and flatten as you move up" is the greatest advice on how to use toothpaste. It is simpler to get the most out of our toothpaste purchase if we follow this technique.

Results of creativity...

A dispenser for toothpaste and brushes, a holder for toothbrushes, and a UV sterilizer are all automatic features. While we are brushing our teeth, a big number of germs are left in the toothbrush; these microbes cannot be removed with ordinary water, and the moist atmosphere of the bathroom aids in the active development of microorganisms, which will give us a bacterial infection. This challenge may be conquered with the assistance of a toothbrush disinfectant or sterilizer. Built-in magnetic sensor to guarantee safe usage, and user-friendly design. If people do not go at least two meters away, the ultraviolet light will turn on automatically. The mechanical dispenser may be folded up into a smaller size for storage. Its components of it are simple to clean. It is necessary to press our palm on the head of the toothbrush in order to squeeze out the toothpaste. It is done in a casual manner. Even when you squeeze the tube, you have perfect control over the quantity of toothpaste that comes out. Simple to put in place: Simply remove the double-sided tape and ensure that we will be installing it on a smooth and clean wall. Soap dispensers are an easy way to make applying toothpaste more convenient for our children. There is a chance that this will protect and help our bathrooms to be clean. Eratosthenes' calculation of the Earth's

circumference around 200 BC and Hippolyte Fizeau's measurement of the speed of light in 1849 were both remarkable scientific breakthroughs that were made possible by the application of simple, innovative approaches. Adam Savage guides us through many of these discoveries in his TED talk titled "How simple ideas lead to scientific discoveries." While you are listening to this session, give some thought to whether these innovative approaches may be used in the work of various types of scientists.

On the way of innovation

Whether in the realm of technology, science, or even humanitarian organizations, the concept of "innovation" is frequently associated with concepts like expansion, possibilities, and the attitude of doing more and doing so in a more effective manner. It's thrown about a lot, but most people don't really understand what it means, much like "innovation" and "creativity". So, here are some definitions to distinguish them:

- Innovation is the process of translating a novel notion into commercial success or broad usage.
- Invention is the invention of a new idea or notion.
- Creativity is the act of putting fresh and inventive ideas into reality.

The creative process may also be seen as a humanistic force, contributing to continual growth and development as well as the actualization of potentialities inside an individual. The relevance of creativity as a force in human welfare and development is further shown by a recent study on the relationship between creativity and health. Abraham Maslow, who popularized the concept of self-actualizing people, ranked self-actualization at the pinnacle of his hierarchy of needs. Maslow believed that self-actualizing creativity (as opposed to creativity based on unique talents) was connected to this goal. The internet and other digitally networked technologies have caused disruptions in practically every aspect of daily life, including the distribution of research findings. Over the course of the last two decades, most academic journals have made the transition to being published online, and academic books may now be found online in addition to being published in print. Despite this, many aspects of these old modes of communication, such as their forms and purposes, have remained substantially unchanged throughout this transformation. However, digital dissemination may take place in several methods in addition to the conventional modes: the usage of social media has grown increasingly widespread among researchers, and the use of blogs and wikis as a special type of "open notebook science" has been popular for more than a decade.

Within its psychological manifestation, human action incorporates cognitive, affective, volitional, and motivational components. Human action both constitutes and articulates both a "internal" and "external" dynamic. From this vantage point, creativity

may be seen at work as an integral component of each action that we do (Joas, 1996). To solve an issue, someone may have to think too much or perhaps take a risk without thinking at all. Some thoughts occur to you while you go about your day-to-day routine. Finding a solution might take a lot of time and effort at times. The ability to solve problems is in and of itself a talent. Those who are active in the process of problem-solving, on the other hand, would be well to master additional talents that complement problem-solving.

Coming up with unique, original solutions

Thinking creatively outside of the box may help people come up with useful answers that aren't already on the table. It compels us to think and act in more daring ways because of the pressure it puts on us. The ability to think creatively gives us the ability to question established concepts and to comprehend the need, importance, and function of innovative solutions. Convincing someone of something by gathering facts in their favor and creating an alliance with other members of the team who support our approach are both effective ways of persuasion. Human activity is inherently creative (Joas, 1996) since at every instant in time, it is situated within a horizon of possible outcomes. This field of potential is, however, nevertheless confined at every moment of every day (by our intents, by physical affordances, by cultural standards; see also: (Glaveanu, 2012a)). Because of this, most of the circumstances that we encounter during our day-to-day lives present us with a future that is reasonably predictable in terms of the activities that we engage in as well as the manner in which we engage in interactions with other people or make use of objects. This gives rise to a set of expectations regarding the social and material reality that we inhabit.

To the same extent that there is a solution to every issue, it is only inevitable that any solution would also have some drawbacks. We attach the device that compresses the toothpaste to the wall using glue, but in certain cases, these adhesives are also required to provide a justification. This automated toothpaste squeezer has a few benefits, one of which is that it does not have an extremely high price point. It is available for purchase to even the average person. Finding a resolution to this issue will make my day-to-day responsibilities easier, it will help me maintain a clean bathroom, and it will make it easier for me to efficiently clean my children's teeth. The well-known academic Don Norman makes a claim that may come as a surprise to some people: that objects that are effectively designed should make the people who use them happily. Both Gruber and Wallace (1999) and Weisberg (1993) maintained that intentional conduct is a prerequisite for creative thinking. Not only does the postulate of intentionality protect creative expression from being reduced to just accidental discoveries, but it also differentiates creative expression from reactions that are merely

habitual or automatic. These divisions are echoed by common-sense thinking on the subject, where terms such as "divine creation" and "slavish imitation" reflect an obvious hierarchy of values. Baldwin (1906, page 100) made this observation early in the discussion of the issue.

Conclusion

Growth cannot take place without creative endeavors, which include inventing new things and coming up with new ideas. If we look at every successful firm, we will find that they have put a lot of time and effort into one of these three ideas. These are some of the ideas that we have found through doing studies and drawing on our own experiences. We can devise solutions that not only fix the issue at hand but also improve things for everyone involved. Additionally, the process of problem-solving helps to raise the likelihood that a solution will be successful by eliminating unknown factors. One more time, innovation cannot take place in the absence of creativity or invention, and neither creativity nor invention is of any benefit to a company if it is not carried out in the appropriate manner.

Innovation is a creative process, and like any other creative process, it requires room and freedom to flourish. However, innovation is also a collaborative process, and like any other collective process, it also needs participation and debate to grow. The 'lightbulb' moment of having a good idea is only the first step, according to a report on public sector innovation written by the Sunningdale Institute (Bessant et al., 2010). A good idea may not necessarily work in context and working through the issues of development and widescale adoption is the most powerful determinant of success or failure. If we are to believe Seth Godin the finest creative solutions are not those that are arrived at by providing satisfactory answers to the issues that are posed... They are the result of coming up with brand new questions!

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ANALYSIS OF DEASES IN ELDERLY AND SENILE PERSONS, AFFECTING ACTIVE WORK ACTIVITY

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Abstract: *Elderly people are a rapidly growing socio-demographic group, constituting a fifth of the country's population, and by 2025 the number of people over 60 years of age will exceed one billion, which will account for 16% of the total population of our planet. In this regard, the problem of maintaining the quality of life of older people arises. The health status and morbidity patterns of older people differ significantly from those in other age groups. In this regard, the problem of health of elderly and senile people becomes relevant both for the Republic of Uzbekistan and for many countries of the world. Among the factors that determine public health, lifestyle factors and the availability of medical and social care play an important role.*

Key words: *elderly people, elderly patients, old age, morbidity, Fergana region.*

Purpose of the study. Conduct an analysis of the health status and clarify the risk factors and morbidity of older age groups of the population.

Research materials. The study was conducted at the Department of Therapy and Surgery of FMIOPH. The object of the study is elderly patients of the regional and city clinical hospital of Fergana.

A comprehensive retrospective study of the dynamics of the morbidity level of the population in the Fergana region over the years of independence was carried out using statistical observation methods (copied from the reporting data of the Fergana Regional Statistical Office).

Research methods. The study involved 391 people aged 60 to 85 years. All patients were asked to answer questionnaire questions characterizing their health status and possible causes of decreased quality of life and ability to work.

Results. The study divided 2 groups: 1st group - persons who maintained their working activity (173 people) and 2nd group - non-working patients (218 people). The ratio of age groups was as follows: group 1: 60-74 years - 82.8%; 75-89 years old - 19.2%; Group 2: 60-74 years - 63.9%; 75-89 years old - 36.1%. Women prevailed in both groups: women 58.6% and 67.6%, men - 41.4% and 32.4%, respectively.

The leading reasons for the decline in quality of life and ability to work among respondents were existing diseases: diseases of the cardiovascular system (57.5%), pathology of the urinary system (56.3%), diseases of the musculoskeletal system (48.3%), diseases of the broncho- pulmonary system (47.6%), gastrointestinal tract (28.3%) and nervous system (7.8%). It was revealed that only 26.2% of patients are registered at the dispensary. Patients of the 1st group attended scheduled, preventive medical examinations more often than the 2nd group and amounted to 28.3% and 10.1%, respectively. The frequency of visits to the clinic or hospitalization due to deterioration of health in the group of working elderly patients was less than in non-working patients (65.5% and 87.9%, respectively). It was noted that to maintain their health and physical activity, 67.3% of patients in the first group engage in physical activity (physical therapy, daily walking for 30 minutes, health groups, etc.). In the second group this figure was only 15%.

Currently, in the Fergana region, the trend towards a significant increase in the proportion of elderly people is becoming more and more clear. Thus, the share of people over working age over the past twenty-five years (1990 – 2020) has increased from 18.7% to 26.2%. The aging of the region's population will continue: according to Ferganastat's forecast, it will reach 27.3% by 2025. This trend will be typical for both urban and rural populations. However, the rural population will age faster (1.2 times). The aging of the population significantly affects the level and characteristics of morbidity in the population. Therefore, the purpose of this study was to study the attitude of older people to the main components of a healthy lifestyle. To achieve this goal, the following tasks were set: - to study the attitude of older people to the components of a healthy lifestyle; - characterize the psychological status of older people. The sample representative population consisted of 211 people. Among them, 56.8% are men and 43.2% are women. Attitude to one's health, level of knowledge of sanitary and hygienic standards, principles of a healthy lifestyle largely depend on the level of education. An analysis of the educational level of older people who passed through inpatient institutions showed that 74.0% of respondents had secondary education and only 26.0% had higher education. When assessing their health status, 62.0% of respondents rated it as "low," 32.7% as "average," and 5.3% as "very low." In terms of the structure of diseases among respondents, the leading diseases were diseases of the circulatory system (61.0%), diseases of the digestive system (16.0%), diseases of the respiratory system (13.0%), pathology of the musculoskeletal system (7.0%) and diseases of the nervous system. systems (3.0%). The majority of respondents had concomitant pathology. 80.4% of elderly people undergo a comprehensive medical examination annually. In addition, during the year, 62.2% of

respondents additionally sought medical help at the clinic at least 2 times, and 37.8% more than 3 times. At the same time, elderly people are less likely to re-visit the clinic, preferring annual inpatient treatment (77.2%), 63.8% of respondents, due to their clinical status, used sanatorium-resort treatment. Thus, it can be argued that the city's treatment, preventive and health institutions qualitatively implement all forms of preventive work among elderly and senile people. 60.9% of respondents assessed the work of medical institutions positively, but 39.1% had some complaints about the drug supply, the form of service and the not always correct attitude of medical staff towards patients. An important component of your lifestyle is taking care of your health. Our study showed that 98.0% of respondents systematically monitor their blood pressure levels and have a negative attitude towards smoking and alcohol. At the same time, 75.0% of elderly men rarely drink alcohol, and in old age this value is higher and amounts to 95.5%. Women have practically eliminated alcohol from their diet. Almost all respondents participating in the study try to follow a diet that limits salt and sugar intake. An analysis of the active lifestyle of older people showed that 47.4% of respondents reasonably combine sleep, rest and physical activity. At the same time, physical activity in 36.1% of respondents is realized through active morning exercises, and in 53.9% - through walking and hiking. One of the problems of old age is loneliness, which is associated with the loss of social connections and the loss of loved ones. During the study, it was found that 39.0% of men and 74.0% of women are lonely people, which significantly affects the quality of life of an elderly person and leads to frequent emotional breakdowns, depression, and exacerbation of existing chronic diseases. This pattern is observed among older people living independently (27.0% of women and 60.0% of men) and living in a family (73.0% of men and 40.0% of women). At the same time, a feeling of loneliness was present in 39.0% of respondents living in a family, despite good relationships with children and grandchildren. The identified problems were the basis for studying the psychological status of elderly people, since the moral and psychological climate, as a criterion of lifestyle, plays an important role in the quality of life. In connection with the assessment of the severity of personal, situational anxiety and its components using an integrated anxiety test, it showed that the majority of respondents had a high level of anxiety, with a predominance of the asthenic component. Emotional discomfort, anxious perspective assessment, phobic component, social defense reaction does not reach a high level of anxiety. Many of the respondents (70.0%) see overcoming a depressive state in working around the house and at their dacha, 4.% - in participating in amateur art groups and visiting "Health" groups. Despite this, identified mental and emotional deviations require psychological

support from both relatives and specialist psychologists, which will significantly improve the quality of life of an elderly person.

Conclusions. 1. People of the older generation are quite oriented in their pathology, take good care of their health and do not neglect the basic aspects of their lifestyle. At the same time, it is noteworthy that in terms of the main characteristics of a healthy lifestyle, women are predominantly in the lead (active cooperation with medical institutions, more pedantically observing diet, sleep and rest regimes), but in terms of physical activity - men.

2. An assessment of the psychological status of older people did not reveal any deep violations. 46.0% of respondents expressed increased situational anxiety, and 66.0% - personal anxiety, accompanied by an asthenic component, the formation of a certain emotional background in the form of self-doubt, concern about the future.

3. Medical and recreational institutions of the healthcare system sufficiently implement all methods of preventive work among elderly and senile people, provide highly qualified medical care, but, nevertheless, all elderly people need medical and social assistance, moral and psychological support for loved ones and socio-psychological adaptation with the active participation of social protection institutions.

4. Further improvement of geriatric care in the Fergana region will create conditions under which old age will be perceived by all people and each person individually as a worthy and full-fledged stage of life.

Recommendations. Physical activity for older adults can come in a variety of forms: recreational or recreational exercise, physical activity, household chores, games, competitions, sports, or routine activities as part of daily activities, family, and community.

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БОШЛАНҒИЧ СИНФЛАРИДА ЎҚУВЧИЛАРИНИНГ ЎЗБЕКЧА НУТҚИЙ КОМПЕТЕНЦИЯЛАРИНИ РИВОЖЛАНТИРИШДА ИЗОҲЛИ ЎҚУВ ЛУҒАТЛАРИДАН ФОЙДАЛАНИШ МАЗМУНИ

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***Аннотация:** Ушбу мақолада қозоқ тилидаги умумий ўрта таълим мактабларининг бошланғич синфларида изоҳли луғатлардан фойдаланиш ва уларни такомиллаштириш чора-тадбирлари ҳақида маълумотлар берилган.*

***Калит сўзлар:** таълим, изоҳли ўқув луғати, лексикография, талаффуз, имло, фразеологик луғат, параминеологик луғат.*

***Аннотация:** В данной статье представлена информация об использовании толковых словарей в начальных классах школ с общим средним образованием на казахском языке и мерах по их совершенствованию*

***Ключевые слова:** образование, толковый учебный словарь, лексикография, произношение, орфография, фразеологический словарь, параминологический словарь.*

***Abstract:** This article provides information on the use of explanatory dictionaries in the elementary grades of schools with general secondary education in the Kazakh language and measures to improve them*

***Key words:** education, explanatory educational dictionary, lexicography, pronunciation, spelling, phraseological dictionary, paramineological dictionary.*

Маълумки, бошланғич таълимда ўқув луғатларининг муҳим вазифаларидан бири тилни меъёрлаштириш, адабий тил қоидаларини белгилашдан иборат. Ўтган аср бошларида миллат зиёлилари томонидан халқнинг саводхонлик даражасини ошириш мақсадида ёзув масаласини ҳал этиш ўз даврининг муҳим масаласи сифатида кун тартибига қўйилади. 1921 йил январда жадидлар ташаббуси билан Тошкентда тил-имло масаласига бағишланган биринчи ўлка курултойи бўлиб ўтади. Курултойда А.Зоҳирий, Фитрат, Боту каби маърифатпарвар жадидлар фаол иштирок этиб, алифбо ва имло масалалари, ўзлашма сўзларни ўзбекчалаштириш каби даврнинг муҳим ижтимоий-сиёсий масалаларида қизгин баҳс-мунозаралар бўлиб ўтади.

Кейинчалик ҳарф ва имло масаласида катта камчиликлар кўзга ташланиб қолади ва араб ёзуви асосланган ўзбек ёзуvidан лотин графикасидаги ўзбек ёзувига ўтиш масаласи кун тартибига чиқади. Натижада 1929 йилда Самарқандда бўлиб ўтган тил-имло конференциясида ислоҳ қилинган араб ёзуvidан лотин графикасидаги янги ўзбек ёзувига ўтиш ҳақида қарор қабул қилинади¹. 1930 йилдан расман араб алифбосидан лотин графикасига ўтилади. Ўзбек тилидаги дастлабки имло луғатлари айнан шу даврларда юзага келади. 1981 йилда нашр этилган “Ўзбек тили лексикологияси” китобида келтирилишича, ўзбек тилидаги илк имло луғати 1927 йилда Тошкентда А.Алавий томонидан нашр этилади².

Орадан қисқа муддат ўтиб шўро ҳокимиятининг ягона умумий тил ва ёзув сиёсати манфаатидан келиб чиқиб, лотин ёзувига асосланган ўзбек имлосидаги айрим камчиликлар сабаб қилиб кўрсатилган ҳолда рус графикасига ўтиш масаласи кун тартибига қўйила бошлайди. 1940 йилнинг 8 майида рус графикасига асосланган ўзбек ёзувига ўтилади. 1940 йилнинг 10 июлида янги алифбога асосланган имло қоидалари тасдиқланади. Ушбу имлони такомиллаштириш ва оммалаштириш мақсадида 1947 йилда Ўз ФА Тил ва адабиёт институти ҳузурида махсус орфография комиссияси тузилади. Имло қоидалари 1952 йил май ойидан 1953 йилнинг ноябрига қадар ҳайъат томонидан тўрт марта қайта ишланади. 1955 йилда имло қоидалари рисола ҳолида чоп этилади. 1956 йилнинг 4 апрелида “Ўзбек орфографиясининг асосий қоидалари” тасдиқланади³.

Шу даврга қадар яратилган ўқув луғати, асосан, таржима луғати типига мансуб, рус тилини ўргатиш учун хизмат қилган бўлса, 1940 йилдан ёзма саводхонликни таъминлаш, миллий мактабда кирилл ёзувига асосланган адабий тил меъёрларини ўргатиш учун хизмат қилувчи имло луғатини нашр этиш заруратга айланади. Айнан шу даврдан мактаб дарслик ва қўлланмалари сирасида “мактаб ўқувчилари учун” белгиси остида нашр этилган луғатлар, хусусан, имло луғати ҳам пайдо бўла бошлайди. Шу серия остида бир пайтда бир неча муаллиф томонидан имло ўқув луғатининг яратилгани ҳукумат томонидан масаланинг нақадар жиддий қўйилганидан далолат беради.

Ўзбек тилида кирилл ёзувида яратилган имло луғатларининг илк нашрлари Ўзбекистонда хизмат кўрсатган фан арбоби С.Иброҳимов (1905-1974) номи

билан боғлиқ. 1929 йилда Самарқандда Биринчи тил-имло анжумани бўлиб ўтади. Ушбу анжуманда адабий тил, имло масалалари кун тартибига жиддий қўйилади. Шу йили С.Иброҳимовга Ўзбекистон Давлат нашриётига адабий муҳаррирлик топширилади. 1934-1937 йилларда С.Иброҳимов Янги алифбо ва терминология қўмитасида бўлим мудури бўлиб фаолият кўрсатади. Унинг шу йилларда тил, имло ва термин масалаларида қатор мақолалари эълон қилинади¹. Олим 1932 йилда М.Раҳмон ва А.Хўжахонов билан бирга биринчи “Ўзбек тилининг қисқача имло луғати”ни нашр эттиради. Бу луғат кейинчалик “Ўзбек тилининг имло луғати” (1933, 1935, 1939) номи билан кенгайтирилган ҳолда қайта-қайта нашр этилади. 1936 йилда ушбу луғат асосида мактаб ўқувчиси учун мўлжалланган “Қисқача имло луғати” нашр этилади. Кирилл ёзувига тўла ўтилгандан сўнг, 1956 йилда ўзбек тилининг кирилл ёзувидаги асосий имло қоидалари тасдиқланади ва шу йилда мазкур луғат тўлдирилган ҳолда қайта нашр қилинади.

С.Иброҳимов нафақат мактаб ўқувчиси учун яратилган имло, балки илк синоним луғатининг ҳам муаллифи эди. Унинг 1939 йилда “Мактаб ўқувчилари учун” сериясида нашр этилган “Ўзбек тилининг синонимлар луғати” ҳам ўқув луғатининг мукамал намуналаридан ҳисобланган.

Шунингдек, ушбу даврда “Ўрта мактаб ўқувчилари учун” сериясида нашр этилган ўқув луғати намунаси сифатида Й.Абдуллаевнинг 1964 йилда нашр этилган “Имло луғати”ни ҳам келтириш ўринли. Й.Абдуллаев ўз даврида мактаб дастур, дарслик ва қўлланмаларининг асосий муаллифидан бири бўлган. Унинг “Диктант турлари ва орфографик хатолар устида ишлаш” (1951), “Мактабда ягона орфография ва нутқ режими” (1953), “Ўзбек тили дарслиги” (А.К.Боровков, З.Маъруфов ва Т.Шермухаммедовлар билан ҳаммуаллифликда, 1957), “Эски ўзбек мактабларида хат-савод ўргатиш” (1962) номли китоблари бунинг ёрқин далили. Й.Абдуллаевнинг 1970 йилда ҳаммуаллифликда нашр этилган имло ўқув луғати² бир неча йиллар давомида мактаб ўқувчиларининг ёзма саводхонлигини оширишда муҳим ўқув воситаси вазифасини бажариб келади.

Ўз даврида ўзбек тили илмий меъёрлари, хусусан, имло қоидаларини ишлаб чиқиш ва имло луғатларини тузишда таниқли олим, тилшунос, педагог Ф.Камоловнинг ҳам хизмати катта бўлади. Ф.Камолов (1907-1966) ўтган асрнинг 30-йилларида бошланғич ва ўрта мактаблар учун яратилган она тили дарслик ва дастурларининг асосий муаллифларидан. У “1940 йилда рус графикаси асосида

тузилган янги ўзбек алфавитига текст намуналари тузди, орфография қоидаларини ишлаб чиқди. Шу даврдан бошлаб умрининг охиригача ўзбек орфографиясини такомиллаштиришда етакчи мутахассис бўлиб қолди: бу йилларда олим бошчилигида ўзбек орфографиясининг асосий қоидалари ишлаб чиқилди, ўзбек тилининг қисқача имло луғати тузилди”¹. Унинг “Латинлашган янги ўзбек алфавити” (1929), 1-3-синфлар учун “Орфографик машқлар тўплами” (1935), “Мактабларда имло ўқитиш методикасидан қўлланма” (1937), 1-2-синфлар учун “Грамматика ва орфография (1938), “Рус графикаси асосидаги янги ўзбек алфавити (1940), “Ўзбек адабий тилининг ягона орфографияси” (1940), “Ягона ўзбек орфографияси билан қисқача имло луғати” (1940), “Ўзбек орфографияси тўғрисида” (1957), “Ўзбек орфографиясининг қисқача луғати” (1962) каби қатор дарслик ва қўлланмалари ўз даврида халқ саводхонлигини оширишда муҳим рол ўйнайди.

Ф.Камоловнинг 1940 йилда нашр этилган “Ягона ўзбек орфографияси билан қисқача имло луғати” ҳамда З.Маъруфов билан ҳаммуаллифликда 1962 йилда нашр этилган “Ўзбек тилининг қисқача имло луғати” мактабларда адабий тилнинг имло меъёрларини ўқитишда асосий қўлланма вазифасини ўтаган.

Шунингдек, ўтган аср бошларида халқимизнинг умумий саводхонлигини ошириш, ёзма нутқ меъёрларини шакллантириш ва оммалаштиришда ўзбек тилшунослигининг етук вакилларида бири О.Усмонов ҳам муносиб ҳисса қўшади. Унинг ўзбек ёзувини ривожлантириш, жумладан, рус графикаси асосидаги янги алифбога ўтишда ҳамда ўзбек орфографиясини ишлаб чиқиш ва такомиллаштиришда хизмати беқиёс катта. О.Усмоновнинг 1940 ва 1949 йилларда нашр этилган “Ўзбек тилининг имло луғати” ҳам айнан бошланғич мактаблар учун яратилади. Мазкур луғатга “Муҳим имло қоидалари” номи билан орфография қоидалари ҳам илова қилинади.

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CONDITIONS FOR IMPROVING THE QUALITY OF EDUCATION IN THE PROCESS OF PROFESSIONAL DEVELOPMENT

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Abstract: *The paper is devoted to the issue of analyzing of current conditions for improving the quality of education in the process professional development. The main goal of professional development courses is to ensure and establish confidence in each trainee about his/her ability to think creatively, to regularly encourage their creative activities. The importance of andragogical education is mentioned in the article because the pedagogical process in adult education is a process organized based on the interests and needs of subjects, in which the specific level of educational goals and the practical aspect of knowledge acquisition are considered as the primary criteria.*

Key words: *blended learning model, professional development courses, higher educational institutions' pedagogical personnel, andragogical education, andragogical model of teaching, ICT, trainee, quality improvement, distance learning.*

MALAKA OSHIRISH JARAYONIDA TA'LIM SIFATINI OSHIRISHNING SHART-SHAROITLARI

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Annotatsiya: *Maqola malaka oshirish jarayonida ta'lim sifatini oshirishning hozirgi sharoitlarini tahlil qilish masalasiga bag'ishlangan. Malaka oshirish kurslarining asosiy maqsadi har bir tinglovchida uning ijodiy fikrlash qobiliyatiga ishonchini ta'minlash va o'rnatish, ularning ijodiy faoliyatini muntazam rag'batlantirishdan iborat. Maqolada andragogik ta'limning ahamiyati ta'kidlangan, chunki kattalar ta'limidagi pedagogik jarayon sub'ektlarning qiziqishlari va ehtiyojlaridan kelib chiqqan holda tashkil etilgan jarayon bo'lib, unda ta'lim maqsadlarining o'ziga xos darajasi va bilimlarni o'zlashtirishning amaliy jihati birlamchi mezon hisoblanadi.*

Kalit so'zlar: *aralash ta'lim modeli, malaka oshirish kurslari, oliy ta'lim muassasalarining pedagog kadrlari, andragogik ta'lim, o'qitishning andragogik modeli, AKT, tinglovchi, sifatni oshirish, masofaviy ta'lim.*

УСЛОВИЯ ПОВЫШЕНИЯ КАЧЕСТВА ОБРАЗОВАНИЯ В ПРОЦЕССЕ ПОВЫШЕНИЯ КВАЛИФИКАЦИИ

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***Аннотация:** Статья посвящена анализу современных условий повышения качества образования в процессе повышения квалификации. Основная цель курсов повышения квалификации – обеспечить и утвердить у каждого обучающегося уверенность в своих способностях творчески мыслить, регулярно поощрять его творческую деятельность. В статье отмечается важность андрагогического образования, поскольку педагогический процесс в образовании взрослых представляет собой процесс, организованный исходя из интересов и потребностей субъектов, в котором первоочередно рассматриваются конкретный уровень образовательных целей и практический аспект критерий приобретения знаний.*

***Ключевые слова:** модель смешанного обучения, курсы повышения квалификации, педагогические кадры высших учебных заведений, андрагогическое образование, андрагогическая модель обучения, ИКТ, слушатель, повышение качества, дистанционное обучение.*

INTRODUCTION

Currently, higher education institutions are engaged in retraining pedagogical personnel and creating a comfortable opportunity for trainees to think creatively, tolerantly accepting various opinions and ideas expressed by trainees, and promoting their activity in the educational process. The main goal of professional development courses is to ensure and establish confidence in each trainee about his/her ability to think creatively, to regularly encourage their creative activities as well.

Another unique aspect of the professional development process is the aspect related to the specific work experience and age categories of the subjects of education at this stage of education. In scientific-pedagogical analysis, educational subjects in the process of professional development are interpreted as andragogical age category.

LITERATURE REVIEW

Andragogy is considered a new direction of pedagogy – “Andragogy (from Greek aner, andros – adult male, ago – to lead) is a field of science that deals with the problems of lifelong education and upbringing of adults”.

In a broad sense, andragogy is a field of self-development of a person throughout his life, a network that helps adults to realize their abilities, opportunities and talents, to manifest their place and opportunities in life.

Researchers R. Ishmukhamedov and M. Mirsoliyeva explain that concepts such as “andragogy”, “andragogical education”, “andragogical model of teaching” have gained special importance in pedagogical terminology in recent years and explain its socio-pedagogical necessity as follows:

- the increase in the flow of information in the field of education, science and production as a result of scientific and technical progress;
- modern professional qualification requirements for personnel retraining and their professional development;
- the need to ensure interdisciplinary integration and harmony in educational processes;
- innovative educational environment and others.

According to the researchers' opinion, the pedagogical process in adult education is a process organized based on the interests and needs of subjects, in which the specific level of educational goals and the practical aspect of knowledge acquisition are considered as the primary criteria.

Therefore, it is appropriate to take into account the following peculiarities when defining the goals of andragogical education:

- individuality in the audience's social portrait (audience's social structure, age, socio-professional status, experience, expected results from training, interests) etc.
- the educational process is based not only on the professional, but also on the exchange of information in the social and household spheres, based on cooperative relations;
- trainee's independence, motivation to seek self-management, etc.

Therefore, andragogical education is considered a teaching model based on joint learning, cooperation, and communication relations of the organization of participants' knowledge and communicative activities, and in its organization, it is necessary to take into account the individuality of the subject of activity in a certain age-psycho-physiological and professional-social status.

MATERIAL AND METHODS

The advantages of andragogical education are, first of all, the ability to concentrate the attention of the audience and keep it longer on a specific issue, and another advantage is the ability to present a relatively difficult issue to the audience without excessive explanations. Andragogical education is considered more complex

than other educational stages because it requires education that is higher than the stable knowledge, skills and competences that trainees already have.

In our opinion, it is possible to significantly increase the effectiveness of the educational process, which uses the possibilities of blended learning methodically.

It should be emphasized that one of the unique principles of the blended learning model is the variability and flexibility of the educational content. These principles make it possible to individualize the educational process and create the necessary pedagogical opportunities for self-development of the learner based on the variety of educational materials, tasks, control, assessment methods, independent work forms.

The implementation of the blended learning model requires the use of various digital educational resources and online services:

- learning management systems (LMS), for example, Moodle, Edmodo, etc.);
- digital collections of educational objects (unified collection of educational resources);
- online training courses (Mobile electronic school, etc.);
- instruments for creating and publishing educational content (constructive tests, 1C, etc.);
- instruments for feedback and communication (Mirapolis, Webinar, Skype, Google-chat, etc.);
- tools for cooperation (Google Docs, Word Online, etc.);
- tools for creating a collaborative community, communication platforms (social networks);
- tools for designing educational activities (electronic magazines, organizers).

The use of the blended learning model requires a special level of professional competence and training from the pedagogue. These are:

- ICT competence, the ability to use various electronic educational resources, the ability to work with online collaborative work, social networks and training systems;
- the ability to independently form educational content and resources in accordance with educational programs and educational goals;
- such as having the ability to differentiate the educational process based on the individual needs of each trainee.

RESULTS AND DISCUSSION

Thus, taking into account all the above mentioned, we can see that the psychological-pedagogical conditions for improving the quality and efficiency of education by implementing of the blended learning model are as follows:

- to transform the educational process from a monosubject to a polysubject paradigm, ensuring that education is oriented to individual needs, varied and flexible;
- focusing the educational process on the development of the individual trajectory of the person;

- achieving mutual harmony of traditional and electronic (distance) education elements in the educational process; flexibility of the learning model, availability of information, interactivity, temporal asynchrony and complementarity and consistency of teaching.

CONCLUSION

From the above points, it can be concluded that the implementation of the blended learning mechanisms in the development of professional competence of specialists, individuality, independent-creative development, as well as self-management, the ability to analyze their own creative solutions, the ability to develop independent thinking development, is important in ensuring continuity in self-professional and personal development.

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ADABIYOT VA GENDER

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Annotatsiya. Ushbu maqolada adabiy asarlarda gender jihatlarining aks etish usullari va uni matnni tushunishga ta’siri ko‘rib chiqilgan. Shuningdek gender aspektlarining adabiyot bilan o‘zaro bog‘liq jihatlari haqida so‘z yuritilgan.

Kalit so‘zlar: gender aspektlari, gender va adabiyot nazariyalari, idrok.

Gender va adabiyot- so‘nggi yillarda tadqiqotchilar, yozuvchilar, olimlar va tanqidchilarning e’tiborini qaratayotgan muhim mavzulardan biri hisoblanadi. Ushbu mavzu doirasida bir qancha xalqaro miqyosda ishlar olib borilgan bo‘lsada, o‘zbek adabiyoti va jamiyati doirasida izllanishlar yetralicha emas. Mavzuning ko‘lami va ahamiyatini inobatga olgan holda avvalo, umumiy qarashlarni yoritib berishga harakat qildik.

Adabiyot madaniyatning ajralmas qismi bo‘lib, gender aspektlarini shakllantirishda, namoyon qilishda va yoyishda muhim rolga ega. Avvalo “gender” va “adabiyotda gender” tushunchalariga izoh berib o‘tsak. Gender – bu erkak va ayol jinslari bilan bog‘liq roller va stereotiplarni belgilaydigan ijtimoiy-madaniy tuzilma. Adabiyot, o‘z navbatida, madaniy ifodaning kuchli shakli, g‘oyalar, qadriyatlar va tajribalarni yetkazish usulidir. Adabiyotda gender esa, mualliflar va qahramonlarning o‘zlarini qanday aniqlashlari va jamiyat ularni jinsiga qarab qanday baholashini anglatadi. Jins va jinsiylik hikoya matnlarini va o‘quvchilarning ular haqidagi tushunchalarini shakllantiruvchi yetakchi vosita hisoblanadi. Shu jihatdan olib qaralganda, genderni adabiyotdan ayri o‘rganish samarasiz bo‘lishi mumkin. Negaki, adabiyot nafaqat tuzilma aspektlarini namoyish etuvchi manba, balki ularning tushunilish darajasini belgilovchi asosiy qismidir. Keltirilgan ko‘plab tadqiqotlardan gender va adabiyot tutashuvini quyidagi 3 yo‘nalishda ko‘rib chiqish mumkin. Bular:

1. Ta’limda genderning roli. Qizlar ta’limining ahamiyati va jamiyatni rivojlantirishdagi o‘rni.

2. Ayol ijodkorlarning (xalqaro manbalarda asosan “ayol mualliflar” deb beriladi) yozish usullari, farqli va ajralib turuvchi jihatlari.

3. Badiiy, ilmiy-ommabop, publitsistik matnlarda va ijodkorlarning asarlarida genderning yorilishi, yetkazish usullari hamda bu orqali o‘quvchilarga ta’siri.

Yuqorida sanab o'tilgan jihatlarning har birini alohida, keng talqin qilib berish mumkin. Shu nuqtayi nazardan, ushbu kichik tadqiqotda asosan, 3-yo'nalishga ko'proq e'tibor qaratildi.

Yillar davomida o'qishni tushunishdagi gender farqlari bo'yicha olib borilgan tadqiqotlar aralash natijalarni ko'rsatgan. Ba'zilar qizlarning o'g'il bolalarnikiga qaraganda yaxshiroq ishlashini, boshqalari esa o'qishni tushunishning ba'zi jihatlarda erkaklarning ayollardan ustunligini ko'rsatdi. Biroq, tadqiqotlardan umumiy xulosa shunday bo'lganki, qizlar o'g'il bolalarga qaraganda ko'proq o'qishadi (istalgan mavzuda), bu esa nima uchun ayollar o'qishni tushunish testlarida erkaklarnikidan ustun turishini izohlaydi. Bugungi kunga kelib esa, adabiyot nazariyasida gender tushunchasini turli mafkukarlarga ajaratib yoritib kelinmoqda:

- Feminizmning adabiyot nazariyasi;
- Adabiyotda Kuir nazariyasi;
- Psixanalitik nazariya;
- Madaniyatshunoslik[1]

Ushbu nazariyalarning barchasi genderning adabiyotda qay yo'sinda yoritilishiga qaratilgan.

Tadqiqotlarning keying qismi o'qishni tushunishdagi gender farqlari lug'at bilan bog'liq ko'nikmalar, dekodlash qobiliyatlari va xulosa chiqarish qobiliyatlari bilan bog'liq haqidadir. Misol uchun, tadqiqotchilar ayollarning so'z boyligi erkaklarnikiga qaraganda ko'proq ekanligini aniqladilar, bu ularga yozma materiallarni yaxshiroq tushunishga yordam beradi. Shuningdek, ayollar so'zlarni dekodlashda yaxshiroq bo'lishlari takidlangan, bu esa o'qishni tushunishning muhim tarkibiy qismidir. Qolaversa, so'z boyligi nafaqat adabiyot, balki til jihatdan ham gender xususiyatlariga ega. "Shuni alohida ta'kidlab o'tish lozimki, yozma nutq nafaqat gender nuqtayi nazaridan, balki yosh jihatdan ham o'zaro farqlanadi"[2:11].

O'qishni tushunishda gender farqiga hissa qo'shishi mumkin bo'lgan yana bir omil - bu o'qish materiallarining mavzusi. Odatda, o'g'il bolalar texnik fanlardan qizlarga qaraganda yaxshiroq, qizlar esa ko'proq adabiy fanlardan ustunroq. Qolaversa, bu yerda matnlarning elektron yoki qog'oz variantda bo'lganligi ham muhim rol o'ynaydi. Mangel, Walgermo va Bronnickning (2013) o'ninchi sinf o'quvchilari ustida olib borgan tadqiqotida turli xil o'qish vositalarida ishlov berish tezligi, matnni eslab qolish va o'qishni tushunish bo'yicha sezilarli farqlar kuzatildi. "Mangel va boshqalar. (2013) bosma matnlardan foydalanishni o'rgangan talabalar raqamli matnlardan foydalanishni o'rgangan talabalarga nisbatan o'qishni tushunish testlarida sezilarli darajada yaxshi natijalarga erishgan degan xulosaga keldi. Ackerman va Goldsmith (2011) bakalavriat talabalarini kodlash kompetensiyasi va metakognitiv

monitoringning aniqligi nuqtayi nazaridan o'rganib chiqdi, bunda o'ish vaqti manipulyatsiya qilindi. Ackerman va Goldsmitning tajribasi natijalari shuni ko'rsatdiki, ishtirokchilarning test ko'rsatkichlari belgilangan o'qish vaqtida ikkita vosita o'rtasida farq qilmadi. Shunga qaramay, o'qish vaqti o'z-o'zidan tartibga solinganida, ishtirokchilarning bosma o'qishdagi samaradorligi ekranda yoki raqamli o'qishdan ko'ra yaxshiroq edi "[3:]

Matnni tushunishda gender tafovutlariga ta'sir etuvchi tabiiy omillarni ham unutmaslik zarur. Negaki matn qanchalik to'g'ri yozilgan bo'lsin o'quvchi ulg'aygan muhit qarshi jins vakiliga nisbatan adolatsiz tarbiyalagan bo'lsa, buni biror asar orqali o'zgartirish yoxud yaxshi ta'sirni oshirish anchayin mushkul bo'lib qolaveradi.

Biologik omillar miyadagi potentsial tizimli va funktsional nomutanosibliklarni, masalan, tilni qayta ishlashda ishtirok etadigan miya mintaqalaridagi o'zgarishlarni hisobga oladi. Tadqiqotlar erkaklar va ayollar o'rtasidagi o'qish vazifalari paytida miya faollashuvi naqshlarida nozik farqlarni aniqlagan bo'lsada, o'qishni tushunish bilan aniq aloqani o'rnatish uchun qo'shimcha katta tekshiruvlarni amalga oshirish kerak. Madaniy omillar esa, jamiyatning taxminlari, gender rollari va o'qish va ta'lim bilan bog'liq stereotiplarni o'z ichiga oladi. Misol uchun, qizlar yoshligidanoq o'qish uchun ko'proq dalda va imkoniyatlar olishlari mumkin, bu esa savodxonlikni oshirishga olib keladi. Madaniy xabarlar va o'qish ayollarga xos faoliyat ekanligini ko'rsatadigan stereotiplar ham o'g'il bolalarning o'qish materiallari bilan shug'ullanishiga ta'sir qilishi mumkin. Bu ta'sirlar motivatsiya, qiziqish va shaxslarning o'qishni tushunish ko'nikmalariga sarmoya kiritish darajasiga ta'sir qilishi mumkin.

1. Biologik omillar:

- Gormonal farqlar: ba'zi tadqiqotlar shuni ko'rsatadiki, gormonal o'zgarishlar o'qishni tushunishda gender farqlariga hissa qo'shishi mumkin. Masalan, erkaklarda testosteron darajasining oshishi ularning o'qish qobiliyatiga ta'sir qilishi mumkin.

- Miya rivojlanishi: Nevrologik farqlar, masalan, miya tuzilishi va qayta ishlash tezligi jinslar o'rtasidagi o'qishni tushunish qobiliyatlaridagi o'zgarishlarga ta'sir qilishi mumkin.

2. Ijtimoiylashuv omillari:

- Ota-onalarning ta'siri: jamiyatning talablari va tarbiyalash amaliyoti o'qish odatlari, afzalliklari va ko'nikmalariga ta'sir qilishi mumkin. Ota-onalar tomonidan taqdim etilgan kitoblar va o'qish materiallari turlarining o'zgarishi qizlar va o'g'il bolalarning o'qishni tushunish darajasiga ta'sir qilishi mumkin.

- Maktab muhiti: Ta'lim amaliyoti va sinf dinamikasi beixtiyor qizlarning o'qishni afzal ko'rishiga mos keladigan ba'zi o'qish uslublari yoki o'quv dasturlarini qo'llab-quvvatlashi mumkin va bu gender tafovutiga hissa qo'shishi mumkin.

3. Ijtimoiy-madaniy omillar:

- Stereotiplar va gender rolini kutish: gender rollari bilan bog‘liq ijtimoiy e‘tiqodlar va umidlar rivojlanish va o‘qish faoliyati bilan shug‘ullanish motivatsiyasiga ta’sir qilishi mumkin. O‘qishni ayollik bilan bog‘laydigan stereotiplar o‘g‘il bolalarni o‘qish mashg‘ulotlarida faol ishtirok etishdan to‘xtatib qo‘yishi mumkin, natijada o‘qishni tushunish darajasi past bo‘ladi.

- Madaniy omillar: til ta’siri, o‘qish amaliyoti va ta’lim resurslari kabi madaniy ta’sirlar o‘qishni tushunishdagi gender tafovutiga yordam beradi.

Tanishib chiqilgan materiallar va o‘rganilgan adabiyotlar asosida, namoyish qilinayotgan gender jihatlarining adekvat tushunilishi uchun quyidagi takliflarni keltirish mumkin:

- Turli xil qiziqishlar va jinslarga mos keladigan inklyuziv o‘qish materiallarini yaratish.

- O‘zaro bog‘liq va qiziqarli materiallardan foydalanish orqali erkaklarni o‘qish faoliyatiga faol jalb qilishni rag‘batlantirish.

- pedagoglar va ota-onalarga gender tarfakashliklariga yo‘l qo‘ymaslik muhimligini tushuntirish.

Xulosa qilib aytganda, adabiyotni gender nuqtai nazaridan tahlil qilish sezilarli va keng qamrovli. U yashirin ma’nomlarni ochib beradi va adabiy matnlarni yanada to‘liqroq tushunishga hissa qo‘shadi. Genderga asoslangan yondashuvni qo‘llash orqali olimlar va kitobxonlar adolatli tahlilni amalga oshirishlari, stereotiplarga qarshi kurashishlari va adabiy asarlarni yanada inklyuziv va nozik baholashni rivojlantirishlari mumkin.

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КАК СТРОЯТ ДОРОГИ В ГЕРМАНИИ

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Аннотация. *Немецкая дорожная инфраструктура считается одной из лучших в мире. DW рассказывает, какие технологии применяют в Германии для возведения трасс и какие новшества планируют внедрить.*

Ключевые слова: *Планирование, асфальт, самовосстанавливающийся, двухполосную, Сократить время, высокой нагрузкой.*

Annotation. *The German road infrastructure is considered one of the best in the world. DW tells us what technologies are used in Germany for the construction of trails and what innovations they plan to introduce.*

Keywords: *Planning, asphalt, self-healing, two-lane, Reduce time, high load.*



Немецкие дорожники используют для возведения трасс и бетон, и асфальт

Германия по праву считается одной из лучших стран по качеству дорожной инфраструктуры. В рейтинге Всемирного экономического форума ФРГ сегодня обгоняет Испанию, Швецию, Канаду и Великобританию. DW рассказывает о технологиях и инновациях в немецком дорожном хозяйстве.

Планирование дорог в Германии

Строительство дорог, как и возведение любого инженерного объекта, начинается с планирования. В Германии это - важнейший и, как правило, небыстрый этап. "Для дорожного планирования, например, возведения автобана, в Германии существуют предписания, как этот объект должен быть трассирован. Надо учесть допустимый наклон, допустимые радиусы, ширину дороги, количество полос, ширину этих полос и размер обочин. Строительству автобана в Германии предшествуют длительные процессы", - говорит в интервью DW профессор Маркус Фридрих (Markus Friedrich), завкафедрой транспортного планирования и техники управления транспортом Штутгартского университета.

Дорогу всегда строят строго в соответствии с предписаниями. При этом инженеры выбирают оптимальную технологию и материалы. "Для строительства дорог в Германии сегодня применяют и асфальт, и бетон. У нас до сих пор идет дискуссия, какой вариант лучше. Существуют также ограничения для определенных улиц, например, по шуму. В этом случае используется так называемый шумопоглощающий асфальт - высокопористый асфальт, который позволяет снижать шум от езды транспортных средств", - рассказывает Маркус Фридрих.

По оценке профессора Брауншвейгского технического университета Михаила Вистубы (Michael Wistuba), возглавляющего Институт дорожного дела, для строительства автобанов в 75 процентах случаев используется асфальт. Такое покрытие состоит из трех слоев с разной смесью: базовый и связующий слои из асфальтобетона плюс покрытие (литое или щебеночно-мастичное).

Самовосстанавливающийся асфальт

Для укладки полотна дорожные фирмы в Германии используют несколько методов. Их выбор зависит от объекта. "При строительстве автобанов наше предприятие чаще всего применяет технологию прокатки: горячую асфальтовую смесь наносят на дорогу и уплотняют при помощи катка. На участках с высокой нагрузкой обычно используется технология литого асфальта. Смесь распределяют и "стягивают", чтобы получилась плоская поверхность. Посыпание мелким щебнем позволяет создать такую структуру верхнего слоя, благодаря которой он долгое время остается шероховатым", - рассказывает Кристоф Дрёге (Christoph Dröge), руководитель отдела дорожного строительства в Straßenbau NRW - коммунальной дорожно-строительной организации Северного Рейна - Вестфалии.

Важная составляющая работы по развитию дорожной инфраструктуры в Германии - внедрение инновационных технологий. Здесь действует федеральная

исследовательская программа "Дорога в 21-м веке", в числе приоритетов которой - энергосберегающие, экологичные и долговечные дороги. Специально для апробации новейших технологий два года назад на территории земли Северный Рейн - Вестфалия построили экспериментальный участок протяженностью около километра.



Укладка шумопоглощающего асфальта на автобане А7 в Германии

Специалисты смогли протестировать на нем, например, "самовосстанавливающийся" асфальт. Эта технология позволяет увеличить срок службы верхнего слоя дорожного покрытия за счет индукционной энергии. В асфальтовую смесь добавляют магнитные элементы, которые при резком нагревании специальной машиной позволяют стягивать трещины.

"Основная технология разработана уже достаточно хорошо. Дальнейшие исследования будут связаны с индукционной энергией, а именно - с машиной по заготовке этой энергии", - говорит представитель пресс-службы Федерального института дорожного строительства Кристофер Герхард (Christopher Gerhard). По его словам, "самовосстанавливающийся" асфальт целесообразно применять на небольших участках, там, где закрытие дороги из-за ремонта может привести к существенным затруднениям в движении транспорта.

Экспресс-технологии против пробок и "умный" мост

На участке дороги между Нюрнбергом и Мюнхеном сотрудники учреждения с 2017 года тестируют технологию "умного" моста. Она направлена на то, чтобы заблаговременно, в дополнение к плановым обследованиям, получать данные о состоянии подобных объектов. На двухполосную конструкцию на развязке трассы поставили сенсорные устройства, которые

фиксируют ее основные параметры. Функциональную способность всей "умной" системы и отдельных компонентов будут анализировать на протяжении пяти лет.

Однако главным вопросом, над которым сегодня работают как дорожники, так и исследователи, остается минимизация неудобств для водителей из-за строительных и ремонтных мероприятий. Сократить время позволяют, например, такие методы, как "компактный асфальт" (одновременная укладка двух слоев) и укладка покрытия, при которой специальная машина опрыскивает основание и параллельно укладывает верхний слой.

По мнению специалистов, качество немецких дорог обеспечивается за счет тщательного отбора и смешивания строительных материалов, систематического многоступенчатого контроля качества и продуманных предписаний по планированию и строительству сооружений. Наряду с этим есть четкое разграничение ответственности: в чьем ведении находится строительство, а в чьем - содержание трасс.

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KO‘PRIKLARNI EKSPLUATATSIYA QILISH VA ULARDAN FOYDALANISH

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Annotatsiya: Maqolada ushbu muammoni hal qilishning asosiy yo‘nalishlari ko‘rsatilgan, temir-beton ko‘prik inshootlarini qayta tiklashning mavjud diagnostika usullari va usullarini tahlil qilish asosida temir-betonni qayta tiklashning yangi zamonaviy texnologiyalarini joriy etish bo‘yicha tavsiyalar taklif etiladi, beton ko‘prik konstruksiyalari esa ularning ekspluatasion ishonchliligi va mustahkamligini ta‘minlaydi.

Kalit so‘zlar: temir-beton, statik va dinamik, diagnostika, korroziya, kalmatron, in‘ektsiya, mobil tiklash.

Annotation: the article shows the main directions for solving this problem, proposes recommendations for the introduction of new modern technologies for the reconstruction of reinforced concrete based on the analysis of existing diagnostic methods and methods for the reconstruction of reinforced concrete bridge structures, while concrete bridge structures ensure their operational reliability and strength.

Keywords: reinforced concrete, static and dynamic, diagnostic, corrosion, kalmatron, injection, mobile recovery.

Kirish. Muammo bayonoti operatsion ishonchliligini ta‘minlash va temir-betonning chidamliligi ularning konstruksiyasi, ko‘priktuzilmalar tadqiqotlar va nashrlarni taxlil qilish oxirgi 25 yil davomida temir-beton ko‘priklarni o‘rganish tajribasini tahlil qilish asosida mavjud diagnostika usullari va ularning ishlashini kamaytiradigan inshootlarni qayta tiklash usullarining kamchiliklari, ishonchliligi aniqlandi. Ushbu maqolaning maqsadi temir-beton konstruksiyalarni ekspluatatsiya qilish ishonchliligini ta‘minlash uchun ularni qayta tiklashning zamonaviy diagnostika va usullarini joriy etishni ommalashtirishdan iborat.

Hozirgi vaqtda temir-beton ko‘priklarni tashxislashda qo‘llaniladigan usullar:

- beton mustahkamligini buzmasdan tekshirish;
- o‘lchamlarni instrumental nazorat qilish va dizayn pozitsiyalari;
- statik va dinamik testlar;
- vizual tekshirish.

Ilmiy-tadqiqot metodlari. Betonning mustahkamligini aniqlash uchun D1G1-Shmidt 2 bolg'asi tavsiya etiladi. An'anaviy Shmidt bolg'asi o'rnatilgan grafiklar bilan elektron qurilma bilan jihozlangan bosim kuchi qiymatiga o'tkazish. Qurilma avtomatik ravishda ta'sir yo'nalishini to'g'irlaydi, statik jarayonlar o'lchovlar o'lchov natijalari kompyuterga chiqish bilan qayta ishlaydi.

Alohida qiziqish armatura lokator "Profometer 4" hisoblanadi. Bu uchun mo'ljallangan mustahkamlashni qidirish, himoya qatlamining qalinligini o'lchash va mustahkamlash diametrini aniqlash va suyuq kristall displeyda qatlarni ifodalash, uchun noyob qobiliyatga ega tizimga o'rnatilgan armatura bilan beton himoyani aniq o'lchaydi, 120 mm gacha beton qatlami nuqta yordamida zond, buzilmaydigan sinov usuli armatura diametrini aniqlaydi, 1 mm o'lchov ma'lumotlarini kiritish mumkin.

Kompyuterda keyingi ishlov berish uchun xotira instrumental nazorat paytida asosiy nurlarning qurilishi ko'targichlari va ularning asosiy geometrik o'lchamlar o'lchanadi, shu bilan birga shu qatorda instrumental usullar yuqori inshootlarning asosiy asosiy nurlarida yoriqlar mavjudligi va tabiatini vizual nazorat qilish bilan MPB-2 mikroskopi bilan ularning ochilish hajmini aniqlash orqali, statik va dinamik testlar konstruktiv elementlardagi burilishlar, cho'zilishlar va kuchlanishlarni aniqlash maqsadida amalga oshiriladi.

Natijalar. Texnika bir qator o'lchov aniqligi, harakatchanligi, ko'p qirraliligi afzalliklarga ega. Ushbu texnikaningning kamchiliklari quvvat manbalariga birlashtirishni qo'shing, sensorlarni o'rnatishdagi qiyinchiliklar, qo'shimcha pul va vaqtni yaratish uchun qo'shimcha xarajatlar sinov yuklari aniqlangan nuqsonlar va zararlarning tahlili ularning paydo bo'lish qonuniyatlarini ko'rsatadi.

Ko'priklar temir-beton konstruksiyalarini muddatidan oldin buzish sabablari, bo'yicha bizning fikrimizcha, ular: agressiv ta'siri yorilish, charchoq xaqida atrof-muxit operatsion yuklarning ta'siridan betonni yo'q qilish, qoniqarsiz oqim tarkibi, bu drenaj tizimining buzilishiga olib keladi, beton himoya qatlamini yo'q qilish va korroziya ishlaydigan armatura cheklangan mablag'lar uchun joriy ta'mirlash va kapital ta'mirlash tuzilmalar, erta tug'ilishga olib keladi, konstruksiyalarni yo'q qilish, dizaynga nisbatan ko'priklarning chidamliligini kamaytirish muddatlari, ushbu muammolar tuzilmalarning ishonchliligining pasayishi va ularning xavfsiz ishlashi ta'minlanmagan sharoitlarni yaratish bilan yanada kuchayadi. Shikastlangan temir-beton konstruksiyalarni tiklashning zamonaviy usullari:

- chig'anoqlarni, beton chiqlarini va himoya qilishni qayta ishlash uchun qatlam quyma betondan foydalanish;
- asosiy nurlari va kuch yoriqlarini quyish;
- yangi polimer kompozitsiyalarini joriy etish.

Muhokamalar. Betonni korroziyadan himoya qilish uchun, tokret beton tayyorlash quyidagilarni o'z ichiga oladi, ehtiyotkorlik bilan qiyin ob'ekt tanlash zarurati qurilish maydonchasi sharoitida beton, quyma betonni qo'llashdan oldin bu zarur bo'ladi, bundan tashqari

beton va armatura yuzasini yaxshilab tozalash, bu ham betonning vayron qilingan joylarini tiklash jarayonini murakkablashtiradi.

Yangi polimer materiallarni joriy etish, temir-beton konstruksiyalarning sirtini suv penetratsiyadan himoya qilishni ta'minlaydi, tashqi ko'rinishini yaxshilaydi, targ'ib qiladi betonning chidamliligini oshirish hisoblanadi, ushbu usulning kamchiliklari yuqori narx, ishlash va kompozitsiyalarni qo'llash uchun maxsus qurilmalardan foydalanish zarurati, istiqbolli diagnostika usullari, quyidagilarni o'z ichiga oladi.

Diagnostika uchun komplekslarini yaratish shaxsiy kompyuter, kuchaytirgichlar, analog-raqamli konvertorlar va sensorlar asosida o'lchovlarni ro'yxatga olish, ularni tahlil qilish va ma'lumotlar bazasiga kirish;

Temir-beton ko'priklarni qayta tiklashning yangi usullari quyidagilarni o'z ichiga oladi:

- o'tkir foydalanish yuk ko'taruvchi inshootlarni ta'mirlash uchun birikmalar;
- kompozit bilan tuzilmalarni mustaxkamlash uglerod tolalariga asoslangan materiallar;

Penetratsion birikmalar (kalmatron) dan foydalanish betonga yuqori kirishni, qayta eski beton tiklanish imkoniyatini ta'minlaydi va yuqori narxga ega, lekin maxsus jihozlarni talab qiladi.

Ko'priklarning ishlashi paytida, ularning yotqizilishining pasayishi tufayli yuzaga keladi korroziyasi tufayli qobiliyat va mustahkamlash betonning buzilishi ularning deformatsiyasi asl nusxani tiklashdan tashqari yuk ko'tarish qobiliyati, strukturaga yukni oshirish kerak bo'lishi mumkin, yoki uning hisob-kitob sxemasini o'zgartiring, biroq yaqinda, kompozit uglerod tolalari bilan mustahkamlangan materiallar ishlatilgan.

Xulosa. Hozirgi vaqtda tolali kompozit materiallar keng tarqalgan tayanchlar va oraliqlarni mustahkamlash uchun ishlatiladi va ko'priklarni tuzilmalari, shuni ta'kidlash kerakki ko'priklarning temir-beton konstruksiyalarini kapital ta'mirlash va mustahkamlash strukturani to'liq tashxis, batafsil tekshiruv o'tkazish qilmasdan amalga oshirilmaydi. Bundan tashqari konstruksiyalarni kompozit materiallar bilan mustahkamlash, uni diagnostika qilish va taxlil qilishda mustahkamlash stress-za'riqish holati qaror qabul qilishda asosiy rol o'ynaydi. Xaqiqiy geometriyani aniqlash uchun diagnostika qilish kerak. Temir-beton ko'priklarning diagnostikasi nafaqat

ularning eskirish darajasini ochib berish, balki bu xodisaning sabablarini aniqlash bularning barchasi zamonaviy diagnostika va buzilmaydigan qurilish inshootlarini asboblari bilan nazorat qilish mumkin. Tadqiqot natijalari va istiqbollari yanada rivojlantirish uchun keyingi ishlanmalar yo‘l qoplamalarini tiklashning ko‘rsatilgan usullari tuzilmalar to‘liq ta‘minlay olmaydi, operatsion ishonchliligini saqlash va foydalaniladigan uskunaning nomukammalligi tufayli tuzilmalarning chidamliligi, shuningdek ishlatiladigan materiallarning samarasizligi va texnologiyalar.

Ko‘prik inshootlarini yo‘q qilishning hal qiluvchi omillari quyidagilardir:

- yuqori suv o‘tkazuvchanligi;
- betonning past korroziyaga chidamliligi qurilishda foydalaniladi;
- past sovuqqa chidamliligi.

Ushbu muammoni hal qilishning asosiy vazifalari rivojlanishdir.

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MAMLAKATIMIZDA QURILAYOTGAN KO‘PRIKLAR QURILISH ISHLARINI TAKOMILLASHTIRISH VA ULARNING ZMONAVIY YECHIMLARI

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***Annotatsiya:** Maqolada respublikamizda qurilayotgan ko‘priklarning innovatsion yechimlarini ishlab chiqish va tatbiq etishdagi yutuqlar, ko‘prik qurilishi jaroyonlarining rivojlanish bosqichlari asosida yurtimizda qurilayotgan ko‘priklarning nafaqat amaliy vazifalarni bajarishi, balki estetik ruh ham baxsh etishi xaqida fikrlar keltirilgan. Shuning uchun mamlakatimizda qurilayotgan su‘niy inshootlar mamlakatning rivojlanishida muximdir.*

***Kalit so‘zlar:** ko‘priklar, qurilish ishlari, su‘niy inshootlar, ilg‘or texnologiyalar.*

***Annotation:** the article cites the achievements in the development and implementation of innovative solutions of bridges under construction in our republic, the implementation of bridges under construction in our country on the basis of the stages of development of bridge buildings not only perform practical tasks, but also give aesthetic spirit. Therefore, the Su‘niy structures being built in our country are autonomous in the development of the country.*

***Keywords:** bridges, construction works, artificial structures, advanced technologies.*

Kirish. Respublikamizda qurilayotgan ko‘priklarning innovatsion yechimlarini ishlab chiqish va tatbiq etish bugungi kunda muhim ahamiyat kasb etadi, ko‘priklarni loyixalash va qurishda innovatsion yechimlarni qo‘llash ko‘priklarni uzoq vaqt xizmat qilishini ta‘minlaydi. Mamlakatimizda keying yillarda yo‘l qurilishi sohasiga ko‘priksozlik bilan birga. Bunyodkorlikning innovatsion yechimlari, tamomila ilg‘or texnologiyalar xam kirib keldiki, natijada yangi inshootga hamoxang yaxlit me‘moriy yechimga ega infratuzilma paydo bo‘layapti

Bundan nafaqat xaydovchilar, balki yo‘lovchi xamda piyodalarga xam birdek qulaylik yaratilmoqda. Xatto landshaft dizayni asosida xududlar obodonlashtirilib, yo‘llar atrofiga kishi kayfiyatini ko‘taradigan anboyi gular manzarali daraxtlar o‘tkazilayaptiki, bu yanada ko‘rkamlik baxsh etayotir.

Ko'priklar doimo o'zining betakror go'zalligi, salobati hamda eng kuchli muhandislik loyihalarini amalga oshirish imkonini bergan texnik imkoniyatlari bilan kishiga zavq beradi. Bu inshootlar nafaqat amaliy vazifalarni bajaradi, balki estetik ruh ham baxsh etadi. Har bir ko'prik o'zicha g'aroyib, biri konstruksiyasi, yana biri shakli, boshqasi esa ulug'vorligi bilan kishini hayratga soladi.

Ilmiy-tadqiqot metodlari. Mamlakatimiz istiqbolga erishganidan so'ng tom ma'noda bunyodkorliklar davri boshlandi. Ayniqsa, hozirgi paytda ko'kalamzorlashtirish, obodonlashtirish ishlari kun va daqiqa sayin jadallashmoqda. Xususan, yaqinda Prezidentimiz Shavkat Mirziyoev poytaxtimizning Chilonzor tumanidagi Bunyodkor va Cho'ponota ko'chalari kesishmasida qurilgan zamonaviy ko'prikni borib ko'rdi. Poytaxtimiz ko'chalarida yo'l harakati xavfsizligini ta'minlash, tirbandliklarning oldini olish, piyodalar uchun sharoit yaratish maqsadida ko'plab ko'prik va yo'lo'tkazgichlar bunyod etilmoqda. Albatta, Bunyodkor va Cho'ponota ko'chalari kesishmasida qurilgan zamonaviy ko'prik shulardan biridir. Prezident Shavkat Mirziyoev g'oyasi va tashabbusi bilan bunyod etilgan ushbu inshoot qadim Toshkentning tarixiy jozibasini saqlagan holda, uni yangilash, zamonaviy megapolisga aylantirish, pirovardida aholining uzog'ini yaqin qilishda juda muhim ahamiyatga ega. "O'zbekiston temir yo'llari" aktsiyadorlik jamiyatiga qarashli "Ko'prik qurilish trest" korxonasi bunyod etgan yo'l o'tkazgichning umumiy uzunligi 667,5 metr, shundan estakada qismi 488,5 metr bo'lib, balandligi 8 metr, kengligi 24,5 metr, 21 ustundan iborat. Ko'prikda avtomobillar 6 qatorda harakatlanadi. Shuningdek, 124 metrlik ikkita piyodalar o'tish ko'prigi qurildi. Nogiron va keksalarga qulaylik yaratish maqsadida ularda maxsus eskalator o'rnatildi. Davlatimiz rahbari bu erda amalga oshirilgan bunyodkorlik ishlari bilan tanishdi, quruvchilar bilan muloqot qildi. Mamlakatimizda ko'prik qurish bo'yicha o'ziga xos maktab yaratildi, deb Prezident so'zlarini keltirgan O'ZA agentligi, unda, shuningdek, — Ushbu ko'prikni barpo etgan bunyodkorlarga alohida minnatdorlik bildiramani.

Natijalar. Bundan keyin quriladigan yangi ko'priklar ham sifatli, juda puxta bo'lishi kerak. Buning uchun ko'priksozlik bo'yicha ilg'or xorij tajribasini o'rganib, tajriba almashib borishimiz zarur. Bir so'z bilan aytganda, ko'priklar ham bizning bunyodkorlik timsolimizga aylanmog'i zarur. Ob'ekt qurilishiga ellikka yaqin texnika vositasi, 250 dan ziyod ishchi-xodim jalb etildi. Yo'lo'tkazgichni bunyod etishda 35,7 ming kub metr tuproq, 42,6 ming kub metr beton ishlari bajarildi. Hududda obodonlashtirish ishlari bajarilib, atrof ko'kalamzorlashtirildi va manzarali daraxtlar o'tqazildi. Yangi inshootni loyihalashtirishda yoritish tizimiga ham alohida e'tibor qaratildi. Unga ko'ra, ko'prikka jahon standartlariga to'la javob beradigan energiya tejaydigan jihozlar o'rnatildi. Shu yerda davlatimiz rahbariga poytaxtimizda va

hududlardagi mavjud ko'priklar holati, tizimdagi yangiliklar va rejalar haqida ma'lumot berildi. "CRAFCO" (AQSh) kompaniyasi ishlab chiqqan maxsus texnika va ixcham mexanizatsiya yordamida yo'lo'tkazgich va ko'priklarni ta'mirlash loyihasi namoyish etildi. Mazkur kompaniya yo'l o'tkazgich va ko'priklarni mustahkamlash va foydalanish borasida innovatsion texnologiyalarni joriy qilishda dunyoda eng ilg'or sanaladi.

Muhokamalar. Davlatimiz rahbari loyihani ko'zdan kechirib, "CRAFCO" kompaniyasining texnologiyalaridan unumli foydalanish, buning uchun mutaxassislar malakasini oshirish borasida tegishli ko'rsatmalar berdi. Shavkat Mirziyoev G'afur G'ulom nomidagi madaniyat va istirohat bog'ini ham kirib ko'rdi. Bog'ni zamonaviy qilib qayta qurish, bu erda ochiq va yopiq akvapark barpo etish bo'yicha topshiriq berdi. Bog'dagi bironta ham daraxt kesilmasligi kerakligini ta'kidladi. Shuni e'tirof etish lozimki, ko'priklar bilan birgalikda aholi uchun zamonaviy turar joylarni barpo etish, ularni mustahkam va shahar infratuzulmasiga to'la mos keladigan shaklda qurib bitkazish kabi bir qator masalalar o'z echimini topib bormoqda. Ayniqsa, Bunyodkor va Cho'ponota ko'chalari kesishmasida qurilgan zamonaviy ko'priklar haqida gapirganda shuni qayd etish lozimki, mazkur inshootning shahar uchun ahamiyati juda yuqori. Chunki ayni paytda avtomobillar soni tobora ko'payib borayotir.

Xulosa. Qolaversa, xususiy avtomobilida poytaxtimizga kelib ketuvchilar ham kam emas. Shu sababli keyingi yillarda Toshkentda avtomobil qatnovini yaxshilash, yo'lovchi tashish transportlari, xususan avtobuslar yo'lini yaqin qilish, umuman olganda haydovchilarga qulaylik yaratish maqsadida juda katta hajmdagi ishlar olib borilmoqda. Ma'lumki, Bunyodkor Toshkentning janubiy va shimoliy qismlarini bog'lovchi, eng uzun ko'chalaridan biri sanaladi. Uning Toshkent halqa yo'li, Farhod, Muqimiy, Islom Karimov, Navoiy va boshqa yirik ko'chalar bilan kesishgan joylarida yo'lo'tkazgich va tonellar qurilgan. Shu sababli mazkur yo'nalishda tunu kun avtomobillar qatnovi tinmaydi. Bunday ko'priklar hududlar infratuzilmasi taraqqiy etishiga ham xizmat qiladi.

Mana endi mamlakatimizda zamonaviy shaharsozlik, yo'lsozlik tajribasi to'la shakllandi, ko'priksozlik sohasi paydo bo'ldi. Xulosa qilib aytganda, kundan kunga chiroy ochib borayotgan poytaxtimiz yo'llariga mana shunday ko'priklar yarashadi.

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РЕСПУБЛИКАМИЗДА ҚУРИЛАЁТГАН ЗАМОНАВИЙ АВТОМОБИЛЬ ЙЎЛЛАРИНИ ЛОЙИҲАЛАШ ВА ҚУРИШДА ҚИДИРУВ ИШЛАРИНИ ОЛИБ БОРИШ

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***Аннотация:** Ушбу мақолада автомобиль йўлларида инженер-геологик қидирув ишларини олиб бориш учун ШНК 2.05.02-07 [2], ШНК 2.05.11-07 [3], шунингдек ШНК 3.06.03-07 [4], ШНК 1.02.09-15 [5] меъёрий хужжатлар талаблари бўйича юқори намликка эга бўлган грунтларни физик-механик хоссаларини аниқлаш талаб этилиши ва муҳандислик-геологик қидирув ишларида аэрокосмик съёмка, аэро визуал кузатув, аэрофотосъёмка ҳақида фикрлар билдирилган.*

***Таянч сўзлар:** юқори намланган грунтлар, аэровизуал кузатув, аэрофотосъёмка, йўл пойи, аэрокосмик съёмка.*

***Annotation:** This article outlines the requirements of city regulations for engineering-geological works on highways, requirements for the physical and mechanical properties of moisture with moisture requirements and requirements for aerospace engineering in engineering geological prospecting.*

***Key words:** strongly soaked grunts, airborne surveillance, road state.*

Кириш. Юқори намликдаги грунтларга кўтармага ётқизиш ёки ўймаларни ўйиш даврида намлиги оптималдан, ГОСТ 22733-2002 “Грунтлар. Максимал зичликни лаборатория шароитида аниқлаш усули” бўйича аниқланган, юқори бўлган грунтлар киради. Юқори намликдаги грунтли автомобиль йўлларида муҳандислик қидирувида ишлаб чиқаришга, иш ҳажмига қўйиладиган асосий талаблар қуйидаги меъёрий хужжатлардан олинади: ШНК 2.05.02-07, ШНК 2.05.11-07, шунингдек ШНК 3.06.03-07, ШНК 1.02.09-15 (Қурилиш учун инженер-геологик қидирувлар). Юқори намликдаги грунтли асосли участкаларда муҳандис-геологик қидирувлар техник топшириқда кўлтирилган махсус дастур бўйича бажарилади. Дастур ва техник топшириқни лойиҳа ва қидирув ташкилотлари биргаликда ишлаб чиқадилар. Қидирув натижасида олинган материаллар, умумий ҳолатда қуйдагиларни амалга оширишга имкон бериши керак:

- асоснинг турғунлигини миқдорий баҳолаш;

- консолидация жараёнида асоснинг чўкишини қиймати ва давомийлигини башоратлаш.

Умуман олганда бу материаллар юқори намликдаги қатламни кўтарма асосини материали сифатида фойдаланиш мумкинлигини баҳолаши керак.

Илмий-тадқиқот мтодлари. Қидирув ишларини олиб боришда лойиҳаловчи ташкилот томонидан амалдаги маълумотларни олгандан сўнг дастур таҳрир қилиниши мумкин. Лойиҳа ҳужжатларида кўтармани ўрганиш бўйича геотехник назоратлар ва кўтармалар ҳолатини қурилиш жараёнида ва тугаллангандан сўнг (гарантияли муддати давомида) назорат қилиш ишлари кўзда тутилади. Кўрилаётган шароитларда муҳандис-геологик қидирувларни таркибига қуйидаги иш турлари кириши мумкин:

-қидирув ва аввалги йилларнинг материалларини йиғиш, таҳлил қилиш ва умумлаштириш;

-аэрокосмик сўтмка материалларини олиш ва дтшифровка қилиш;

-аэровизуал ва маршрутли кузатишлар билан биргаликда рткогницировкали текширув;

-тоғ ўймаларини ўтиш;

-худудни геофизик ўрганиш;

-грунтларни дала текшируви;

-гидрогеологик тадқиқотлар;

-стационар кузатувлар;

-грунт ва сувни лаборатория шароитида ўрганиш;

-муҳандис-геологик шароитларни мумкин бўлган ўзгаришини башоратлаш;

-материалларни ҳонада қайта ишлаш;

- техник ҳисобот (хулосовий) тузиш.

Натижалар. Аввалги йилларнинг қидирув материалларини йиғиш, таҳлил ва умумлаштиришда худуднинг геологиясининг тўртламчи даврда ривожланиш тарихига ва туманнинг аналоги бўйича маълумотларга аҳамият бтришлозим. Қурилиш худудида грунт сувларининг сатҳини ошишига ва ботқоқланишига олиб ктлувчи техноген таъсирлар тўғрисидаги маълумотларни умумлаштириш, шунингдтк маршрутли кузатиш жараёнида ботқоқлик, кўлли, лагун, аллювиал ва аралаш генезисли ётқизикларни ривожланишига алоҳида эътибор бериш керак.

Муҳокамалар. Юқори намликдаги грунтларни тарқалиши ва қалинлигини ўрганиш учун максимал катта ҳажмда, шунингдек ер юзасининг

юқори қисмидаги грунтларни мустаҳкамлигини ўрганишда геофизик тадқиқотларнинг ҳар хил усулларидан фойдаланиш керак бўлади. Кўтарманинг оғирлигидан юзага келган юк таъсирида зичлашиш жараёнида юқори намланган грунтларни хоссаларини ўрганишни стационар кузатиш усули улар керак бўлганда (иш дастурини дастлабки асослашда) амалга оширилади.

Қидирув материалларини хонада қайта ишлаш тадқиқотларни ўз вақтида таҳрир қилиш учун дала ишларини олиб боришда, шунингдек лойиҳаланаётган кўтарманинг асосидаги юқори намликдаги грунт қатлами тўғрисида маълумот олиш учун хулоса қилиш жараёнида бажарилиши керак.

Хулоса. Юқори намланган грунтларни дала шароитида ўрганиш учун асосий синовлар конусли учли зондлар ва айлантириб қирқувчи, уларга кўшимча сифатида штампли ва прессиометр билан амалга оширилади. Юқори намликдаги участкали автомобиль йўллари муҳандис-геологик қидирув лойиҳалашни босқичларига боғлиқ бўлади. Юқори намликдаги грунтлар борлиги, уларни хусусиятлари, тарқалиши ва хоссаларитўғрисида маълумотларни йиғишаввалги йиллардаги маълумотлар ва бтрилган худуддаги қурилиш тажрибасини ҳисобга олган ҳолда олиб борилади. Бунда аэрофотосъемка ва космик съемка маълумотларидан фойдаланиш керак. Муҳандис-геологик съемкани 1:10000-1:5000 масштабда бажариш таклиф қилинади.

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MAMLAKATIMIZDAGI SUN'IY INSHOOTLARNING HOLATINI BAHOLASH VA ISHONCHLILIGI OSHIRISH USULLARINI TAKOMILLASHTIRISH

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Annotatsiya: Suniy inshootlarning oraliq qurilmalaridan foydalanishda ishonchlilik nazariyasini qo'llashning asosiy yo'nalishi – me'yorlashtirishdir. Chegaraviy holatlar uslubiyoti qo'llangan zamonaviy loyihalashtirish me'yorlari ishonchlilik nazariyasi qoidalariga asoslangan.

Kalit so'zlar. ko'prik, chegaraviy holatlar, entropiya, eskirayotgan tizim, ishonchlilik miqdor, oraliq qurilmalari.

Annotation: the main direction of applying reliability theory in the use of intermediate structures of artificial structures is normalization. Modern design norms, in which the methodology of marginal cases is applied, are based on the rules of reliability theory.

Keywords. bridge, boundary States, entropy, wearable system, reliability quantity, intermediate structures.

Kirish. O'zbekiston Respublikasidagi ko'priklar asosan 70-80 yil oldin qurila boshlangan. Shuning uchun ekspluatatsiya qilinayotgan ko'priklar ham fizik, ham ma'naviy eskirgan. Shu bilan birga harakatlanuvchi tarkib yuki ham bir necha bor o'zgargan. Shuning uchun ekspluatatsiya qilinayotgan ko'prik oraliq qurilmalari konstruksiyalarining ishonchliligini hisoblash va xizmat qilish resursini baholash masalasi dolzarb hisoblanadi.

Qurilish hamda ko'rik oraliq qurilmalaridan foydalanishda ishonchlilik nazariyasini qo'llashning asosiy yo'nalishi – me'yorlashtirishdir. Chegaraviy holatlar uslubiyoti qo'llangan zamonaviy loyihalashtirish me'yorlari ishonchlilik nazariyasi qoidalariga asoslangan.

Birinchi sabab – ob'ektlarning tizim sifatida o'ta murakkablashib ketishi: zamonaviy ob'ektlar, inshootlardagi elementlar miqdori juda ko'p bo'lishi mumkin; ularning o'zaro muvofiqlashuvi tarzi murakkab va turli-tumandir; tizim funksiyalari va uning atrof-muhit bilan o'zaro aloqalari ham bir muncha murakkab; bunday sharoitda nisbatan kichik va mahalliy nuqsonlar qurilish tizimlari faoliyati buzilishiga yoki

butkul ishdan chiqishiga olib kelishi mumkin. Bu holat entropiya – ya'ni butun tizim betartibligining keskin ortishini keltirib chiqaradi. Entropiya o'sishi natijasida tizimlarning ishdan chiqishi yoki uning ish qobiliyati pasayishi ehtimoli ortadi.

Ikkinchi sabab – ko'plab tizim(ob'ekt)lar ancha mas'uliyatli funksiyalarga egaligi bilan izohlanadi. Masalan, ko'priklar milliy va mintaqaviy ahamiyatga ega. To'g'onlar, atom elektrostansiyalari, metro va tonnellar, stadionlarni ham shu qatorga kiritish mumkin. Bunday tizimlar funksiyasining ishdan chiqishi katta moddiy va ma'naviy yo'qotishlarga, shuningdek odamlar orasidagi qurbonlarga olib kelishi mumkin.

Ilmiy-tadqiqot metodlari. Yuqorida aytilganlar sun'iy inshoot oraliq qurilmalarini loyihalashtirish, qurish va ulardan foydalanish sohalariga ham bevosita taalluqli. Biroq, ishonchlilik tushunchasining o'zi, shuningdek uni baholash mezonlari va usullari sanoat apparaturalari, mashina va mexanizmlari hamda boshqa texnika moslamalarining ishonchliligini baholash uchun ishlab chiqilgan mezonlar va usullarga nisbatan qator o'ziga xos xususiyatlariga ega. Ushbu xususiyatlarga quyidagilar kiradi

- sun'iy inshootning oraliq qurilmalari konstruksiyalarini tayyorlash uchun qo'llanadigan materiallarning ko'p jihatdan bir turda bo'lmasligi;
- alohida konstruksiyalar, ayniqsa yaxlit sun'iy inshootlar uchun ishdan chiqmay ishlash vaqti taqsimoti funksiyasini qurish va uni tahliliy bayon etish uchun ma'lumotlar olish murakkabligi, qator hollarda esa buning amaliy jihatdan iloji yo'qligi;
- elementlar bo'yicha zaxiralash, ya'ni tizimga asosiy elementlar bilan birga qo'shimcha (zaxira) elementlarni parallel ulash usulining iloji yo'qligi yoki maqsadga nomuvofiqligi;
- sun'iy inshootlarni oraliq qurilmalari konstruksiyalarining ishlash va ulardan foydalanish sharoitlarining favqulodda turli-tumanligi;
- ko'p hollarda ish sharoitlari o'ta kichik darajada rostdash (muvofiglashtirish) mumkin bo'lgan iqlimiy va geofizik omillar bilan belgilanadi;
- sun'iy transport oraliq qurilmalari konstruksiyalarining texnik moslamalarga nisbatan ancha uzoqroq muddat ekspluatatsiya qilinishi.

So'nggi shart juda muhim bo'lib, chunki inshootlar konstruksiyalari ishonchliligini baholashda ish sharoitlarini aniqlash va uni sharhlash masalasi faqat statistika jihatidan ehtimol tutilgan holatdagina hal etilishi mumkin. Bu sharoitni ayniqsa xossalari tashqi muhit ta'sirida jiddiy o'zgarishi mumkin bo'lgan materiallardan yasalgan konstruksiyalar ishining ishonchliligini baholashda hisobga olish talab etiladi.

Ishonchlilik nazariyasi turli texnika sohalarida statistika ma'lumotlarini yig'ish, ishdan chiqish mohiyatini o'rganish, shuningdek ishonchlilikni baholash usullarini takomillashtirib borish asosida rivojlanib bordi. Statistika ma'lumotlari va nazariy ishlanmalar ko'payib borgani sari, tizimlar ham elementlar soni va ularni ulash usullari hisobiga murakkablashib bordi. Ammo ularning prinsipial modeli ishonchlilik darajasini aniqlash masalasini hal qilishga yo'llanganligi jihatidan o'zgarmas bo'lib qolaveradi. Asosan *eskirayotgan tizim*, ya'ni vaqt tufayli yemirilayotgan (nobud bo'layotgan) tizim ko'rib chiqiladi. Masala, tizimda ishdan chiqishga olib keladigan ehtimoliy buzilishlarning taqsimlanish qonuni va ishdan chiqishlarga oid statistika ma'lumotlari (masalan, ishdan chiqishlar jadalligi) ma'lum bo'lsa, mexanik tizimlarning ishi t_1, t_2, \dots, t_i vaqtida ular ish qobiliyati shartli ehtimoliylikni aniqlashdan iborat. Masalaning ishonchlilik miqdor ko'rsatkichlari birinchi navbatda vaqt bilan bog'langan holda qo'yilishi fizik, kimyoviy, tabiiy-iqlimiy va boshqa jarayonlar oqibatida ishdan chiqadigan mahsulot (ob'ekt)larga nisbatan to'g'ri, hatto zarur hisoblanadi.

Natijalar. Asosiy omillar aksariyat qismining miqdoriy bayoni ular transport oraliq qurilmalari konstruksiyalari bilan amalda birga ishlagan sharoitdagi murakkab jihatlari bilan konstruksiyalarning qurilish xossalari, shuningdek ular uchraydigan yuk va ta'sirlarning o'zgaruvchanligini hisobga olgan holda amalga oshirilishi lozim. Ko'rsatilgan sababga binoan konstruksiyalar xossalari fizik-mexanik ko'rsatkichlarining o'zgaruvchanlik qonuniyatlarini, shu bilan birga yuk va ta'sirlarni o'rganish sun'iy transport oraliq qurilmalari ishonchliligi nazariyasini qurishda eng muhim shart va asos bo'lib hisoblanadi. Ushbu qonuniyatlar, asosan, ikki yo'l bilan aniqlanishi mumkin

Birinchi yo'l konstruksiyalar, yuk va ta'sirlarning o'zgaruvchanligini keltirib chiqaradigan tabiiy fizik omillarning vaqtga bog'liq holda rivojlanishini o'rganishga asoslanadi. Ushbu yo'lni ro'yobga chiqarish o'zining asosiy qismlari sifatida ichiga quyidagilarni olgan ishonchlilikning fizik nazariyasini yaratish uchun asos bo'lishi mumkin:

- konstruksiya materiallari hamda asos gruntining fizik-mexanik va boshqa xossalari vaqtga bog'liq holda, amaldagi ishlash (foydalanish) shart-sharoitlaridan kelib chiqib, ularni prognoz (bashorat)lash imkonini beradigan o'zgarishi nazariyasini;
- ular qiymatini belgilab beradigan real tabiiy jarayonlar va ushbu jarayonlarning vaqt davomida rivojlanishini hisobga olgan holda yuklar va ta'sirlarning shakllanish nazariyasini;
- ularning tuzilmasi, olinish yoki shakllanish shart-sharoitlari, ichki nuqsonlar mavjudligi va ularning yuk va tabiiy-iqlimiy omillar ta'sirida rivojlanishini hisobga

olib konstruksiyalar materiallarining deformatsiyalanish va sinish nazariyasi.

Zamonaviy ilm-fan bugungi kunda nomi keltirilgan nazariyalarni, demak, ishonchlilikning fizika nazariyasini ham yaratish uchun to'la hajmli amaliy imkoniyatlarga ega emas.

Muhokamalar. Konstruksiyalar, yuk va ta'sirlar xossalari o'zgaruvchanligi qonuniyatlarini aniqlashning ikkinchi yo'li ma'lumotlarga matematika statistikasi va ehtimoliylik nazariyasi usullari yordamida aniqlangan tajriba ma'lumotlarini umumlashtirishga asoslangan. Bunda ko'rib chiqilayotgan ob'ektlar xossalari o'zgaruvchanligini belgilab beradigan fizika jarayonlarini o'rganish, muhim bo'lishiga qaramay, biroq qo'shimcha ko'rinishga ega va u yuz berayotgan jarayonlarning sifat jihatlariga aniqlik kiritish imkonini beradi. Ushbu ikkinchi yo'l bugungi kunda umumiy qabul qilingan yo'l hisoblanib, ishonchlilik nazariyasining fizika-matematika parametrlari qismining asosini tashkil etadi. Ko'rib chiqilgan yondashuv mazkur ishda asos sifatida qabul qilingan bo'lib, bu ishning qurilish tuzilmasini, materialni bayon etish mazmuni va yo'nalishini belgilab berdi.

Xulosa. Shu o'rinda aytib o'tishimiz aytish munkinki, konstruksiyalar, yuk va ta'sirlar xossalari o'zgaruvchanligi qonuniyatlarini aniqlashning *Birinchi yo'l* konstruksiyalar, yuk va ta'sirlarning o'zgaruvchanligini keltirib chiqaradigan tabiiy fizik omillarning vaqtga bog'liq holda rivojlanishini o'rganishga asoslanadi. Ushbu yo'lni ro'yobga chiqarish o'zining asosiy qismlari sifatida ichiga quyidagilarni olgan ishonchlilikning fizik nazariyasini yaratish uchun asos bo'lishi mumkin: *ikkinchi yo'li* ma'lumotlar ma'lumotlarga matematika statistikasi va ehtimoliylik nazariyasi usullari yordamida aniqlangan tajriba ma'lumotlarini umumlashtirishga asoslanganligini bayon etildi.

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MAMLAKATIMIZDAGI ASFALTBETON QOPLAMALI AVTOMOBIL YO‘LLARIDA ILASHISH KOEFFITSIENTINI YO‘L QOPLAMASIGA TA‘SIRINI BAHOLASH

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Аннотация: В этой статье представлена информация о коэффициенте сцепления дорожного покрытия с автомобильными шинами.

Ключевые слова: покрытие, шина, сцепление, продольное, поперечное.

Abstract: This article provides information about the coefficient of adhesion of the road surface with automobile tires.

Keywords: Coating, tire, clutch, longitudinal, transverse.

Kirish. Zamonaviy avtomobil yo‘llari murakkab muxandislik inshootlari hisoblanib, transport oqimining yuqori tezlikda harakatlanishini ta‘minlaydi. Avtomobil yo‘llarini ta‘mirlash va saqlash ishlari sifati avtomobil yo‘lining xizmat muddatlarini, o‘tkazuvchanlik qobiliyatini oshishiga va yo‘ldagi harakat xavfsizligini ta‘minlanishiga kafolat bo‘ladi.

Avtomobilning g‘ildiraklaridagi tortish kuchi dvigatelning quvvatiga bog‘liq bo‘lib, undan yetakchi g‘ildiraklar bilan yo‘l orasida yetarlicha ilashish mavjud bo‘lganidagina to‘liq foydalanish mumkin. G‘ildirakdagi eng katta tortish kuchi R_g ning yo‘l qoplamasiga tushgan vertikal yuklama G_g ga nisbati ilashish koeffitsienti deb ataladi va φ harfi bilan belgilanadi.

G‘ildirakka ta‘sir etadigan siljitivchi kuchning yo‘nalishiga qarab, ilashish koeffitsientining ikki turi bo‘ladi:

1. Bo‘ylama ilashish koeffitsienti φ_b . Bu koeffitsientning qiymati g‘ildirakka yon kuchlar ta‘sir etmagandagi g‘ildirash yoki tormozlanishda harakatlanayotgan g‘ildirakning shataksirashi yoki sirpana boshlanishiga to‘g‘ri keladi. Undan shoshilinch tormozlashda avtomobil bosib o‘tadigan yo‘lni hisoblashda va avtomobilning joyidan qo‘zg‘alish imkoniyatini baholashda foydalaniladi.

2. Tajribalarning ko‘rsatishicha, ilashish koeffitsienti tormozlangan g‘ildirakning g‘ildirash tekisligiga burchak hosil qilib harakatlanishida amalda

o'zgaraydi, ko'ndalang ilashish koeffitsienti φ_k - yonlama kuch ta'sirida g'ildirayotgan yetakchi g'ildirak g'ildirash tekisligiga nisbatan burchak hosil qilib siljigandagi (bunda g'ildirak aylana turib, yon tomonga sirpanadi) ilashish koeffitsientining ko'ndalang tashkil etuvchisi. φ_k koeffitsienti avtomobilning kichik radiusli egri joydan o'tishidagi turg'unligini ifodalaydi.

Ilmiy-tadqiqot metodi va natijalar. Ko'p sonli tajribalarning ko'rsatishicha, ilashish koeffitsientlarining qiymatlariga yo'l qoplamasining holati qoplamalarning turiga nisbatan ko'proq ta'sir ko'rsatadi.

Har qanday qoplamalarda ularning ustidagi qattiq mineral zarralar qoplamaning g'adir-budur qiladi, ularning ustidan o'tgan g'ildirak protektorining rezinasiga botib kiradi. G'ildirak sirpanganida ular rezinani elastik deformatsiyalaydi, rezinaning qarshiligi g'ildirakning qoplama sirtida siljishiga qarshilik qilishining asosiy sababchisi bo'ladi. Qoplamaning yeyila borishi bilan uning g'adir-budurligi kamayadi, binobarin, qoplamaning g'ildirakka ilashuvi ham kamayadi.

Qoplamaning sirtidagi g'adir-budur chiqiqlar o'rtasidagi botiqliklar namlanganida loy, chang, shinalarning yoyilish mahsulotlari bilan to'ladi, bu esa chiqiqlarning rezinaga botib kirishini kamaytiradi. Nam pardasi shina bilan qoplamaning urinish qismini namlab, rezina bilan qoplamaning ajratib turuvchi moy rolini o'ynaydi. Bularning hammasi ilashish koeffitsientini kamaytiradi. Katta tezlikdagi harakatda shina to'liq deformatsiyalanib ulgirmaydi, chunki qoplama bilan urinish davomiyligi buning uchun yetarli bo'lmaydi, binobarin, qoplamaning notekisliklari shinaga unchalik botib kirmaydi. Tezlik ortishi bilan ilashish koeffitsienti kamayadi. Ilashish koeffitsienti tezlik oshishi bilan quruq qoplamalarda nam joylardagiga qaraganda unchalik ortiq kamaymaydi.

Protektor elementlari juda yoyilib ketganida yoki balandligi kamayib, bo'linib ketganida ho'l qoplama akvaplanlanish hodisasi yuz berishi mumkin. Bunday hodisa shina bilan qoplama o'rtasida urinish zonasining boshlanishida chetga siqib chiqarishga ulgirmagan suv to'planganda sodir bo'ladi. Shina ostida suv ponasi hosil bo'lib, u g'ildirakning qoplama bosimini kamaytiradigan gidrodinamik ko'tarish kuchini hosil qiladi. Qoplamadagi suv qatlamining qalinligi bir necha millimetr bo'lganida 80-100 km/soat ga yaqin tezliklarda oldingi g'ildirak bilan qoplamaning o'zaro urinishi yo'qolib, avtomobil boshqarilmaydigan bo'lib qoladi.

Silliq nam sementbeton qoplamalarda kam yeyilgan protektorli to'la blokirovkalanagan (muhosaralangan) shinalarning bo'ylama ilashish koeffitsienti φ_b ni tezlikka o'rtacha hisobda quyidagi 1-jadvaldagi ko'rsatkichlarga bog'liq deb hisoblash mumkin:

1-jadval

Tezlik, km/soat	30	40	60	80	100	120	150	175
Ilashish koeffitsienti	0,50	0,45	0,39	0,35	0,32	0,29	0,26	0,24

Bo'ylama ilashish koeffitsientlari 60 km/soat tezlikda qoplamaning holatiga qarab quyidagi 2-jadval qiymatlarga ega bo'ladi:

2-jadval

Qoplama	φ_b ning qiymati
Quruq, g'adir-budur	0,7 va undan ortiq
Quruq, silliq	0,6
Nam	0,5
Ho'l	0,4-0,3
Loyli	0,2-0,3
Muzlagan	0,1-0,05

Xulosa. Pnevmatik shinalarning yo'l sirti bilan ilashish sharoiti ob-havo sharoitlariga bog'liq. Ilashish koeffitsientlarining qiymatlari yil davomida keng chegaralarda o'zgarib turadi, yozda ortadi va qishki toyg'oq sharoitlarda ancha kamayib ketadi, bu davrda yo'lning ilashishini oshirish uchun yo'llarga toyg'oqlikka qarshi materiallar sepiladi yoki ba'zan avtomobil shinalariga tirmoqli shinalar kiydiriladi. Trassaning geometrik elementlarini asoslashda quruq toza qoplamada va 60 km/soat tezlikda harakatlenganda $\varphi_b = 0,6$ qabul qilinadi.

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MAMLAKATIMIZDAGI MUHANDISLIK INSHOOTLARINI LOYIHALASH VA QURISHDA GRUNTLARNING TARKIBINI ANIQLASH

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***Annotatsiya:** Ushbu maqolada muhandislik inshootlarini qurishda gruntlarning tarkibi, ularning klassifikatsiyasini aniqlash, gruntlar mexanik xossalari inshootga ta'sirini baholash ma'lumotlari keltirilgan.*

***Annotation:** this article provides data on the composition of grunts in the construction of engineering structures, determining their classification, assessing the impact of the mechanical properties of grunts on the structure.*

***Tayanch so'zlar:** muhandislik inshootlari, gruntlar, gruntlarning tarkibi, mexanik xossalari, mustahkamlik, inshoot asosi, gruntlar tarkibidagi mayda zarralar.*

Kirish. Gruntlarning tarkibi, klassifikatsiyasi, mustahkamlik ko'rsakichlari ularning ichki bog'lanishiga bog'liq bo'lib, ular 2 guruhga bo'linadi: kristall va suvli – kolloidli bog'lanishlar. Bu bog'lanishlarning mustahkamligi minerallarga bog'liqdir. Tabiatda tarqalgan gruntlar ma'lum bir belgisiga qarab, ularni tasniflanishiga asosan tabiatda keng tarqalgan, inshoot zamini bo'lib xizmat qiladigan, ichki bog'lanishi va kuch ko'tara olish qobiliyatiga asosan 4 ta sinfga bo'linadi: qoya gruntlar, yirik bo'lakli gruntlar, qumlar, gilli gruntlar.

Ilmiy-tadqiqot metodlari. Inshootlarni loyihalash va qurishda gruntlar tarkibini aniqlash lozim. Gruntlar tarkibi inshoot asosining mustahkamligini ta'minlaydi. Izlanishlar natijasida gruntlarning tabiatda tarqalishi, tarkibi, xossalari aniqlandi. Tabiatda tarqalgan gruntlar bo'laklardan, donalardan zarralardan tashkil topgan bo'lib, ularning yirikligi gruntning mustahkamligiga ta'sir etadi. Gruntlarning tarkibidagi fraksiya miqdorini gruntning umumiy og'rligiga nisbati gruntning granulometrik tarkibi deyiladi. Yopishqoqlik - bu gruntlarning jismlarga yopishib qolish xususiyati. Bu kattalik g/sm^3 kattalikda o'lchanib, jismni grundan ajratib olishga sarflangan kuch bilan o'lchanadi. Yopishqoqlik xususiyati grumdagi gill zarrachalariga va ba'zi bir chang zarrachalariga xam xos xususiyat bo'lib, gruntning namlik xolatida ro'y beradi. Fraksiya deb, o'lchamlari va xossalari bir xil bo'lgan grunt donechalariga aytiladi. Gruntlarning tarkibida turli xil fraksiyalar uchraydi. Shag'al fraksiyasi – 2mm – 70 mm, qum fraksiyasi – 2 – 0,05 mm, chang fraksiyasi – 0,05 – 0,005 mm, gill fraksiyasi – <0.005 mm bo'ladi. Laboratoriya sharoitida gruntlarning suvli xususiyatlari,

ko'pchishi, ivishi, suv o'tkazuvchanligi, yopishqoqligi, hajmi kichrayishi, kapilyar balandliklari aniqlandi.

Natijalar. Gilli gruntlarning tarkibida montmorillonit qanchalik ko'p bo'lsa, u shuncha ko'p ko'pchiydi. Gruntlarning xajmi kichrayishi - bu ko'pchishning teskarisi bo'lib, grunt namligini yo'qotganda, ya'ni undagi suv parlaganda yoki o'simlik ildizi orqali yutilganda ro'y beradi. Xajm kichrayishda tabiatda gruntlarning yuzasida darzliklar paydo bo'ladi va gruntning xususiyati o'zgaradi. Gruntning kapilyarligi - gilli gruntlar tarkibidagi chang zarrachalari kapilyar g'ovaklarni xosil qiladi. Shu kapilyarlar yordamida suv yer yuzasiga chqadi. Grunt zarralarini suvda cho'kish tezligi bilan, ularni diametrlari orasidagi bog'liqlik shkalasi keltirildi.

Gruntlarni yer osti suvlari yuzasidan yuqoriga qarab suvlarning ko'tarilish qobiliyati ularning kapilyarlik xossasini belgilaydi. Kapilyarlik xossasi kapilyarlik tezlikka va kapilyarlik balandlikka bog'langan bo'ladi. Kapilyarlik balandlik gruntlarning donadorlik tarkibiga, suvning xaroratiga, gruntning zichligiga bog'liq bo'lgan kattalikdir.

Muhokamalar. Gruntlarning mexanik xossalari. Gruntlarning siljishga qarshiligini aniqlash usullari. Gruntlarning mexanik xossalariga: gruntlarning siljishga qarshiligi, gruntlarning siqilishi kiradi. Gruntlarning surilishiga qarshiligi, ularning asosiy mexanik xossalardan biri bo'lib, u ko'tarmalardagi to'g' jinslarining, tog' yon bag'irlarining hamda inshootlar zaminini mustahkamligini ifodalaydi. Tog' jinslari tashqi kuch ta'sirida siqilganda ularning zarrachalari harakatga keladi. Bunda zarrachalar orasida siljituvchi kuchga qarshi kuch, ya'ni ishqalanish kuchi hosil bo'ladi. Gruntlarning shakl o'zgarishi uning mustahkamligiga bog'liq. Gruntning mustahkamligi esa ularning siljishga qarshiligi bilan belgilandi. Shunday qilib, gruntning mustahkamligini ifodalovchi kattaliklar - ichki ishqalanish burchagi va bog'lanish kuchidir. Ichki ishqalanish burchagi: Jism zarralari sirt yuzasining g'adirbudurlik shakli ishqalanish holatini belgilaydi.

Xulosa. O'rganishlarimiz natijasida aniqlandiki, inshoot asosining uzoq vaqt xizmat qilishi gruntlarning mustahkamligiga bog'liq. Gruntlarning mustahkamligi faqat ulardagi yumshoq bog'lanish kuchiga teng bo'lib, namlikning ma'lum qiymatida yukning qiymati hisobga olinmaydi. Tog' jinslariga tashqi kuch ta'sirida ularning g'ovakligi va hajmi kamayishiga gruntlarning siqilishi deyiladi. Gruntlarning siqilish darajasini aniqlash uchun ularni tajriba orqali sinash kerak. Kompression siqilishda gruntlarning kuch ostida yonga kengaymasdan tik siqilishi aniqlandi. Na'munadan xalqaga grunt kesib olindi, kompression asbobida turli kuchlar ta'sirida ($P=2$ kg, 4 kg, 6 kg) siqilish darajalari aniqlandi.

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AVTOYO‘L TEMIRBETON KO‘PRIGINING TO‘SINLI ORALIQ QURILMASINI A14 VA NK-100 VAQTINCHALIK YUKLARGA HISOBLASH

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ANNOTATSIYA

Maqolada Avtoyo‘l temirbeton ko‘prigining to‘sinli uzlukli oraliq qurilmasini o‘z og‘irligi va A14 va NK-100 vaqtinchalik yuklarini hisobga olgan holda oraliq qurilmaga tushadigan maksimal kuchlarni aniqlash masalasi ko‘rib chiqilgan. Oraliq qurilmaning ko‘ndalang kesimida ma‘lum bir To‘sin ta‘sir etadigan ko‘ndalang qo‘yish koeffitsienti markazdan tashqari siqish uslubi bo‘yicha hisoblab bajarilgan va A11 va NK-80 yuklaridan farqi hisoblangan.

***Kalit so‘zlar:** Ko‘prik oraliq qurilmasi, doimiy yuklar, vaqtinchalik yuklar, ko‘ndalang qo‘yish koeffitsienti, moment, ko‘ndalang kuch, To‘sin, temirbeton.*

ABSTRACT

The article considers the problem of determining the maximum forces on the intermediate device of the reinforced concrete bridge of the highway, taking into account its own weight and the temporary loads of A14 and NK-100. In the cross-section of the intermediate device, the coefficient of transverse loading acting on a certain Beam was calculated by the eccentric compression method and the difference between the A11 and NK-80 loads was calculated.

***Key words:** Bridge intermediate device, permanent loads, temporary loads, transverse laying coefficient, moment, transverse force, Beam, reinforced concrete.*

KIRISH

Ko‘prik II – texnik toifali avtomobil yo‘lida loyihalanmoqda. QMQ II.D.5-72 ga binoan ko‘prikning gabariti G-11.5 trotuarlarning kengligi 0,75 metrdan qabul qilinadi. Oraliq qurilmaning uzunligi 21 metr. Oraliq qurilma 6 dona oldindan zo‘riqtirilgan to‘sinlardan tashkil topadi. Oraliq qurilma ko‘ndalang yo‘nalishda shponkali choklar vositasida birlashtiriladi (1 – rasm). Trotuarlar yig‘ma elementlardan iborat bo‘lib, bir

qismi osilgan (ya'ni konsol) holatida oraliq qurilmalar ustiga qo'yiladi. Oraliq qurilma betonining sinfi B-25, , armaturalari oldindan zo'riqtirilgan armaturalik bo'lib B-II sinflik $d=5$ mm bog'lamlardan iborat bo'lib A-II sinfini tashkil etadi. Armaturani tortish stendda to'sinlarni betonlashdan oldin amalga oshiriladi. Zo'riqishlar armaturadan betonga ularning orasidagi tishlashish hisobiga uzatiladi. Yig'ma to'sinlar rezinali tayanch qismlarga tayanadi. Tayanish o'qlari va to'sin uchlari orasidagi masoda 0,3 metrga teng. Oraliq qurilmaning hisobiy sxemasi – hisobiy uzunligi $l_p=18 - 2 \times 0,3 = 17,4$ metr bo'lgan bir oraliqli to'sindir.[1]

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Yuklarni aniqlash. Oraliq qurilmaga tushayotgan doimiy yuk uzunligi 18 metrga teng bo'lgan To'sinlar, trotuarlar, panjara to'siqlari va yo'l qoplamasining o'z og'irliklari yig'indisidan iborat.

Ko'prikkengligi: $G = 11,5$ Yo'lka kengligi: $T = 1$ m. Chokni kengligi: $b = 0,38$ m.

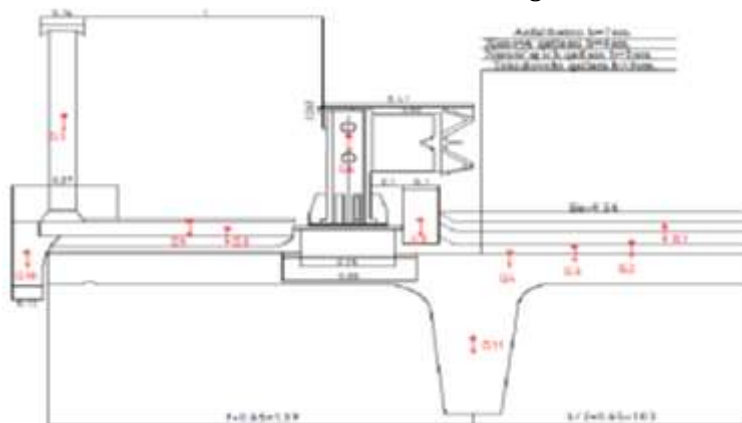
Konsolni kengligi: $f = 0,72$ m. To'sining hisobiy uzunligi $L_p = 20,4$ m. To'sinni

mantaj og'irligi: $P_b = 236$ kN. Qoplama kengligi: 11.5

$$b_a = \left(1,3 + f + \frac{b}{2}\right) - (0,14 - T - 0,41 - 0,1)$$

$$b_a = \left(1,3 + 0,72 + \frac{0,38}{2}\right) - (0,14 - 0,75 - 0,41 - 0,1) = 0,81 \text{ m.}$$

$$b_a = 0,81 \text{ m. } t_a = 0,10 \text{ m. } t_z = 0,05 \text{ m. } t_g = 0,005 \text{ m. } t_v = 0,02 \text{ m.}$$



1-rasm. Doimiy yuklarni hisoblash uchun to'sin kesimi

Xarakat qismidagi ko'ndalang qiyalik $i = 0,02\%$ tashkil etadi, bu oraliq qurilma to'sinlarining joylashtirish hisobiga qo'yiladi, oraliq qurilmalar qiyalik hisobiga qarab xar-hil o'rnatiladi. Diafragmasiz oraliq qurilma to'sinlarini aniq hisob kitobi hozirda judda xam qiyin qurilish mexanikasining fazoviy hisoblash qismini tashkil etadi. Bunda albatta kompyuter texnologiyalaridan foydalangan xolda xisoblash tavsiya etiladi. Hisoblash aniq bo'lishi uchun ko'ndalangiga va bo'ylamasiga bo'llak-bo'laklarga bo'lib xisoblash kerak bo'ladi, yaqinlashish hisoblash usulidan foydalanish maqul bo'ladi.[2]

Xususiy og'irlikda meyoriy yuklar summasi:

$$G^H = G_1 + G_2 + G_3 + G_4 + G_5 + G_6 + G_7 + G_8 + G_9 + G_{10} + G_{11}; \text{ KN/M.}$$

$$G^H = 1,263 + 2,7106 + 0,133 + 1,0405 + 0,36 + 0,245 + 0,613 + 2,0851 \\ + 0,5753 + 1,31 + 15,256 = 25,5915 \text{ KN/M.}$$

$$G^H = 25,5918 \text{ KN/M.}$$

Xisobiy yuklar:

$$G^P = \gamma_{f1} (G_1 + G_9) + \gamma_{f2} (G_2 + G_3 + G_4) + \gamma_{f3} (G_5 + G_6 + G_7 + G_8 + G_{10} + G_{11}),$$

bu yerda:

$\gamma_{f1} = 1,5$ – Ko'priklarni xarakat qismi va yo'lka uchun ishonchlilik koeffitsienti;

$\gamma_{f2} = 1,3$ – Ximoya va tekislovchi qatlam uchun ishonchlilik koeffitsienti ;

$\gamma_{f3} = 1,1$ – Qolgan konstruksiyalar uchun ishonchlilik koeffitsienti.

$$G^P = 1,5 \cdot (1,263 + 0,5753) + 1,3 \cdot (2,7106 + 0,1627 + 1,0405) + \\ + 1,1 \cdot (0,36 + 0,245 + 0,613 + 2,0851 + 1,31 + 15,256) = 30,5367 \text{ KN/M.}$$

$$G^P = 30,5367 \text{ KN/M.}$$

$$M_1^H = \frac{G^H \cdot L_P^2}{8} = \frac{25,5918 \cdot 20,4^2}{8} = 1331,2854 \text{ KN} \cdot \text{M.}$$

$$M_1^P = \frac{G^P \cdot L_P^2}{8} = \frac{30,5367 \cdot 20,4^2}{8} = 1588,5197 \text{ KN} \cdot \text{M.}$$

$$Q_2^H = \frac{G^H \cdot L_P}{2} = \frac{25,5918 \cdot 20,4}{2} = 261,0363 \text{ KN.}$$

$$Q_2^P = \frac{G^P \cdot L_P}{2} = \frac{30,5367 \cdot 20,4}{2} = 311,4743 \text{ KN.}$$

Ichki kuchlanishni aniqlash: Oraliq To'sinsini ko'priknig ko'ndalang ko'rinishida ko'rib chiqamiz ko'p oraliqlik ajralmas to'sinlik, ko'rinishdagi oraliq qurilmalar tayanch sarrovining rezinalik tayanch qisimlariga o'rnatiladi.

To'singa o'rnatilgan oraliq qurilma to'sinini eguluvchanlik momentini M_0 momenti orqalik aniqlaymiz, shu bilan birga bir oraliqni to'sini koefitsent yordamida momentini kamayishini hisobga olgan xolda va To'sinni siljishini inobatga olgan xolda hisoblaymiz. [3]

Doimiy yuklanish: To'sin tushadigan doimiy yuklarni, butun xarakat qismi qatlamlari va o'zining og'irigidan tushadigan yuklarni birlashtiramiz.

Vaqtinchalik yuklar: To'sin tushadigan vaqtinchalik yuklar A - 14 va N - 100 larga xisoblanadi. To'sinning xisobiy oralig'i xavoiiy oraliqa teng xolda, quydagi yuklanishlarini ko'rib chiqamiz.[4]

NATIJARLAR

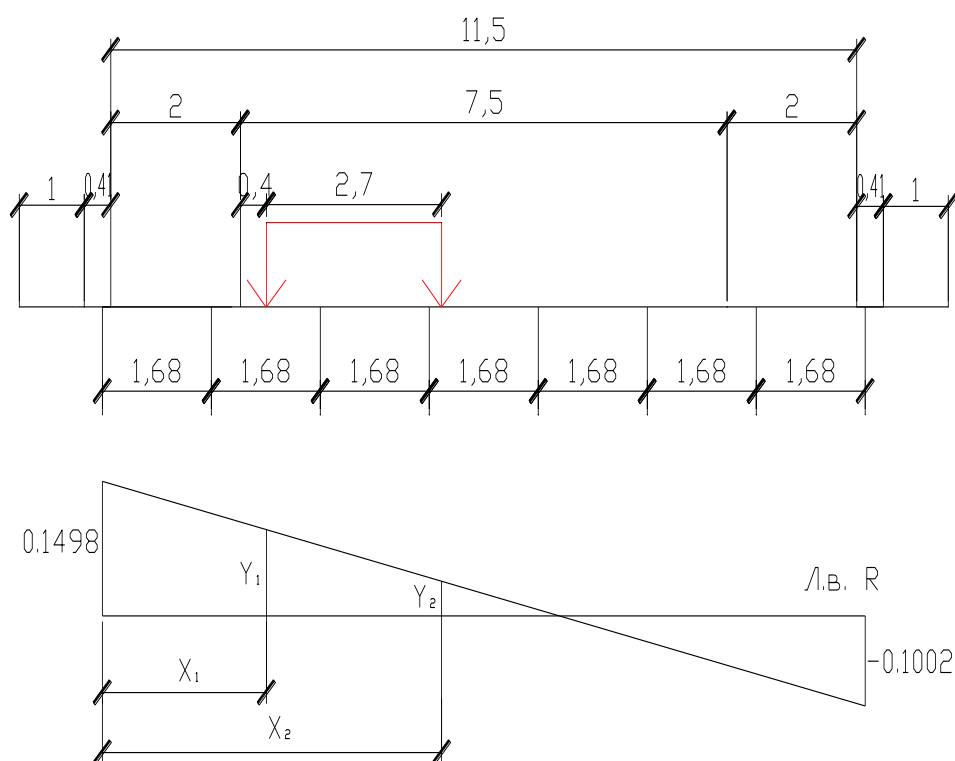
Xarakatlanuvchi vaqtinchalik yuklardan tushayotgan yuklar zo‘riqishlar .

Markazdan tashqari siqish uslubi.Ushbu uslubda hammasidan ko‘ra eng ko‘p yuklangan to‘sin oraliq qurilmaning eng chetki to‘sin hisoblanadi. Bu to‘singa tushayotgan bosimning ta‘sir chizig‘i eng chetki to‘sinlar ostidagi ordinatalar qiymatlari bo‘yicha quriladi. [5]

$$r_{1.1}(r_{1.n}) = \frac{1}{n} \pm \frac{a_1^2}{2 \cdot \sum_{i=1}^{n/2} a_i^2}$$

$$r_{1.1} = \frac{1}{8} + \frac{11,76^2}{2 \cdot (11,76^2 + 8,4^2 + 5,04^2 + 1,68^2)} = 0,1498$$

$$r_{1.8} = \frac{1}{8} - \frac{11,76^2}{2 \cdot (11,76^2 + 8,4^2 + 5,04^2 + 1,68^2)} = -0,1002$$



2-rasm. NK-100 yuklash sxemasi

NK - 100: Uchun

$$a = \frac{-0,1002 - 0,1498}{11,76} = -0,0213$$

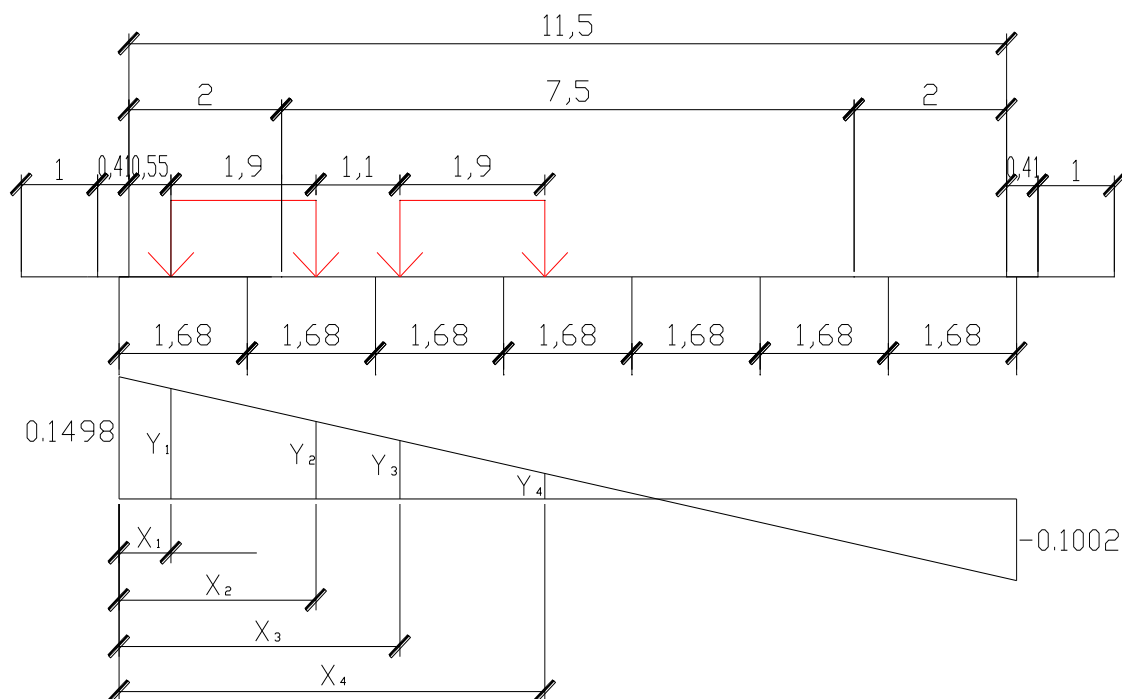
bunda:

$$y_i = 0,1498 - 0,0213 \cdot x_i$$

$$x_1 = 2 + 0,4 + 0,13 = 2,53$$

$$x_2 = 2 + 0,4 + 0,13 + 2,7 = 5,23 \quad y_1 = 0,1498 - 0,0213 \cdot 2,53 = 0,0959$$

$$y_2 = 0,1498 - 0,0213 \cdot 5,23 = 0,0384$$



3-rasm. Piyodalar yo‘laklarida yuklamasdan AKni o‘rnatish sxemasi

Ko‘ndlang qo‘yilish koeffisenti NK - 100:

$$\eta_{HK} = \frac{y_1 + y_2}{2} = \frac{0,0959 + 0,0384}{2} = 0,06715$$

MUHOKAMA

Ko‘ndalang qo‘yilish koeffitsientlarini yuklarning har bir turi uchun alohida-alohida bosim ta’sir chiziqlarining transport birliklari yoki polosalari og‘irlik markazlari ostidagi ordinatalari yig‘indisi, piyodalar to‘dasi uchun esa uning teng ta’sir etuvchisi ostidagi ordinatasi kabi aniqlaymiz. Ta’sir chiziqlari yuklanganida vaqtinchalik yuklar qatnov gabaritini va avtomobillarni joylashtirish qoidalariga amal qilgan holda hisoblanayotgan elementga nisbatan eng noqulay vaziyatda o‘rnatiladi. Oraliq qurilmada qabul qilingan gabarit G-11,5 ikki harakat polosasi bo‘lishini taqazo etadi. Shuning uchun bizning holatda A – 14 yuk polosalarining hisobiy soni ikkitani tashkil etadi. A14 yuki uchun ular joylashishining ikki variantini ko‘rib chiqamiz. [9]

Birinchi variant – yukning hisobiy polosalari qatnov qismining mumkin bo‘lgan eng chetiga, ya’ni chetki yuk polosasining o‘qidan havfsizlik polosasigacha bo‘lgan masofa 1,5 metr qilib joylashtiriladi. Ikkinchi avtomobil yuki polosasi o‘rnatilgan tartibda birinchi yuk polosasiga yaqin qilib joylashtiriladi. Ushbu variantda A14 yukidan tushayotgan bosim trotuarlardagi piyodalar to‘dasi bosimi bilan birgalikda olinadi. Ikkinchi variant – A14 yukining ikki polosasi (ko‘priknig gabaritiga bog‘liq bo‘lmagan holda, agar harakat polosasining soni bittadan ortiq bo‘lsa) qatnov polotnosining eng chetiga joylashtiriladi, bunda chetki yuk polosasining o‘qidan bordyurgacha bo‘lgan masofa 1,5 metrni tashkil etadi. Ikkinchi avtomobil yuki polosasi o‘rnatilgan tartibda birinchi yuk polosasiga yaqin qilib joylashtiriladi. Yuklarni bunday holatda joylashtirishdan hosil bo‘lgan zo‘riqishlar faqat mustahkamlikka amalga oshiriladigan hisoblarda inobatga olinadi. Bu yerda, A14 polosali yuk uchun ko‘ndalang qo‘yish koeffitsientini aniqlaganimizda, birinchi polosadan tashqari barcha polosalar uchun ta’sir chizig‘i ordinatalarining ko‘paytiruvchisi sifatida $s_1 = 0,6$ koeffitsientini qabul qilishimiz kerak bo‘ladi. Bu koeffitsient polosalar avtomobillar bilan to‘la yuklanmagan bo‘lishi mumkin bo‘lgan holatni inobatga oladi. NK-1000 yuki qatnov qismining chetiga joylashtiriladi. Qatnov qismining chetidagi A14 yukining ikki polosasi uchun (4-rasm, 1-variant) ko‘ndalang qo‘yish koeffitsientlari quyidagi qiymatlarni tashkil etadi. [6]

Yo‘lkaga A-14 yukning zo‘riqishi:

$$\eta_{AK,T} = \frac{y_1 + y_2 + y_3 + y_4}{2} = \frac{0,1353 + 0,09485 + 0,0714 + 0,031}{2} = 0,1663$$

$$\eta_{AK,P} = \frac{y_1 + y_2 + 0,6 \cdot (y_3 + y_4)}{2} = \frac{0,1353 + 0,09485 + 0,6 \cdot (0,0714 + 0,031)}{2} = 0,1458$$

$$\eta_{AK,T} = 0,1663$$

$$\eta_{AK,P} = 0,1458$$

Piyodalarda A-14yo‘lagiga tushayotgan zo‘r

$$\eta_{AK,T} = \frac{y_1 + y_2 + y_3 + y_4}{2} = \frac{0,09272 + 0,05225 + 0,02882 - 0,01165}{2} = 0,08106$$

$$\eta_{AK,P} = \frac{y_1 + y_2 + 0,6 \cdot (y_3 + y_4)}{2}$$

$$= \frac{0,09272 + 0,05225 + 0,6 \cdot (0,02882 - 0,01165)}{2} = 0,07763$$

$$\eta_{AK,T} = 0,08106$$

$$\eta_{AK,P} = 0,07763$$

$$x_T = 0,13 - 0,41 - 0,5 = -0,78 \quad y_T = 0,1498 - 0,0213 \cdot (-0,78) = 0,1664$$

$$\eta_{TP} = 0,1664$$

Piyodalarda A-14yo'lagiga tushayotgan zo'riqish

$$x_1 = (1,5 - 0,95) + 0,13 + 2 = 2,68$$

$$x_2 = 0,68 + 1,9 + 2 = 4,58$$

$$x_3 = 2,58 + 1,1 + 2 = 5,68$$

$$x_4 = 3,68 + 1,9 + 2 = 7,58 \quad y_1 = 0,1498 - 0,0213 \cdot 2,68 = 0,09272$$

$$y_2 = 0,1498 - 0,0213 \cdot 4,58 = 0,05225$$

$$y_3 = 0,1498 - 0,0213 \cdot 5,68 = 0,02882$$

$$y_4 = 0,1498 - 0,0213 \cdot 7,58 = -0,01165$$

$$\eta_{AK,T} = \frac{y_1 + y_2 + y_3 + y_4}{2} = \frac{0,09272 + 0,05225 + 0,02882 - 0,01165}{2} = 0,08106$$

$$\eta_{AK,P} = \frac{y_1 + y_2 + 0,6 \cdot (y_3 + y_4)}{2}$$

$$= \frac{0,09272 + 0,05225 + 0,6 \cdot (0,02882 - 0,01165)}{2} = 0,07763$$

$$\eta_{AK,T} = 0,08106$$

$$\eta_{AK,P} = 0,07763$$

$$x_T = 0,13 - 0,41 - 0,5 = -0,78 \quad y_T = 0,1498 - 0,0213 \cdot (-0,78) = 0,1664$$

$$\eta_{TP} = 0,1664$$

Chap torotuardagi piyodalar to'dasi uchun ko'ndalang qo'yish koeffitsientlari KQKt = 0,1498. Qatnov qismining chetidagi A14 yukining ikki polosasi uchun (4-rasm, 2-variant) ko'ndalang qo'yish koeffitsientlari quyidagi qiymatlarni tashkil etadi: polosali yuk uchun KQKA = $\eta_{AK,T} = 0,1663$; aravachalar uchun KQKAt = $\eta_{AK,P} = y_T = 0,1498 - 0,0213 \cdot (-0,78) = 0,1664$. Qatnov qismining chetidagi

NK-100 yuki uchun (yukning teng ta'sir etuvchisidan havfsizlik polosasining chetigacha masofa – 1,75 metr) ko'ndalang qo'yish koeffitsienti $M_{1,HK}^P = 302,09 \cdot 1,1 = 332,299 \text{ kN/m}$. Bu yerda aytib o'tish kerakki, ko'ndalang qo'yish koeffitsientlarini aniqlashning markazdan tashqari siqish uslubidan tashqari bir necha uslublar mavjuddir. Ular qatorida vaqtinchalik yukning ta'siridan oraliq qurilmaning burilishini inobatga oladigan markazdan tashqari siqishning umumlashtirilgan uslubi, M.E. Gibshman uslubi, B.E. Ulitskiy uslubi, elastik tayanchlar uslubi va boshqa uslublarni ko'rsatib o'tish mumkin. Ushbu uslublardan Markazdan tashqari siqish uslubi qo'llanilib aniqlangan KQK ning qiymatlaridan foydalanib hisoblaymiz. [7]

M va Q ning xisobiy kesimlari va tasir chiziqlaridan tushayotgan sxemasi

M_1 - Tasir chizig'i uchun

$$\omega_1 = \frac{L_p^2}{8} = \frac{20,4^2}{8} = 52,02 \text{ m}^2.$$

Q_1 - Tasir chizig'i uchun

$$\omega_2 = 0,125 \cdot L_p = 0,125 \cdot 20,4 = 2,55 \text{ m}^2.$$

Q_2 - Tasir chizig'i uchun

$$\omega_3 = 0,5 \cdot L_p = 0,5 \cdot 20,4 = 10,2 \text{ m}^2.$$

bo'yicha ishonchlilik koeffitsientlari: konstruksiyaning hususiy og'irligi uchun $\gamma f1 = 1,1$; qatnov qismi qoplamasi qatlami uchun $\gamma f2 = 1,5$; tekislovchi, izolyasiya va himoya qatlamlari uchun $\gamma f3 = 1,3$; polosali avtomobil yuki uchun $\gamma fA = 1,2$; avtomobil A-14 aravachasi uchun koeffitsient qiymatlari yuklash uzunligiga bog'liq bo'ladi.

NATIJARLAR

NK-100 o'q uchun

$$M_{1,HK}^H = q_{HK}^{\text{K6}} \cdot \eta_{HK} \cdot \omega_1; \text{kN} \cdot \text{m}.$$

$$M_{1,HK}^H = 86,472 \cdot 0,06715 \cdot 52,02 = 302,09 \text{ kN} \cdot \text{m}.$$

$$M_{1,HK}^P = q_{HK}^{\text{K6}} \cdot \eta_{HK} \cdot (1 + \mu) \cdot \omega_1; \text{kN} \cdot \text{m}$$

$$M_{1,HK}^P = 302,09 \cdot 1,1 = 332,299 \text{ kN} \cdot \text{m}.$$

$$q(10) = 151,7 \text{ kN/m}.$$

$$q(11) = 141,9 \text{ kN/m}.$$

$$q(10,2) = 149,74 \text{ kN/m}.$$

$$\omega_2 = 2,55 \text{ m}.$$

$$Q_{1,HK}^H = q_{HK_2}^{\text{K6}} \cdot \eta_{HK} \cdot \omega_2 = 149,74 \cdot 2,55 \cdot 0,06715 = 25,643 \text{ kN}.$$

$$Q_{1,HK}^P = q_{HK_2}^{\text{Экв}} \cdot \eta_{HK} \cdot (1 + \mu) \cdot \omega_2 = 25,643 \cdot 1,1 = 28,207\text{kN}.$$

$$q(20) = 90,87\text{kN/m}.$$

$$q(22) = 83,36\text{kN/m}.$$

$$q(20,4) = 89,368\text{kN/m}.$$

$$\omega_3 = 10,2\text{m}.$$

$$Q_{2,HK}^H = q_{HK_3}^{\text{Экв}} \cdot \eta_{HK} \cdot \omega_3 = 89,368 \cdot 0,06715 \cdot 10,2 = 61,216\text{kN}.$$

$$Q_{2,HK}^P = q_{HK_3}^{\text{Экв}} \cdot \eta_{HK} \cdot (1 + \mu) \cdot \omega_3 = 61,216 \cdot 1,1 = 67,338\text{kN/m}.$$

A14 o'qsiz yo'laklardagi zo'riqishlar

$$\eta_{AK,T} = 0,1663$$

$$\eta_{AK,P} = 0,1458$$

$$\eta_{TP} = 0$$

$$\gamma_T = 1,5 - 0,01 \cdot \lambda \geq 1,2,$$

$\lambda=L_p=20,4$ uchun yo'qlanish zo'ridish tasir chizig'I

Q_1 . Uchun tasir chizig'. M_1 i Q_2 , $\lambda= l_p/2=10,2$

M_1 i Q_2 : tasir chizig'i uchun

$$\lambda = 20,4\text{m}.$$

$\gamma_T = 1,5 - 0,01 \cdot 20,4 \geq 1,2$ - Ak texnikasi uchun mustaxkamlik koeffisienti

$$\gamma_T = 1,296 \geq 1,2 \text{ qabul qilamiz } \gamma_T = 1,296$$

Q_1 :tasir chizig'i uchun

$$\lambda = 10,2\text{m}.$$

$\gamma_T = 1,5 - 0,01 \cdot 10,2 \geq 1,2$ - Ak texnikasi uchun mustaxkamlik koeffisienti $\gamma_T \geq 1,2$;

$$\gamma_T = 1,398 \geq 1,2 \text{ qabul qilamiz } \gamma_T = 1,398$$

$\gamma_P = 1,2$ - Tekis tasiqlovchi qism uchun mustaxkamlik koeffisienti

$q_p = 13,72\text{kN/m}$. -A-14 ni 1 ustunga, tushadigan tekis taqsimlovchi qisim uchun

$$(1 + \mu) = 1 + \frac{45-\lambda}{135} - \lambda \text{ uzunlikdagi yo'qlanish uchun dinamik koeffisienti};$$

$$M_1 \text{ va } Q_2 \text{ tasir chiziqlari uchun } M_1 \text{ va } Q_2: (1 + \mu) = 1 + \frac{45-20,4}{135} = 1,1822$$

$$Q_1 \text{ tasir chizig'i uchun } Q_1:(1 + \mu) = 1 + \frac{45-10,2}{135} = 1,2578$$

$$q(20) = 25,47\text{kN/m.}$$

$$q(22) = 23,34\text{kN/m.}$$

$$q(20,4) = 25,044\text{kN/m.}$$

$$M_{1,AK}^H = q_p \cdot \omega_1 \cdot \eta_{AK,P} + q_1^{\text{Экв}} \cdot \omega_1 \cdot \eta_{AK,T} = 13,72 \cdot 52,02 \cdot 0,1458 + 25,044 \cdot$$

$$52,02 \cdot 0,1663 = 320,713\text{kH} \cdot \text{M} \quad M_{1,AK}^P = q_p \cdot \omega_1 \cdot \eta_{AK,P} \cdot (1 + \mu) \cdot \gamma_P + q_1^{\text{Экв}} \cdot \omega_1 \cdot$$

$$\eta_{AK,T} \cdot (1 + \mu) \cdot \gamma_T; \text{kN} \cdot \text{M}$$

$$M_{1,AK}^P = 13,72 \cdot 52,02 \cdot 0,1458 \cdot 1,1822 \cdot 1,2 + 25,044 \cdot 52,02 \cdot 0,1663 \cdot 1,1822 \cdot 1,296 = 479,565\text{kN} \cdot \text{M}$$

$$q(10) = 46,70\text{kN/m.}$$

$$q(11) = 43,20\text{kN/m.}$$

$$q(10,4) = 45,3\text{kN/m.}$$

$$Q_{1,AK}^H = q_p \cdot \omega_2 \cdot \eta_{AK,P} + q_2^{\text{Экв}} \cdot \omega_2 \cdot \eta_{AK,T}; \text{kN.}$$

$$Q_{1,AK}^H = 13,72 \cdot 2,55 \cdot 0,1458 + 45,3 \cdot 2,55 \cdot 0,1663 = 24,31 \text{ kN.}$$

$$Q_{1,AK}^P = q_p \cdot \omega_2 \cdot \eta_{AK,P} \cdot (1 + \mu) \cdot \gamma_P + q_2^{\text{Экв}} \cdot \omega_2 \cdot \eta_{AK,T} \cdot (1 + \mu) \cdot \gamma_T; \text{kN.}$$

$$Q_{1,AK}^P = 13,72 \cdot 2,55 \cdot 0,1458 \cdot 1,2578 \cdot 1,2 + 45,3 \cdot 2,55 \cdot 0,1663 \cdot 1,2578 \cdot 1,398 = 41,4784\text{kN.}$$

$$q(20) = 26,47\text{kN/m.}$$

$$q(22) = 24,09\text{kN/m.}$$

$$q(20,4) = 25,994\text{kN/m.}$$

$$Q_{2,AK}^H = q_p \cdot \omega_3 \cdot \eta_{AK,P} + q_3^{\text{Экв}} \cdot \omega_3 \cdot \eta_{AK,T}; \text{kN.}$$

$$Q_{2,AK}^H = 13,72 \cdot 10,2 \cdot 0,1458 + 25,994 \cdot 10,2 \cdot 0,1663 = 64,496\text{kN.}$$

$$Q_{2,AK}^P = q_p \cdot \omega_3 \cdot \eta_{AK,P} \cdot (1 + \mu) \cdot \gamma_P + q_3^{\text{Экв}} \cdot \omega_3 \cdot \eta_{AK,T} \cdot (1 + \mu) \cdot \gamma_T; \text{kN.}$$

$$Q_{2,AK}^P = 13,72 \cdot 10,2 \cdot 0,1458 \cdot 1,1822 \cdot 1,2 + 25,994 \cdot 10,2 \cdot 0,1663 \cdot 1,1822 \cdot 1,296 = 96,50\text{kN.}$$

Yo'lkadagi yuklar bilan:

$$q_{TP} = 3,92 - 0,0196 \cdot \lambda - \text{yo'lkadagi yular, } \text{kN/m}^2;$$

Tasir chizig'i uchun $M_{1i}Q_2$: $q_{TP} = 3,92 - 0,0196 \cdot 20,4 = 3,52 \text{ kN/m}^2$

Tasir chizig'i uchun Q_1 : $q_{TP} = 3,92 - 0,0196 \cdot 10,2 = 3,72 \text{ kN/m}^2$

$\gamma_{TP} = 1,2$ -yo'lkadagi mustahkamlik koeffisienti

$M_{1,AK}^H = q_p \cdot \omega_1 \cdot \eta_{AK,P} + q_1^{\text{Экв}} \cdot \omega_1 \cdot \eta_{AK,T} + q_{TP} \cdot \omega_1 \cdot \eta_{TP} \cdot T$; kN · m.

$$M_{1,AK}^H = 13,72 \cdot 52,02 \cdot 0,07763 + 25,044 \cdot 52,02 \cdot 0,08106 + 3,52 \cdot 52,02 \cdot 0,1664 \cdot 1 = 191,483 \text{ kN} \cdot \text{m}$$

$$M_{1,AK}^P = q_p \cdot \omega_1 \cdot \eta_{AK,P} \cdot (1 + \mu) \cdot \gamma_P + q_1^{\text{Экв}} \cdot \omega_1 \cdot \eta_{AK,T} \cdot (1 + \mu) \cdot \gamma_T + q_{TP} \cdot \gamma_{TP} \cdot \omega_1 \cdot \eta_{TP} \cdot T$$

$$M_{1,AK}^P = 13,72 \cdot 52,02 \cdot 0,07763 \cdot 1,1822 \cdot 1,2 + 25,044 \cdot 52,02 \cdot 0,08106 \cdot 1,1822 \cdot 1,296 + 3,52 \cdot 1,2 \cdot 52,02 \cdot 0,1664 \cdot 1 = 276,97 \text{ kN} \cdot \text{m}. Q_{1,AK}^H =$$

$q_p \cdot \omega_2 \cdot \eta_{AK,P} + q_2^{\text{Экв}} \cdot \omega_2 \cdot \eta_{AK,T} + q_{TP} \cdot \omega_2 \cdot \eta_{TP} \cdot T$; kN.

$$Q_{1,AK}^H = 13,72 \cdot 2,55 \cdot 0,07763 + 45,3 \cdot 2,55 \cdot 0,08106 + 3,72 \cdot 2,55 \cdot 0,1664 \cdot 1 = 13,658 \text{ kN}.$$

$$Q_{1,AK}^P = q_p \cdot \omega_2 \cdot \eta_{AK,P} \cdot (1 + \mu) \cdot \gamma_P + q_2^{\text{Экв}} \cdot \omega_2 \cdot \eta_{AK,T} \cdot (1 + \mu) \cdot \gamma_T + q_{TP} \cdot \omega_2 \cdot \eta_{TP} \cdot \gamma_{TP} \cdot T$$
; kN.

$$Q_{1,AK}^P = 13,72 \cdot 2,55 \cdot 0,07763 \cdot 1,2578 \cdot 1,2 + 45,3 \cdot 2,55 \cdot 0,08106 \cdot 1,2578 \cdot 1,398 + 3,72 \cdot 2,55 \cdot 0,1664 \cdot 1,2 \cdot 1 = 22,46 \text{ kN} \cdot \text{m}. Q_{2,AK}^H = q_p \cdot$$

$\omega_3 \cdot \eta_{AK,P} + q_3^{\text{Экв}} \cdot \omega_3 \cdot \eta_{AK,T} + q_{TP} \cdot \omega_3 \cdot \eta_{TP} \cdot T$; kN.

$$Q_{2,AK}^H = 13,72 \cdot 10,2 \cdot 0,07763 + 25,994 \cdot 10,2 \cdot 0,08106 + 3,52 \cdot 10,2 \cdot 0,1664 \cdot 1 = 38,33 \text{ kN}.$$

$$Q_{2,AK}^P = q_p \cdot \omega_3 \cdot \eta_{AK,P} \cdot (1 + \mu) \cdot \gamma_P + q_3^{\text{Экв}} \cdot \omega_3 \cdot \eta_{AK,T} \cdot (1 + \mu) \cdot \gamma_T + q_{TP} \cdot \omega_3 \cdot \eta_{TP} \cdot \gamma_{TP} \cdot T$$
; kN.

$$Q_{2,AK}^P = 13,72 \cdot 10,2 \cdot 0,07763 \cdot 1,1822 \cdot 1,2 + 25,994 \cdot 10,2 \cdot 0,08106 \cdot 1,1822 \cdot 1,296 + 3,52 \cdot 10,2 \cdot 0,1664 \cdot 1,2 \cdot 1 = 55,51 \text{ kH}.$$

XULOSA

Markazdan tashqari siqish uslubi bo'yicha aniqlangan KQK ning qiymatlari

KQK ni hisoblash uslubi	NK	A14	A14 +yo'lka
$M_{1\epsilon p}^H$	320,09	320,713	191,483
$M_{1\epsilon p}^P$	332,299	479,565	276,97
$Q_{1\epsilon p}^H$	25,643	24,31	13,658
$Q_{1\epsilon p}^P$	28,2073	41,4784	22,46
$Q_{2\epsilon p}^H$	61,216	64,496	38,33
$Q_{2\epsilon p}^P$	67,338	96,50	55,51

Xisobiy va meyoriy yuklarni zo'riqishlarini yig'indisi

$$M_{1S}^H = M_1^H + M_{1\epsilon p}^H = 1362,163 + 320,713 = 1682,876 \text{KN} \cdot \text{M}.$$

$$M_{1S}^P = M_1^P + M_{1\epsilon p}^P = 1588,520 + 479,565 = 2068,085 \text{KN} \cdot \text{M}.$$

$$Q_{1S}^H = Q_1^H + Q_{1\epsilon p}^H = 0 + 25,643 = 25,643 \text{ kN}.$$

$$Q_{1S}^P = Q_1^P + Q_{1\epsilon p}^P = 0 + 41,4784 = 41,4784 \text{ kN}.$$

$$Q_{2S}^H = Q_2^H + Q_{2\epsilon p}^H = 267,091 + 64,496 = 331,587 \text{ kN}.$$

$$Q_{2S}^P = Q_2^P + Q_{2\epsilon p}^P = 311,474 + 96,50 = 407,974 \text{ kN}.$$

Doimiy va vaqtinchalik yuklardan hosil bo'ladigan maksimal moment oraliq qurilma ustiga A-14 yukining ikki polosasini qatnov qismining eng chekkasiga qo'yilganda yuzaga keladi va uning qiymati $M_{1,AK}^P = 276,97 \text{KN} \cdot \text{M}$ ga teng. Ushbu moment ustahkamlikka hisoblarda ishlatiladi. [8]

Bordyur yaqiniga joylashtirilgan A14 va NK-100 lardan hosil bo'lgan zo'riqishlar darzbardoshlikka bo'lgan hisoblarda inobatga olinmaganligi uchun, darzbardoshlikka hisoblar oraliq qurilmani A14 yuki va trotuarlardagi piyodalar to'dasi bilan yuklanganda hosil bo'lgan eguvchi momentning normativ qiymatlari bo'yicha amalga oshiriladi. Normativ momentning qiymati $M_{1,AK}^P = 479,565 \text{kN} \cdot \text{m}$ ni tashkil etadi. [10]

Ko'chishlarni hisoblaganda maksimal normativ moment ishlatiladi. Bizning holda ushbu moment doimiy yuklardan hosil bo'lgan moment va oraliq qurilma NK-1000 yuki bilan yuklanganda hosil bo'lgan momentlar yig'indisiga, ya'ni $M_n = 302,09 \cdot 1,1 = 332,299 \text{kN} \cdot \text{m}$ ga teng bo'ladi. Doimiy yuklardan hosil bo'ladigan hisobiy eguvchi moment $M_g = 1331,2854 \text{kN} \cdot \text{m}$ ga, normativ eguvchi moment $M_{gn} = 1588,5197 \text{kN} \cdot \text{m}$ ga teng. [7]

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KO‘PRIK ORALIQ QURILMALARINING UZOQQA CHIDAMLILIGINI OSHIRISH

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ANNOTATSIYA

Hozirgi vaqtda ko‘prik sozlik sohasida loyihalash, qurish va ekspluatatsiya qilish uchun zilzilabardoshliklikni inobatga olish dolzarb masalalardan biri bo‘lib qolmoqda. Biz ushbu maqolada ko‘priklarini oraliq qurilmalaridagi uzoqqa chidamiligini oshirish soxasidagi xolatiga to‘xtalib o‘tilgan.

***Kalit so‘zlar:** vibrodinamik ta’sirlar, dinamik ta’sirlar, avtomobil ko‘prikleri, seysmik mustaxkamligi. Vibratsiyani boshqarishning Dinamik tizimning operativ modal tahlili.*

INCREASING THE LONG RESISTANCE OF BRIDGE INTERMEDIATE DEVICES

ANNOTATION

Currently, the consideration of earthquake reliability for the design, construction and operation of the bridge in the field of soundness remains one of the pressing issues. We dwell on the fact that in this article we will increase the resistance of bridges to long in intermediate devices.

***Keywords:** vibrodynamic effects, dynamic effects, car bridges, seismic instability. Operational modal analysis of the dynamic system of vibration control*

KIRISH

Tadqiqot mavzusining dolzarbligi. Vaqti-vaqti bilan tekshirish va o‘z vaqtida tashxis qo‘yish transport vositalarining ekspluatatsiya ishonchliligi va xavfsizligi uchun asosdir. Ko‘prikleri diagnostika qilish bo‘yicha ishlar kompleksi ko‘prikleri va tayanchlarning strukturaviy elementlarini tekshirish, shuningdek, yuqori moliyaviy va mehnat xarajatlari bo‘yicha ishlarni amalga oshiradigan yuqori malakali muhandislarni talab qiladi. Bundan tashqari, hozirda qo‘llaniladigan diagnostika usullari

murakkabligi va ba'zida yashirin nuqsonlar va shikastlanishlarni aniqlashning iloji yo'qligi sababli tuzilmalarning ishlashi haqida to'liq tasavvurni bermaydi. Olingan natijalarning ishonchliligini oshirish, transport vositalarining xavfsizligi, ishonchliligi va iqtisodiy samaradorligini ta'minlash, so'rov natijalariga inson omilining ta'sirini avtomatlashtirish orqali minimallashtirish orqali so'rov samaradorligini oshirish mumkin. "Industrial Internet of Things" texnologiyasini joriy etish orqali so'rov jarayoni. Shu sababli, so'rov natijalarining ishonchliligini oshirish yo'llarini ishlab chiqish hozirgi vaqtda dolzarb muammodir.

Transport inshootlarini joriy ta'mirlashning asosi davriy tekshirish va diagnostika bo'lib, uning maqsadi ob'ektning texnik holatini baholashdir. Umuman olganda, ko'priklarning oraliq konstruksiyalarining texnik holatini baholashni zararni aniqlash va texnik holat toifasini aniqlash jarayoni sifatida tavsiflash mumkin. Biroq, baholashning aniqligini oshirish va inson omilining ta'sirini minimallashtirish uchun tuzilmalarni tekshirishning instrumental usullaridan foydalangan holda diagnostika jarayonini avtomatlashtirish kerak. Bugungi kunda diagnostika har xil turdagi muhandislik inshootlari uchun standart protsedura hisoblanadi. Ayniqsa, ko'priklar uchun bu muhim ahamiyatga ega, chunki shu tarzda olingan ma'lumotlar strukturadagi shikastlanishlarni aniqlashning asosiy vazifasidan tashqari, struktura samaradorligini baholash, o'z vaqtida ta'mirlash va mustahkamlashni belgilash uchun ham ishlatilishi mumkin. dizayn yechimlari va qurilish texnologiyalarini takomillashtirish bo'yicha tadqiqot maqsadlariga olib keladi.

TEBRANISHNI BOSHQARISHNING AFZALLIKLARI

Ta'rifga ko'ra, MNClarni mahalliy va global diagnostika guruhlariga bo'lish mumkin. So'rovlar davomida global diagnostika muhim ahamiyatga ega, chunki u strukturaning umumiy texnik holatini baholashga imkon beradi.

Bundan tashqari, ularning dinamik parametrlarini tebranish nazorati tufayli ko'priklarning rejalashtirilgan diagnostikasidan talab bo'yicha diagnostikaga o'tish mumkin ko'rinadi. Yashash davrining oxirida tuzilmalar uchun bu o'tish muhim operatsion va moliyaviy ahamiyatga ega: ko'priklarning texnik holati yaxshi bo'lsa, rekonstruksiya qilish yoki kapital ta'mirlash kechiktirilishi mumkin. Ko'priklarning infratuzilmasini boshqarish nuqtai nazaridan ushbu yondashuvni qo'llash har bir infratuzilmaning texnik holatidan kelib chiqqan holda ta'mirlash ishlariga ustuvorlik berib, inshootlarni rekonstruksiya qilishning maqbul strategiyasini ishlab chiqish imkonini beradi. Xuddi shu turdagi tuzilmalarning dinamik parametrlarini baholash o'lchov ma'lumotlarini markazlashtirilgan qayta ishlash va saqlash bilan yagona infratuzilmani boshqarishning to'liq tizimini yaratish imkoniyatini beradi. Bu foydalanish xarajatlarini kamaytirishdan tashqari, ob'ektlarga texnik xizmat ko'rsatish

bo'yicha taklif etilayotgan echimlar sifatini oshiradi. Bunday boshqaruv tizimi asosiy talablarga javob beradigan sun'iy inshootlarni saqlash bo'yicha optimal strategiyani tanlash orqali yo'l tarmog'idan foydalanish samaradorligini oshiradi: ta'mirlash va rekonstruksiya qilish xarajatlarini minimallashtirish; tuzilmalarning xizmat qilish muddatini oshirish; tuzilmalarning ishonchliligini oshirish va boshqalar. Ushbu tizim "narsalarning sanoat interneti" (industrial internet of things, IIoT) tushunchasiga mos keladi - bu "narsalar" kompyuter tarmog'ini (bu holda, sun'iy tuzilmalar) monitoring qilish uchun o'rnatilgan texnologiyalar bilan jihozlangan. texnik holat va tashqi muhit bilan o'zaro ta'sir qilish. Konsepsiyada bunday tarmoqlarni tashkil etish iqtisodiy va ijtimoiy jarayonlarni qayta qurishga qodir, ayrim harakatlar va operatsiyalardan inson ishtiroki zarurligini istisno qiladigan hodisa sifatida qaraladi. Asosiy imtiyozlar mavjud ishlab chiqarish va texnologik jarayonlarning samaradorligini oshirish va kapital xarajatlarga bo'lgan ehtiyojni kamaytirishdir. Ushbu sohada tebranishlarni nazorat qilish va asboblarni jihozlash usullarini takomillashtirish bo'yicha bir qator tadqiqotlar amalga oshirilmoqda. shu bilan rivojlanishning ushbu yo'nalishining dolzarbligini asoslab beradi va uni erta amalga oshirishga hissa qo'shadi.

R.Salgadoning ilmiy ishida ko'prik konstruksiyalariga qo'llaniladigan tebranishlarni boshqarishga asoslangan turli zararlarni aniqlash usullari batafsil tahlil qilingan. To'lqinlar tahlili, tebranish rejimlarini baholash usullari va moslashuvchanlik va qattqlik matritsalarini tahlil qilish kabi tuzilmalardagi shikastlanishni faqat javob orqali aniqlay oladigan usullar aniqlangan. Ular uch xil yondashuvda solishtiriladi: zarar stsenariylari yorilib ketgan nurlar uchun raqamli modellashtirilgan; uglerod tolasi bilan mustahkamlangan metall va beton to'sinlarni laboratoriya sinovlari; haqiqiy ob'ektlar turli xil zarar stsenariylari bilan sinovdan o'tkaziladi. Bu , rasmda 1.1 monolit plita bilan birlashtirilgan ikkita oldindan zo'riqtirilgan temir-beton to'sinlardan tashkil topgan 2x12 m sxemali ramka ko'prigini yo'q qilish jarayonini ko'rsatadi.

TIZIMNING OPERATIV MODAL TAHLILI

Tizimning dinamik parametrlarini aniqlash uchun uning matematik modelini qurish kerak. Matematik modelni yaratish jarayoniga ikkita asosiy yondashuv (shuningdek, ularning kombinatsiyasi) mavjud [104]. Analitik yondashuv - bu oddiy komponentlardan modelni shakllantirish, uning xususiyatlari yaxshi o'rganilgan va modelning ob'ekt sohasi tajribasidan ma'lum (bu holda, tizim mexanikasi), tizimdan foydalanish shart emas. test ma'lumotlari. Yana bir yondashuv eksperimental yoki eksperimental ma'lumotlarga asoslangan tizim identifikatsiyasi: tizimning kirish va chiqish signallarini tahlil qilish asosida uning matematik modeli quriladi. 1-bobda ushbu yondashuv uchun tizimlarni aniqlashning joriy usullari haqida umumiy ma'lumot berilgan. Quyida OMA doirasida foydalaniladigan stokastik holat-fazo

modelining tavsifi keltirilgan. Bunday modelni aniqlash masalasini hal qilish o'lchangan kirishlar va chiqishlar o'rtasidagi matematik munosabatlarni (differensial tenglamalarni) o'z vaqtida o'lchovlarini hisobga olgan holda topishni nazarda tutadi.

Davlat-kosmik modelni shakllantirish uchun biz struktura mexanikasining asosiy tamoyillaridan foydalangan holda ob'ektning analitik modelini tavsiflashdan boshlaymiz.

Analitik model. Sun'iy tuzilmaning harakatini tavsiflash uchun biz dinamik muvozanat tenglamasi sifatida ifodalanishi mumkin bo'lgan kichik majburiy tebranishlar uchun ko'p erkinlik darajasiga ega bo'lmagan konservativ bo'lmagan tizim uchun 2-turdagi Lagranj tenglamasidan foydalanamiz [20]:

$$M\ddot{Z} + C\dot{Z} + kZ = P(t) \quad (2.1)$$

Bu erda M , C , K mos ravishda massa, damping va qattqlik matritsalarini,

\vec{Z} , $\dot{\vec{Z}}$, $\ddot{\vec{Z}}$ – umumlashirilgan siljishlar, tezliklar va tezlanishlar vektorlari

mos ravishda, $\vec{P}(t)$, tashqi tugun kuchlarining vektoridir, ular vaqtga bog'liq bo'lgan funktsiyalar. Olingan differensial tenglama chiziqli formulada ikkinchi tartib ko'rib chiqilayotgan xatti-harakatni hisobga oladi

elastik diapazondagi tuzilmalar, uni hal qilish mumkin boshlang'ich sharoitga qarab o'rganilayotgan ob'ektning xatti-harakatini tavsiflash va tashqi ta'sirlar.

Uchun tizimlari Bilam tarqatilgan parametrlari (Masalan, qurilish tuzilmalar), tenglama (2.1) chiqadi Qanaqasiga chekli element (CE) yaqinlashish tizimlari Bilam ko'p daraja erkinlik. Garchi analitik model dinamik tizimning aniq ifodasidir, unday emas bevosita foydali V kontekst OMA: da tabiiy sinovlar Yo'q imkoniyatlar o'lchash uchun Hammasi daraja erkinlik EC modellar Uchun bino mos keladigan matritsalar. Bundan tashqari, tenglama uzluksiz taqdim etiladi vaqt, o'lchovlar esa diskret vaqt namunalari sifatida mavjud. Va nihoyat, shovqinni modellashtirish talab qilinadi: boshqa omillarni hisobga olish kerak. noma'lum manba qo'zg'alish, usiz $\vec{P}(t)$, A tak bir xil shovqinlarni o'lchash qaysi Har doim hozir da tabiiy testlar.

eksperimental model. O'zgartirilmoqda (2.1) V tizimi tenglamalar birinchi buyurtma Bilam hisobga olgan holda modellashtirish shovqin Va tasodifiy ta'sir yoqilgankiritish, biz olamiz Keyingisi stokastik kosmik model bilam holatlari diskret vaqt [128]:

qayerda $x_t \in \mathbb{R}^n$ sistemaning diskret holat vektori, n esa sistemaning tartibi yoki o'lcham bo'sh joy holatlari (raqam mustaqil o'zgaruvchilar, zarur tavsif uchun holatlari tizimlar);

$y_t \in \mathbb{R}^p$ - tizim javob vektori, A, R - chiqishlar soni javob berish;

$w_t \in \mathbb{R}^n$ - vektor shovqin, paydo bo'layotgan sababli aralashuv Va noaniqliklar modellashtirish dan tebranishlar noma'lum ta'sir;

$v_t \in \mathbb{R}^p$ - asboblarni o'lchash shovqin vektori; t - hisobga olinadi moment vaqt;

$A \in \mathbb{R}^{n \times n}$ - dinamikani to'liq tavsiflovchi holat matritsasi tizimlari u tomonidan Shaxsiy qiymatlar;

$C \in \mathbb{R}^{p \times n}$ - Dam olish kuni matritsa kuzatuv, qaysi belgilaydi Qanaqasiga ichki holatlari tizimlari aylantirildi ichida tashqi bo'sh joy.

Differensial tenglamalar tizimi (2.2) ob'ektning dinamikasini tavsiflaydi: birinchi tenglama modellar chaqirdi tenglama holatlari, bu modellar ob'ektning dinamik harakati; ikkinchi tenglama kuzatish yoki deyiladi javob tenglamasi, chunki u dinamikaning kuzatilgan qismini tavsiflaydi model javob berganda tizim. Jismoniy tizimning ushbu modelida o'lchangan javob tizimlari y_t hayratda qoldi ikki stokastik jarayonlar w_t Va v_t □ texnologik o'lchash shovqinlar. Texnologik shovqin mavjud bezovtalik, qaysi hayajonlantiradi dinamik jarayonlar tizimi. O'lchash shovqin taqdim etdi shovqin shovqini tizimlari.

(2.2) tenglama bilan ifodalangan model pastki fazoni identifikatsiyalash deb ataladigan usullardan foydalanganda qo'llaniladi [125]. Ushbu usullar uchun standart protsedura A va C tizim matritsalaridan modal parametrlarni aniqlashdan iborat [134]. Chiqarish A matritsasining xususiy qiymat kengayishi bilan boshlanadi:

$$A = \Psi \Lambda \Psi^{-1}$$

qayerda □ $\in \mathbb{C}^{n \times n}$ - xos vektorlar matritsasi; $L \in \mathbb{C}^{n \times n}$ - diagonal matritsa, o'z ichiga olgan murakkab xos qiymatlar λ_i .

Davlat matritsasi A uchun diqqatga sazovordir Nima hammasini o'z ichiga oladi modal ma'lumot tizimlari. Shaxsiy qiymatlar λ_i bu matritsalar o'zaro bog'lash Bilam Shaxsiy chastotalar tizimlari $\overline{f_i}$ orqali quyidagi tenglama [132]:

Qayerda Re va Men haqiqiy va xayoliy qismlar keng qamrovli raqamlar, Dt - javobning (signalning) namuna olish chastotasi, ω_i - siklik chastota bilam raqam i . Modal damping koeffitsientlari ξ_i tegishli uchun chastotalar Bilam raqam f_i mumkin bo'l qaytarib olingan dan tenglamalar:

Keyinchalik, Uchun Bormoq, uchun olish bitta dan shakllari ikkilanish tizimlari ϕ_i , zarur foydalanish matritsa kuzatishlar *BILAM* Va muvofiq Shaxsiy vektor matritsalar ψ_i :

$$\phi_i = C\psi_i \text{ yoki } \Phi = S, \quad (2.6)$$

Tizim javobi aniqlanadigan nuqtalarda rejim shakllari (joylar sensorlar), belgilangan Qanaqasiga vektorlar ϕ_i yoki ustunlar dan $P \in \mathbb{C}^{p \times n}$, bor kuzatilishi mumkin qismlar Shaxsiy vektorlar tizimlari. IN oxir-oqibat kuzatilishi mumki Qism Shaxsiy vektorlar ψ_i olib boradi Kimga eksperimental moda ϕ_i

hisobga olinadi tizimlari.

Keyinchalik, operativ modal tahlil uchun qo'llaniladigan ikkita usulni qo'llash asoslanadi va ularning har birini amalga oshirish algoritmi tavsiflanadi. An'anaviy ravishda OMA jarayonini ikki bosqichga bo'lish mumkin: vaqt seriyasi sifatida strukturaning javobini qayta ishlash va tekshirilayotgan strukturaga tegishli dinamik xususiyatlarni aniqlash uchun barqarorlashtirish. Ushbu tadqiqotda signalni qayta ishlash singulyar spektr tahlili usuli bilan, dinamik parametrlarni aniqlash va barqarorlashtirish - stokastik pastki fazoni identifikatsiyalash usuli bilan amalga oshirildi. Keling, usullarning har birini o'z navbatida ko'rib chiqaylik.

Singular Spectrum Analysis (SAS) ning maqsadi asl signalni (javobni) "mustaqil" va "aniqlash mumkin bo'lgan" vaqt seriyalari bo'lgan qo'shimcha komponentlarga (trend, mavsumiylik, shovqin va qoldiqlar) ajratishdir. Dekompozitsiya asosiy komponentlar usuliga asoslanadi, bu ma'lumotlarning o'lchamlarini (mustaqil komponentlar soni) kamaytirish va ularning axborot mazmunini oshirish imkonini beradi [18]. Quyidagi vazifalarni asosiy komponentlar yordamida ham hal qilish mumkin: tendentsiyani aniqlash, tebranish komponentlarini aniqlash, davriylikni aniqlash, signalni yumshatish, shovqinni pasaytirish va vaqt qatoridagi strukturaviy o'zgarishlarni aniqlash

XULOSALAR

- Operatsion modalning asosiy qoidalarining tavsifi tahlil. Formalangan asosiy vazifa tahlil V kontekst bo'sh joy holatlari, qaysi hisoblanadi V identifikatsiya dinamik tizimlari haqiqiy ob'ekt yoqilgan asos natijalar kuzatishlar.
- Uchun yechimlar vazifalar operativ modal tahlil amalga oshirildi yo'l ilovalar usullari tahlil birlik spektr Va stokastik pastki fazo identifikatsiya.
- Ishlab chiqilgan keyingi ketma-ketlik hisob-kitoblar, oldingi dinamik sinovlar qamrab oluvchi binolar metal ko'priklar usul tebranish boshqaruv Uchun minimallashtirish ehtimolliklar xato identifikatsiya ob'ekt.
- To'liq miqyosli dinamik testlar o'tkazildi va dinamik variantlari qamrab oluvchi binolar metal ko'priklar Bilam foydalanish operativ modal tahlil:

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PROPERTIES OF MINERAL POWDER AND THEIR EFFECT ON ASPHALT-CONCRETE MIXTURES

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***Abstract.** In this article the physical and mechanical properties of the asphalt concrete mixes according to the current standards the mineral powder added to the mixture at certain percentages and information on the results of the influence of the asphalt mix on the technical parameters.*

В статье рассматриваются влияние минеральных порошков добавленные в различных количествах, на физико-механические свойства асфальтобетонных смесей в соответствии с действующими стандартами.

Introduction

The more fluent and tekis the highways are, the higher the speed of movement in them, and the lower the price of cargo recognition, and only then can we deliver cargo and passengers to the address quickly and smoothly. To do this, there is avva-Lam, it is required to improve the technical crossroads and the state of use of the highway and increase the traffic-use qualities of the road. In the following years, the main attention is paid to the issue of the use of auto-bil routes and its improvement. Due to the existing conditions, ensuring that the condition of the highways is at the required level and increasing the traffic-use qualities of the roads is one of the current issues [1].

Research methods and tools

Today, there are many asphalt concrete plants in the country, which often use cement as a mineral powder. Due to the high cost and scarcity of this material, mineral powder is often used less in the preparation of mixtures. As a result, the quality of asphalt-ton mixtures produced is declining. It is known that the quality of transport and operation of roads, service life, mousse strength, depends on the physical and

mechanical properties of asphalt concrete used in the construction of pavements and their repair methods [2].

Results

The mineral powder used in the preparation of asphalt concrete mixtures is obtained by grinding limestone, dolomite, slanes and other carbonate rocks and turning them into powder. Penetrating into the fine pores of the mixing materials, which are prepared from Mineral powder, a good combination of organic bonding materials-and a great help to get a solid mixture. Therefore, summarizing the mixture of bitumen with mineral powder can be described as a bituminous material. A lot of research has been carried out on the study of the main properties of Mineral powder and its quality, and the technology of its production is similar to the technology of crushing natural and artificial stone materials. These materials are widely used in the manufacturing industry as a range of cement, cramic and fire resistant materials. Since the Mineral powder production facilities are located far away from the asphalt mixing plant, the powder is sent in special bags to the required locations in the carriages. In the scientific laboratory of testing of construction products of the Institute studied the effect of mineral powder in obtaining solid as-faltobeton mixtures. The mineral part of asphaltobeton was recognized according to the requirements of Table 1, gost 9128-2009 [2]. By adding 5% viscous bitumen to the selected mineral part, physical-mechanical indicators of asphaltobe-tone were obtained. [3]

Discussions

Table 1

Type B type I hot asphalt concrete	Grain size, mm, smaller than:									
	20	15	10	5	2,5	1,25	0,63	0,315	0,16	0,071
	90-100	80-100	70-100	50-60	38-48	28-37	20-28	14-22	10-16	6-12
Bitumen content,%	5									

The results were obtained by experimenting with the physical and mechanical properties of asphalt concrete by adding 5% viscous bitumen to the selected mineral fraction.

Table 2

Results of the sample obtained (amount of bitumen 5 %)	Average density	Water saturation		Compressive strength, 500C		Compressive strength, 200C		Water resistance coefficient	
		ГОСТ 9128 According	example 1	ГОСТ 9128 According	Example 2	ГОСТ 9128 According	Example 3	ГОСТ 9128 According	Example 4
	2,06	1,5-4,0	3,8	at least 1,1	1,15	at least 2,5	2,5	at least 0,85	0,87

Conclusion

The experiment was carried out by adding 3%, 5%, 7% and 10% of the mineral powder from zaamin district mountaineer slanes to the donadorlik part of the mineral part of asphalt concrete presented in Table 1. We take the middle of the results obtained in and compare them with the GOST requirements. So it can be seen from Table 2 and 3-that if the mineral powder has a great effect on the physico-mechanical performance of asphalt concrete-we can see that the water resistance of the tube, asphalt concrete, the saturation of water, the compressive strength limit at 200 C and 500 C is much higher than the sample without mineral powder. This in turn leads to an improvement in the farreaching durability of asphalt concrete and the indicators of traffic use of the road.

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СОСТОЯНИЕ ЗДАНИЙ И СООРУЖЕНИЙ В ЗАСОЛЁННЫХ И ПРОСАДОЧНЫХ ГРУНТАХ

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В данной статье описывается физико-механические свойства грунтов, деформации зданий и сооружений, возведенных на засоленных и просадочных грунтах.

Ушбу маколада бино ва иншоатларнинг шўр ва чўккан грунтлар натижасидаги деформацияси ҳамда грунтларнинг физик механик хоссаларини ўзгариши ёритиб берилган.

This article describes the deformation of buildings and structures as a result of brittle and deformed soil and changes in the physical mechanical properties of the around.

Ключевые слова: водонасыщения, выщелачивания солей, фильтрации воды, аварийное состояние зданий, лессовидный суглинок.

В последние годы, в связи с увеличением объема строительства в аридной и полуаридной зонах, отмечены многочисленные случаи деформации гражданских и промышленных зданий и сооружений, возведенных на засоленных и просадочных грунтах.

Отличительной особенностью засоленных и просадочных грунтов является изменение их физико-механических свойств в процессе водонасыщения и выщелачивания солей.

Случаи неудачного проектирования, строительства и эксплуатации сооружений на засоленных грунтах зарегистрированы в г.г Навои, Учкудук, Зарафшан.

Опыт строительства промышленных и гражданских сооружений на засоленных грунтах показал, что вследствие замачивания и длительной фильтрации воды через основание нередко происходит недопустимые деформации и потеря несущей способности основания.

Например, здание котельной в Навоийской области, возведенное на сильно загипсованных грунтах, из-за развития процессов суффизиионного рас-

соления пришло в аварийное состояние. Известны случаи значительного уменьшения несущей способности основания, связанные с рассолением грунтов и ухудшением механических свойств.

При замачивании и рассолении механические свойства засоленных и просадочных грунтов могут ухудшаться, настолько, что происходят неравномерные просадки и очень легких сооружений.

Аналогичные случаи наблюдались нами на территории г.Ташкента и Ташкентской области.В последнее время в связи с интенсивным развитием в республике водохозяйственного строительства резко возросло количества аварийных объектов, число которых к настоящему времени достигло несколько десятков.Поэтому возникло необходимость обследования аварийных объектов и выяснения причин их вызвавших.

Аварийное состояние зданий и сооружений в г.Ташкенте:

Четырехэтажный, 1-х подъездный жилой дом №45 по ул.Мусоргского был сдан в эксплуатацию в 1967 году.Жилой дом № 45 –кирпичный,на ленточных монолитных фундаментах с глубиной заложения 1,5-1,6 м.

Деформация дома произошла в процессе длительного периода эксплуатации.

Изучение проектно-сметной документации аварийного объекта г. Ташкента показало,что основанием для фундаментов здания служат грунты :лессовидные макропористые,светло-коричного и коричневого цвета маловлажные.УТВ находился на глубине 27,3 м от поверхности земли; II тип грунтовых условий по просадочности.

Причиной неравномерной деформации жилого дома явилось замачивание лессовидных просадочных грунтов, залегающих в основании фундаментов жилдома, в результате чего произошла частичная реализация их присадочных свойств.

Источником замачивания лессовидных присадочных грунтов послужили обычный полив цветников и сада вокруг дома, а также утечка из труб водопроводной и канализационной сети, в процессе многолетней эксплуатации жилого дома. Постепенное накопление влаги и привело к проявлению присадки в лессовых грунтах.

При осмотре аварийного состояния здания выявлено следующее: ширины раскрытия трещин достигает 2-10 мм, основная масса трещин расположена на уровне 1-2 этажей, вещи реже; в фундаменте также имеются трещины, ширина которых достигает 3-4 мм;

Отбор образца грунта под фундаментами в местах просадки при ускоренных методах определения влажности показал, что значение влажности достигает 18-19 % со степени влажности до $S_{ir}= 0.65$

Здание учебно-производственных мастерских было построено в 1967 году. Глубина залегания фундаментов 1,0-2,0 м, фундамента столбчатые.

По данным изысканий установлено, что грунты оснований фундаментов представлены лессовидными суглинками и супесями мощностью до 20 м, маловлажные, реже влажные. УГВ залегает на глубине более 20 м.

Региональная подъёма УГВ на участке исследования по многолетним наблюдениям не сужается.

Исследование грунтов в основании фундаментов аварийного здания показали, что там залегают сильнопросадочные лессовидные грунты разведанной мощностью до 20 м.

Утечка воды на водопроводных сетях способствовала дополнительному увлажнению грунтов основания, следствием чего явилось их неравномерная просадка, приведшая здание в аварийное состояние. Несмотря на неоднократные замачивания грунтов с северной и западной стороны основания здания остаточная суммарная величина просадки от собственного веса грунта здесь сохранилось и составляет по шурфу № 1-12,7 см, по шуру 4-8,5 см

При осмотре аварийного состояния было выявлено, что интенсивная просадка грунтов основания фундаментов привела к деформациям корпуса мастерских следующего характера: несущие колонны на столбчатых фундаментах сильно сели в центральной части здания.

Оседание колонн привело к разрыву несущих стен по швам, к отрыву порядка 15 см, плит перекрытий, а также к их сдвигу, а местами к провисанию, к осыпанию штукатурки по швам в потолке центральной части здания, к трещинам и раскрытию цементных полов, где ширины щелей достигла 5-8 см. Определение влажности показало увеличение ее до 25,1 % со степенью влажности $S_{ir}=0.88$.

Анализ результатов обследования аварийных объектов, изучения нормативных документов и литературных источников показал, что грунты региона практически не изучены с позиции влияния выщелачивания солей на изменение физико – механических свойств грунтов. Это связано с тем, что грунты региона считаются незасоленными, а содержание и состав солей при этом не учитывается.

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ПРИМЕНЕНИЯ ГЕОИНФОРМАЦИОННЫХ СИСТЕМ В УЧЕБНОЙ ПРОГРАММЕ НА ТЕХНИЧЕСКИХ ВУЗАХ УЗБЕКИСТАНА

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Стабильный рост интереса к геоинформационным системам, высокие темпы их внедрения, широта сферы применения, включение в ряд важнейших республиканских программ геоинформационного обеспечения требуют немедленных действий в области подготовки кадров, разработки средств учебной геоинформатики для массового пользователя. Как занимающегося производительным трудом, так и обучающегося в общеобразовательных учебных заведениях.

В настоящее время во многих технических ВУЗах республики Узбекистан ведется обучение геоинформатики. Информационные системы по областям применения специализированная, так как учебная ГИС были разработаны по картографии, ландшафтоведения, архитектуры и землепользование.

Геоинформационная система поможет изучающему лучше усвоить работу с картами, научиться пользоваться базами данных, анализировать разнообразные материалы. Работая с такими системами, учащиеся знакомятся с программными системами, выбирают себе программы чертежа и выполнение картографических методов.

ГИС – образование обладает рядом специфических черт, отличающих его от других направлений подготовки специалистов. Согласно концепции геоинформационного образования, предложений лабораторией аэрокосмических методов ГИС – это особый тип геоинформационных систем, предназначенный для решения задач высшего профессионального образования в области наук о Земле и связанных с ними сферах практической деятельности.

Всякая ГИС- это система, состоящая из трёх необходимых компонентов – пространственные данные, аппаратно-программные инструменты и проблема, как объект решения. Основные положения концепции типовой учебной ГИС и

ГИС практикума на её основе, предложенной для ВУЗов Узбекистана, заключаются следующем:

1. Учебная ГИС для природоведческих специальностей – это конкретная геоинформационная система, сориентированная на определенную территорию и определённый круг приложений. Наиболее методически целесообразны интегрированные учебные ГИС локального уровня для территории учебно-научной станции.

2. Учебная ГИС – это скорее не программный продукт, а база разнообразных интегрированных данных, отнесённых к учебной территории, обеспечивающая комплексное географическое и системное изучение территории с картографическими заданиями.

3. Наиболее целесообразной формой функционирования учебной ГИС является ГИС-практикум, каждое учебное задание которого – небольшой ГИС-проект двуединого содержания: предметно-тематического и геоинформационного, технологического. Система практических заданий должна охватывать как типичные задачи прикладных исследований (экологической оценки территории, оценки пригодности земель для различных видов использования, кадастровые задачи), так и основной набор современных приемов и процедур компьютерной обработки пространственной информации.

4. Информационное обеспечение учебных ГИС, наряду с основными природно-географическими характеристиками территории, включает и результаты исследований, выполненных при проведении полевых студенческих практик. Это стимулирует внедрение современных геоинформационных технологий в методику полевых географических исследований.

5. Наиболее перспективным направлением в области создания учебных ГИС является организация сети локальных ГИС для ключевых участков университетов, институтов республики в единой или совместной программной оболочке. Система таких учебных ГИС, включающая полигоны в различных природно-климатических зонах, обеспечивает постановку практических работ по всему спектру географических задач.

Учебное информационное обеспечение ГИС-практикума для природоведческих специальностей (представленные в цифровой форме карты, аэрокосмические снимки, материалы наземных наблюдений, а также данные

непространственного характера) – это наиболее дорогостоящая часть. Здесь важны и вопросы подбора информации, и вопросы управления этой информацией. Получения данных включают в себя полевые обследования, аэросъёмку, картографирование. Используются в основном три масштабных уровня материалов – 1: 5 000 (преимущественно для аэроснимков), 1:10 000 (основной масштаб для слоев базы данных), 1:25 000 (для экранных изображений). Для изучения динамических состояний природной геосистемы используются различные временные уровни-многолетние (разновременные карты, аэро- и космические снимки, материалы многолетних полевых обследований территории полигона), а также сезонные (преимущественно аэроснимки и специальные ландшафтно-фенологические исследования).

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ISSIQ IQLIM SHAROITIDA TONNELLARGA DINAMIK TA'SIRLARNI BAHOLASH

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***Annotatsiya.** Ushbu maqolada yer osti inshootlari tizimlari issiq iqlim o'ziga xos muammolarini hal qilishda inertsiya kuchlarining ta'sir darajasini baholash, hisoblash algoritmi sonli usul yordamida ko'rilgan va hisoblash dasturi quvuri o'qi bo'ylab seysmik ta'siri ostida yer osti quvuri kuchlanishlari va nisbiy joyidan aniqlash, inertsiya kuchi yukining yer osti sistemalari xarakteriga ta'siri chegarasini baxolash, yer osti quvurida seysmik yuklar ta'sirida maksimal o'rtacha kuchlanishlar yuzaga kelishining xavfli nuqtalari haqida ma'lumotlar keltirilgan.*

***Kalit so'zlar.** Tunnel, dinamik ta'sir, tebranmaharakat, inshoot, tayanch, seysmik, iqlim sharoitlari.*

***Annotation.** This article describes the assessment of the impact level of inertial forces in solving the specific problems of subsurface structures systems hot climate, the calculation algorithm is viewed using a numerical method, and the calculation program identifies subsurface pipeline voltages and relative position under seismic influence along the pipeline Axis, predicts the limit of the impact of inertial force load on subsurface system.*

***Keywords.** Tunnel, dynamic impact, oscillation, structure, base, seismic, climatic conditions.*

Olimlar issiq iqlim paytida barcha bino va inshootlar vayron bo'lmashini payqab qolishdi, shu bois ular bu muammoga yaqindan nazar tashlab, issiq iqlimlarga bardosh bera oladigan inshootlar yaratishga harakat qilishdi. Inshootlarning vayron bo'lishiga qanday omillar sabab bo'lishini bilish uchun issiq iqlimlar bilan bog'liq ko'plab masalalarni tushunish kerak edi.

Issiq iqlimga chidamli binolar va inshootlarni hisoblash va dizayn uchun nazariy shart-sharoit yaratish uchun birinchi urinish Yaponiya olimlari Omori va Sano tomonidan XIX asrning oxirida qilingan (1900-1903) [10, 11] va keyinchalik Mononobe [12], qurilish mustahkam baza bilan birga issiq iqlim paytida yerga va harakat sifatida qattiq siqilish deb qabul qilinadi. Adabiyotlarda Omori va Sano takliflari binolarni seysmik ta'sirlar uchun hisoblashning statik nazariyasi-binolarning

issiq iqlimbardoshligining statik nazariyasi deb ataladi. Ko‘rinib turibdiki, inshootlarning boshqa turlari bino sifatida qaralgan, xususan, 19-asr oxirida bunday yondashuvlar ko‘priklarni hisoblash uchun mavjud bo‘lgan. Mononobe nazariyasida grunt seysmik harakatining muntazamligi garmonik qonun sifatida qabul qilingan. Differentsial tenglamalarning yechimlari ikki qismdan iborat: tenglamaning bir jinsli qismiga mos inshootning erkin tebranishlari va gruntning xavotirli ta‘siriga mos majburiy tebranishlar.

Mononobe tadqiqotlari faqat tebranmaga oid. Bu nazariyaning muhim kamchiligi shundaki, u issiq iqlim vaqtida strukturada sodir bo‘ladigan erkin tebranishlarning ta‘sirini hisobga olmaydi. Inshootning tebranishini boshlang‘ich shartlaridan kelib chiqadigan erkin tebranishlar majburiy bo‘lganlarga ustma-ust tushishi va ularning ta‘sirini mustahkamlashi kerak. Chunki kuzatishlar shuni ko‘rsatadiki, issiq iqlimning ta‘siri birinchi marta vujudga kelgan paytda, birinchi zarba yoki ta‘sir natijasida tuzilishdagi erkin tebranishlar hali so‘nmagan paytda namoyon bo‘ladi. 1927yilda K.S. Mononobe ishi, mustaqil Zavriev majburiy tebranishlarni hisobga olish nazariyasiga oid seysmik qarshilik masalalarini o‘rganishga asos soldi, lekin grunt harakatining dastlabki sharoitlaridan kelib chiqadigan erkin tebranishlarning ta‘siri ham hisobga olindi [13].

Statik nazariyaning qo‘llanish sohasi asosan uzoq seysmik to‘lqinlar tarqaladigan qattiq jinslar xolati bilan chegaralanadi. 1923-yilgi mashhur Yapon issiq iqlimsi oqibatlarini tahlil qilish shuni ko‘rsatdiki, issiq iqlimga chidamlilikning statik nazariyasi issiq iqlimlar vaqtida inshootlar hatti-harakatlarining asosiy xususiyatlarini tushuntirishga qodir emas edi. Bunday xususiyatlar yuqorida yoki tuzilmalar balandligi o‘rtacha doirasida joylashgan bo‘limlarda yuqori va moslashuvchan tuzilmalar va qiyshiq yoki gorizontol kesish yoki bo‘linish, yoriqlar tomonidan katta tizimlar muhim zarar yoki vayron ommaviy qirg‘inni o‘z ichiga oladi. Bularning barchasi inshootlarning issiq iqlimbardoshligining dinamik nazariyasini ishlab chiqish zarurligiga ishora qiladi [14].

Bino va inshootlarning issiq iqlimbardoshlik yo‘nalishini rivojlantirishdagi keyingi qadam bu inshootlarning seysmik ta‘sirlar vaqtida deformatsiyalanishini hisobga olishdir. Binolar tayanchda qo‘zg‘almas tayanch (yoki nur) hisoblanib, harakat yo‘nalishi tayanchning gorizontol harakati yoki tezlanishi sifatida qabul qilingan. Tayanch (yoki brus) bir vaqtning o‘zida jamlanganda va tarqalgan massalar ko‘tarib bir nur sifatida qabul qilinadi. Keyinchalik seysmik kuchlarni baholash bo‘yicha ishlar olib borildi. A.G. Nazarov va T.R. Rashidov yer osti inshootlarining dinamik nazariyasining boshlanishi deb hisoblaydigan bino va inshootlarning xatti-harakatlariga tarmoqli asoslarning o‘zaro ta‘sirini hisobga olish zarurligiga e‘tibor

qaratdi. Ushbu masalaning batafsil muhokamasi A. G. Nazarovning [13] va T. R. Rashidovning [1] kitobida berilgan.

Seysmik yuklarni aniqlash issiq iqlimlar xususiyatlariga ehtimoliy yondashuv sifatida qaraladigan ishlar mavjud. Agar dastlabki asarlarda qat'iy garmonik, chirigan garmonik yuklar issiq iqlimlar vaqtida harakat qilib olingan bo'lsa, ehtimoliy yondashuvda qiymatlar seysmik yuklar deb qabul qilingan (V. V. Bolotin, I. V. Goldenblat va boshqalar.) [15-16]. Issiq iqlimlar paytida bino va inshootlarning xatti-harakatlarini yaxshi tasvirlaydigan ayrim hollarda bino va inshootlarga seysmik yuklarni baholashga turli xil yondashuvlar mavjud (A. P. Sinitsin, O. A. Savinov, S. V. Polyakov). Seysmik ta'sirlarni baholash bo'yicha me'yoriy hujjatlar va tavsialarda spektral usullar tavsiya etiladi.

Antiseysmik o'zbek maktabi: M.T. Urazbaev, V.K. Kabulov va AQShning Kolorado shtati iqtisodiyot instituti Yu. R. Leyderman qisqa muddatli yoki takroriy qisqa muddatli zarba seysmik ta'sir sifatida qabul qilinishini nazarda tutib, bino va inshootlarni hisoblashga o'ziga xos yondashuvni yaratdi. Plastinka konstruksiyalarining tebranishini o'rganish bo'yicha dastlabki fundamental ishlar 1940-yillar oxirida V. K. Kabulov tomonidan M. T. Urazbaev rahbarligida amalga oshirildi. 1950 - yillarda maxsus muhandislik va gidravlik inshootlarning seysmik qarshiligini o'rganish uchun suyuqlik, yer osti tonellari, suv minoralari va binolar tomonidan qo'llab-quvvatlanadigan to'g'onlar, binolar qurilishi murakkabligi va baza bilan murakkab shovqinlarni hisobga olgan holda (M. T. Urazbaev, Sh. G. Napetvaridze) tadqiqotlar o'tkazildi [2, 14]. Qayd etilishicha, inshootning uzunligi issiq iqlim vaqtida uning xatti-harakatiga ta'sir qiladi. Keyin binolardagi seysmik yuklarni aniqlashning yangi fizik usuli mavjud (V. T. Rasskazovskiy). Leyderman ishlarida seysmik ta'sir uchun binolar o'rganish uchun chuqur fundamental yondashuv bor ularning ishlarini davom ettirgan o'zbek maktab antiseysmik olimlari T.R. Rashidov, U.Sh. Shamsiev, K.S. Abdurashidov, R.X. Muxitdinova, A.A. Ishanxodjaev, G.X. Xojmetov, X.K. Kасымов, X.S. Kariev va hokazo.

Adabiyotlarda yer osti inshootlarining atrofdagi yer sharoitlari bilan o'zaro bo'ylama va ko'ndalang tebranishlarining juda aniq harakat tenglamalari berilgan. Yer osti inshootlarining o'zaro ta'sirlari va dinamik deformatsiyalanadigan strukturalari ba'zi hollarda chegaralanadi, bunda strukturalarning asosiy boshlang'ich harakat tenglamalaridagi inertsiya komponentlari e'tibordan chetda qoladi. **Seysmik xavfli zonalardagi tonellarning holatini tahlil qilish.** Magistrat tonellardagi avariya bo'yicha zamonaviy ichki [5-10] va xorijiy [11-15] hisobotlariga ko'ra, issiq iqlimlar oqibatida sodir bo'lgan avariya foizi ahamiyatsiz.

Shunga qaramay, ko'pchilik hollarda bitta seysmik voqea, uning yomon oldindan boshqa geologik jarayonlar oqibatidan ko'ra ko'p marta katta zarar olib kelishi mumkin, bunday ko'chiklar sifatida, yog'ingarchilik, va og'ir va hokazo misol keltirishimiz mumkin[16].

1.1-jadvalda seysmik hodisalar natijasida magistral tonellarning olgan zarari haqida so'nggi 60-70 yil davomida ma'lumot berilgan [17].

Issiq iqlimlar vaqtida magistral tonellarning shikastlanishi

1-jadval

Mamlakat	Vaqt	Magnituda	Oqibatlari
Kern Kaunti, AQSH	21.07.1952	7,7	Er yuzasida – yoriqlar, gruntning bukilishi. Quvurning egri bo'lagi (diametri 850 mm) faol tektonik yoriqlar. Quvurning yerdan aksial va burama kuchlar ta'sirida bukilishi 11 va 26 sm ni tashkil etdi.
Niigata, Yaponiya	16.06.1964	7,5	Grunt massasining qalinligidagi muhim deformatsiyalar; yer yuzasidagi yoriqlar; notekis cho'kish; gruntlarni (qumlarni) suyuqlantirish. Tonellarga jiddiy zarar yetkazish; bo'ylama seysmik kuchlar (65%) tufayli tonellarning uzilishi. Zararlangan inshootlarning 52% seysmik to'lqinlarning tarqalish yo'nalishiga parallel joylashgan; 54% - yumshoq allyuvial gruntli (eski Daryo) joylarda.
Dolina San-Fernando, AQSH	09.02.1971	6,7	Muhim grunt deformatsiyalari. Yer osti tonellarining turli maqsadlarda ko'plab zararlanishi, payvand choklarning yorilishi. Osiyo-tinch okeani mintaqasida tonellari uchun eng katta zarar.
Tanshan, Xebey, Xitoy	28.07.1976	7,0	Kesishgan joyidagi yer osti tonellarini yo'q qilinishi. Katta diametrli tonellar biroz shikastlangan.
Gazli, O'zbekistan	08.04.1976 17.05.1976	7,0 7,2	Grunt yetarlicha siqilgan va quvur bo'limlarda, tonellarning yerdan chiqishi; tonellarning deformatsiyasi.
Spitak, Armaniston	07.12.1988	7,1	Leninakan-Spitak-Kirovakan Magistral gaz quvurining 2 liniyasida shikastlanish (diametri 500 va 700 mm; devor qalinligi 8 mm, jaroxatlarda 9 mm). Gaz sizib chiqishi (22 va 29-km). Quvurning uzun (200 m ga yaqin) qismida (23 km) deformatsiyasi.

Nortridj, AQSH	17.01.1994	6,7	Er osti quvuri bir necha yorilishi (10 diametri dyuym) uzoq bo'limda ustidan (atrofida 250 mm). Yog to'kilishi. Santa Klara daryosining ifloslanishi.
Denali, AQSH	02.11.2002	7,9	Sohildagi Trans-Alyaska neft quvurining tayanchlari (kompensatorlari)ning shikastlanishi. Quvur uchun kichik zarar.
Miyagi, Yaponiya	07.04.2011	7,2	Grunt massasining deformatsiyasi. Yer osti tonellarining shikastlanishi va yemirilishi, quvur uchastkalarini sezilarli bo'ylama siquvchi kuchlar ta'sirida yerdan ko'tarilishi.

Haqiqiy ma'lumotlarni tahlil qilish va issiq iqlimlarga uchragan tonellarning holatini o'rganish natijalari asosida ularning zararlanishining to'rtta xarakterli sabablari aniqlanishi mumkin:

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COGNITIVE APPROACH TO METAPHORS

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ABSTRACT

Metaphors are no different from what can be done with literal speech. But this does not make the metaphor theoretically ineradicable or irrelevant. In some cases, I argue, metaphors allow speakers to convey content that cannot be fully and clearly expressed in words. As such, these cases serve as counterexamples to the "Principle of Expressivity," the idea that anything can be said. In fact, I would argue, the point is about perception as well as communication: metaphors sometimes provide us with a single cognitive input that has certain properties. Ultimately, I think that thinking about metaphor is useful because it draws our attention to patterns and processes of thought that play a pervasive role in our ordinary thinking and speech and can stretch our basic communicative and cognitive resources.

Key words: *metaphor, cognitive approach, traditional metaphors, general-level metaphors, image metaphors.*

Philosophers have often been ambivalent about metaphor. Hobbes (Chapter 8) argued for the exclusion of metaphors from rational discourse because, he says, they are "manifestly false." And Locke (p. 3, ch. 10) the figurative use of language serves only "to inculcate false ideas, to excite passion, and consequently to divert from just judgment, therefore "metaphors are the real trickers." Later, logical positivists such as Ayer and Carnap argue that because metaphors such as "How sweet the moonlight sleeps upon this bank" involve category errors, they have no real meaning or verification conditions. Since the 1960s and 1970s, philosophers and linguists have taken a positive interest in metaphor.

We can see that the historical account of metaphors has already encompassed cognitive interpretation, as in the last fifty years scholars have contributed significantly to the modern approach to metaphors. Looking at recent interpretations, Lakoff and Johnson (1980, 1999) can be considered the first proponents of metaphors, as they argue that metaphors are conceptual because many ways of thinking and acting are essentially metaphorical. (Evans and Green, 2006: 44). Descartes' rationalist approach is evident in formal approaches, such as Chomsky's generative grammar or Montague's law, where language can be studied as a formal or computational system independent of the nature of human experience or the human body. Lakoff's (empiricist) conception is based on the importance of human experience, the centrality of the human body, whereby human mind and language "cannot be examined in isolation from the human embodiment" (Evans and Green 2006: 44). Cognitive linguists have argued that metaphor is central to human language (Evans and Green 2006). The basic idea is that metaphors (metaphorical expressions) are based on our physical experience, and the simplest language for analyzing synchronic metaphors is to begin by providing a literal background. However, new research suggests that much of our everyday language is figurative (Evans and Green 2006: 287). Gibbs opposes this view (1994:75) because he divides traditional literalism into literalism, actual literalism, conditional literalism, and contextual literalism, and explains that they are not metaphorical. He also adds that some concepts, such as space and time without motion, cannot be described without metaphor.

There are three main mechanisms for interpreting linguistic expressions as new metaphors: the extension of traditional metaphors, general-level metaphors, and image metaphors. The most interesting poetic metaphor uses all of these in a superimposed manner. Let's start with examples of extensions of traditional metaphors. Dante begins the Divine Comedy thus:

*In the middle of the road of life
I found myself in a dark forest.*

The Path of Life evokes the sphere of life and journey, and thus the traditional LIFE IS A JOURNEY metaphor connects them. "I found myself in a dark forest" evokes the notion that if it's dark, you can't see which way to go. This evokes traditional metaphors for the theme of vision, such as "I see what you're getting at," "his claims are unclear," "the passage is unclear," etc.

This means that the speaker does not know which way to go. Since the "Life is a journey" metaphor suggests that routes are life goals, the speaker must not know what life goals to pursue, meaning he has no direction in his life. Metaphors transport images, feelings, values, thought patterns, etc. entrenched

in our cultures, as Mittelberg (2007:34) states based on Dirven, Wolf, Poltzenhagen; Kövecses (2005) also accepts this view. Furthermore, metaphor is based on similarity; but it is based on cross-domain correlations in our experience, which give rise to the perceived similarities between the two domains within the metaphor. These two domains lead to the many interpretations outlined below; we would only like to mention here Ricoeur's theory of metaphor, which is based on icons (standing for something) concerning cognitive notions, and he adopts Wittgenstein's proposal (1958), namely "seeing as" (mentioned by Mac Cormac). Lakoff and Johnson also say that all concepts are literal and none can be metaphorical; but even our deepest concepts (time) are understood and reasoned about via multiple metaphors, so they conclude that, in short, metaphor is a natural phenomenon (1980:247)

At this point, we can mention W. Bedell Stanford's conclusion about metaphor: The essence of metaphor is that a change or expansion of meaning occurs in a word. According to Lakoff and Johnson, the essence of metaphor is to understand and experience one kind of thing in terms of another, and we act according to how we imagine things (1980: 5). The problem is that the difference between metaphor and simile is explained with a series of examples:

Her cheeks are like red roses. (simile)

Her rosy cheeks... (metaphor)

Her cheeks are like a red rose. (simile)

Her rosy cheeks ... (metaphor)

metaphors force us to wonder, to compare, to look at similarities, and then to consider whether or not to confirm the metaphors (Marconi, 1997:76).

Summary.

Mac Cormack (1985: 149) asserts that metaphors lead to changes in the way we perceive the world, and these conceptual changes lead to changes in the way we act in life. Metaphors seem to be such a popular and normal part of language that it is difficult to understand any grammar that fails to analyze the relationship between metaphor and communication rather than obeying the rules of grammar (Mac. Cormac 1985: 32).

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TA'LIM TIZIMINI RIVOJLANTIRISHDA O'ZBEK TILINING SOHADA QO'LLANISHINING ROLI

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ANNOTATSIYA

Mazkur maqolada O'zbek tilining sohada qo'llanishi vazifalari haqida so'z boradi. Talabalarga soha bo'yicha egallagan bilimlarni yozma va og'zaki ravishda o'zbek tilida ifoda etish malakalarini takomillashtirish, sohada qo'llaniladigan terminlar, asosiy tushunchalar va soha doirasida qo'llaniladigan hujjatlarning rasmiylashtirilishini ta'minlash, nutq uslublari, xususan sohada ilmiy va rasmiy uslub imkoniyatlaridan foydalanish hamda ularni amaliyotga tatbiq etish ko'nikmasini hosil qilishdan iborat ekanligi ta'kidlanadi.

Kalit so'zlar: uzluksiz ta'lim, turkiy tillar, soha, nutqiy kompetentlik, mutaxassislik, og'zaki va yozma nutq, sohaviy terminlar, ko'nikma, malaka

АННОТАЦИЯ

В данной статье говорится о цели и задачах использования узбекского языка в различных сферах. Совершенствование навыков студентов письменно и устно излагать свои знания в данной области на узбекском языке, обеспечивать формализацию используемых в данной области терминов, основных понятий и официальных документов, используемых в данной области, стилей речи, особенно научного и официального в узбекском языке и применение их на практике.

Ключевые слова: непрерывное образование, тюркские языки, сфера, речевая компетенция, специальность, устная и письменная речь, отраслевые термины, навык, квалификация

ABSTRACT

This article talks about the purpose and tasks of the science of the use of the Uzbek language in the field. To improve the skills of students to express their knowledge in the field in writing and orally in Uzbek, to ensure the formalization of the terms used in the field, basic concepts and documents used in the field, speech styles, especially scientific and official in the field it is emphasized that it consists in creating the ability to use the opportunities of the style and to put them into practice.

Key words: continuing education, Turkish languages, field, speech competence, specialty, oral and written speech, field terms, skill, qualification.

KIRISH

Mustaqil O'zbekistonning ravnaqi yo'lida barcha sohalardagi kabi ta'lim tizimida ham olib borilayotgan keng qamrovli ishlar, jamiyat taraqqiyotini ta'minlash, uzluksiz ta'lim tizimini joriy etish alohida ahamiyat kasb etmoqda. Shuningdek, erkin, ijodkor va mustaqil fikr egasini tarbiyalab voyaga yetkazish hozirgi kunning muhim vazifalaridan hisoblanadi. Respublikamizda eng avvalo, ta'limga alohida e'tibor qaratildi. Chunki muhtaram Prezidentimizning: "Har birimiz davlat tiliga bo'lgan e'tiborni mustaqillikka bo'lgan e'tibor deb, davlat tiliga ehtirom va sadoqatni ona Vatanga ehtirom va sadoqat deb bilishimiz, shunday qarashni hayotimiz qoidasiga aylantirishimiz kerak" ¹ degan fikrlari barchamizdan ona tilimizga, urf-odat va qadriyatlarimizga hurmat, Vatanga bo'lgan mehrimizni amaliy faoliyatda namoyon etishimizni talab etadi.

Til kishilarning eng muhim aloqa vositasi, bilimlarni saqlovchi va kelajak avlodga yetkazuvchi vositadir. Ana shu vazifalarini e'tiborga olganda, birinchidan, til ijtimoiy hodisadir. Chunki u jamiyat uchun xizmat qiladi. Ikkinchidan, ijtimoiy xarakterga ega bo'lgan til muayyan fizik va fiziologik jarayonlar asosida moddiylashadi. Uchinchidan, til va tafakkur o'zaro ajralmasdir. Til fikrni, shakllantiruvchi va ifodalovchi moddiy vositadir. Bu jihatdan til va tafakkur muayyan shaklni o'zida namoyon etadi. To'rtinchidan, til uzluksiz rivojlanib, takomillashib boruvchi hodisadir. Kishilar odatda bir-birlari bilan til orqali munosabatda bo'ladi. Demak, til va tafakkur chambarchas bog'liq bo'lib, tilsiz fikrni ifodalab bo'lmaganidek, tafakkursiz til o'z ifodasini shakllantira olmaydi. Fikr tilda voqelashadi, tilda mavjud bo'ladi. Ongoingizda paydo bo'ladigan fikrning mohiyatini, mazmunini tashkil etadigan har qanday idrok yoki tasavvur ham faqat so'zlar vositasi orqali voqe bo'ladi. Til faqat kishilarga xos bo'lganidek, tafakkur ham kishilarga xos bo'lib, bosh miyaning moddiyligi va fiziologik vazifasi bilan bog'liqdir. Lekin tafakkur bilan tilni aynan bir xil, bir-biriga o'xshash narsa deb tushunish xatodir. Tafakkur – tashqi moddiy olamning kishilar miyasida aks etishining eng yuksak shaklidir. Til esa tafakkurni so'zlar, so'z birikmalari va jumlar orqali ifodalaydi. Til qonunlari bilan tafakkur qonunlari bir-biriga teng kelmaydi. Shuning uchun ham til grammatikaning o'rganish obyekti hisoblansa, tafakkur mantiq ilmining o'rganish obyektidir.

MUHOKAMA VA NATIJALAR

Til – boy tariximiz, hayotbaxsh qadriyatlarimiz, dinimiz, xalqimizga xos dunyoqarashni ko'rsatuvchi ko'zgu, ajdodlar merosini avlodlarga yetkazuvchi vositadir. Shuning uchun ham o'z tilini yo'qotgan millat o'zligidan mahrum bo'ladi. O'zbek tili turkiy tillar guruhiga mansub bo'lib, u mustaqil til sifatida XI asrdan

boshlab shakllana boshladi va to hozirgi kunimizgacha bu tilda ko‘plab ilmiy va badiiy asarlar yaratildi. Til fikr ifodalashning muhim vositasidir. Tafakkur bilan tilning munosabati murakkab jarayondir. Til fikr ifodasi sifatida mavjud, o‘z navbatida fikr til asosida yuzaga keladigan murakkab jarayon. Til ham, tafakkur ham mehnat jarayonida, kishilik jamiyatida shakllangan.

Til – millatning asosiy belgilaridan, davlat mustaqilligining asosiy ramzlaridan biri. O‘zbek tili dunyoning eng qadimiy va boy tillaridan biri hisoblanadi. Bu tilning keng imkoniyatlari qadimgi toshbitiklarda, Mahmud Qoshg‘ariyning “Devonu lug‘atit-turk”, Ahmad Yugnakiyning “Hibatul haqoyiq”, Yusuf Xos Hojibning “Qutadg‘u bilig” asarlari, Ahmad Yassaviy hikmatlari, Alisher Navoiyning “Xazoyin ul-maoniy”, “Xamsa”, Boburning “Boburnoma” asarlarida, Boborahim Mashrab, Ogahiy, Uvaysiy, Nodira kabi mumtoz shoirlarimiz va XX asrdagi adiblarimiz ijodida jilolanib turibdi.

O‘zbek tiliga davlat tili maqomining berilishi, davlat ishlarining, ta’lim-tarbiya, targ‘ibot-tashviqot ishlarining shu tilda olib borilishi uchun juda katta imkoniyat yaratdi. Tilga bo‘lgan munosabat tubdan o‘zgardi, uning barcha imkoniyatlarini o‘rganish ishlari keng ko‘lamda olib borilyapti.

O‘zbekiston Respublikasi Prezidenti Shavkat Mirziyoyevning 2019 yil 21 dekabrda “O‘zbek tilining davlat tili sifatini, nufuzi va mavqei tubdan oshirish chora-tadbirlari to‘g‘risida”gi PF-5850-sonli Farmoni, O‘zbekiston Vazirlar Mahkamasining 2019-yil 12-dekabrda “Davlat tilini rivojlantirish departamenti to‘g‘risidagi nizomni tasdiqlash haqida”gi 984-sonli Qarori, O‘zbekiston Respublikasi Oliy va o‘rta maxsus ta’lim vazirligining 2019 yil 2 dekabrda 87-06-52 sonli xatida “2020-2030 yillarda o‘zbek tilini rivojlantirish hamda til siyosatini takomillashtirish Konsepsiyasi” va ”Yo‘l xaritasi” loyihasida davlat tilini rivojlantirishning ustuvor yo‘nalishlari, vazifalari sohaga oid dasturlar va kompleks chora-tadbirlarni ishlab chiqish o‘z ifodasini topgan. Bu hujjatlar davlat tilini o‘rgatish va uni bilish darajasini yanada takomillashtirish uchun oliy ta’lim muassasalarida 2020-2021 o‘quv yilidan boshlab "O‘zbek tilini sohada qo‘llanilishi" asosiy fan sifatida o‘quv rejasiga kiritildi. O‘zbekiston Respublikasi Vazirlar Mahkamasining qarori, Davlat dasturi, Oliy va o‘rta maxsus ta’lim vazirligining buyrug‘i asosida o‘quv jarayoniga tatbiq etib kelinayotgan mazkur kurs “Davlat tili haqida”gi qonunning quyidagi moddalariga tayanadi:

7-modda. Davlat tili rasmiy amal qiladigan doiralarda o‘zbek adabiy tilining amaldagi ilmiy qoidalari va normalariga rioya etiladi.

Davlat o'zbek tilining boyitilishi va takomillashtirilishini ta'minlaydi, shu jumladan unga hamma e'tirof qilgan ilmiy-texnikaviy va ijtimoiy-siyosiy atamalarni joriy etish hisobiga ta'minlaydi.

Yangi ilmiy asoslangan atamalar jamoatchilik muhokamasidan keyin va Oliy Majlis tegishli qo'mitasining roziligi bilan o'zbek tiliga joriy etiladi.

9-modda. Davlat hokimiyati va boshqaruv organlarida ish davlat tilida yuritiladi va zaruriyatga qarab boshqa tillarga tarjima qilinishi ta'minlanadi.

10-modda. Korxonalar, muassasalar, tashkilotlar va jamoat birlashmalarida ish yuritish, hisob-kitob, statistika va moliya hujjatlari davlat tilida yuritiladi, ishlovchilarning ko'pchiligi o'zbek tilini bilmaydigan jamoalarda davlat tili bilan bir qatorda boshqa tillarda ham amalga oshirilishi mumkin (1, 16-22-b.).

Mazkur fanni o'qitishdan maqsad, talabalarning o'zbek tilida soha bo'yicha nutqiy kompetentligini oshirish, mutaxassisikka oid og'zaki va yozma nutqida sohaviy terminlarni samarali qo'llash ko'nikmalarini shakllantirishdan iborat. Shuningdek, talabalarga soha bo'yicha egallagan bilimlarni yozma va og'zaki ravishda o'zbek tilida ifoda etish malakalarini takomillashtirish, sohada qo'llaniladigan terminlar, asosiy tushunchalar va soha doirasida qo'llaniladigan hujjatlarning rasmiylashtirilishini ta'minlash, nutq uslublari, xususan sohada ilmiy va rasmiy uslub imkoniyatlaridan foydalanish hamda ularni amaliyotga tatbiq etish ko'nikmasini hosil qilishdan iborat. Fanning vazifasi-mamlakatimiz ijtimoiy hayotining barcha sohalarida davlat tilining imkoniyatlaridan to'liq va to'g'ri foydalanishga erishishni ta'minlash, egallanayotgan soha bo'yicha nazariy bilimlarni, amaliy ko'nikmalarni o'zbek tilining yozma va og'zaki nutqi me'yor va qoidalari asosida mukammal o'zlashtirishga va ularga nisbatan shaxsiy munosabatni o'zbek tili adabiy normalariga muvofiq holda ifodalashga erishishni ta'minlashdan iborat.

Keyingi yillarda tilimizning kasb-hunar, ilmiy-texnika tili va atamalarida katta o'zgarishlar sodir bo'ldi.

Har bir sohaning o'z atamalar tizimi mavjud bo'lib, bitta atama faqat bitta tushunchanigina ifodalaydi. Atamalarni qo'llashda har qanday murakkab fikrni ixcham, oson, lo'nda va aniq, shuningdek, tushunarli ifodalashni osonlashtirish maqsad qilib quyiladi. Atamalarga xos bo'lgan ma'no jihatidan aniqlik, tushunchaning mohiyatini yoki eng asosiy belgisini aniq ifodalab berish, ulardagi tuzilish jihatidan ixchamlik, qisqalik ishlatishga qulaylik kabilar tushunchani tushunarli, aniq, qisqa bo'lishini ta'minlaydi. Oliy o'quv yurtlarida sohaga oid imlo va izohli lug'atlari tayyorlanmoqda, chop etilmoqda. Mavjud lug'atlardan keng foydalanish, so'z va atamalar ma'nosini chuqur anglash kishining so'z boyligini oshirishda katta ahamiyatga ega.

XULOSA

Ma'lumki, yaqin vaqtlargacha hujjatlar asosan rus tilida rasmiylashtirilar edi. O'zbek tilida esa ayrim hujjatlarga yuritilar, ular ham rus tilidagi hujjatlar andozasiga asoslangan bo'lib, milliylikdan yiroq edi. Endilikda respublikamizdagi barcha korxonalar, tashkilotlar, muassasalarda yuritiladigan hujjatlar o'zbek tili qonun-qoidalariga mos ravishda rasmiylashtirilmoqda.

Oliy o'quv yurtlarini bitirib chiqayotgan yosh mutaxassislar o'zlari ishga boradigan mehnat jamoalarida ish qog'ozlari, hujjatlarning mantiqiy to'g'ri yozilishi, yoki to'g'ri to'ldirilishi, ishoraviy, imloviy, uslubiy xatolarsiz, davr talabiga javob beradigan tarzda rasmiylashtirishlari lozim. Buning uchun esa bitiruvchi talabalarimiz nafaqat hujjatlar bo'yicha, balki yangi alifbo va imlo qoidalari bo'yicha ham yetarlicha tushunchaga ega bo'lishlari talab etiladi. Va shu maqsadda hozirda bu fan barcha o'quv yurtlarida o'qitilmoqda.

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