

**FARG‘ONA DAVLAT UNIVERSITETI HUZURIDAGI ILMIY
DARAJALAR BERUVCHI DSc.03/30.12.2019.Fil.05.02 RAQAMLI
ILMIY KENGASH**

FARG‘ONA DAVLAT UNIVERSITETI

ABDUVAXOBOV G‘IYOSIDDIN G‘AYRATJON O‘G‘LI

**YANGI AVLOD OMONIMLAR O‘QUV LUG‘ATI MOBIL ILOVASINI
YARATISHNING LINGVISTIK ASOSLARI**

10.00.11 – Til nazariyasi. Amaliy va kompyuter lingvistikasi

**FILOLOGIYA FANLARI BO‘YICHA FALSAFA DOKTORI (PhD)
DISSERTATSIYASI AVTOREFERATI**

Farg‘ona – 2023

UO‘K: 811.512.133.93’374

**Filologiya fanlari bo‘yicha falsafa doktori (PhD) dissertatsiyasi
avtoreferati mundarijasi**

**Contents of dissertation abstract of Doctor of Philosophy (PhD) on
Philological sciences**

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по филологическим наукам**

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Filologiya fanlari bo'yicha falsafa doktori (PhD) dissertatsiyasi mavzusi Oliy attestatsiya komissiyasida №B2023.1.PhD/Fil1898 raqam bilan ro'yxatga olingan.

Dissertatsiya Farg'ona davlat universiteti tilshunoslik kafedrasida bajarilgan.

Dissertatsiya avtoreferati uch tilda (o'zbek, ingliz, rus (rezyume)) Farg'ona davlat universiteti veb-sahifasining www.fdu.uz hamda "Ziyonet" axborot-ta'lim portalining www.ziyonet.uz manzillariga joylashtirilgan.

Ilmiy rahbar: Abduraxmonova Nilufar Zaynobiddin qizi
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filologiya fanlari doktori, dotsent

Yetakchi tashkilot: Namangan davlat universiteti

Dissertatsiya himoyasi Farg'ona davlat universiteti huzuridagi ilmiy darajalar beruvchi DSc.03/30.12.2019.Fil.05.02 raqamli Ilmiy kengashning 2023-yil "30" 05 soat 900 dagi majlisida bo'lib o'tadi (Manzil: 100151, Farg'ona shahri, B.Marg'inoniy ko'chasi, 105-uy. Tel: (873) 244-57-82; e-mail:info@fdu.uz.)

Dissertatsiya bilan Farg'ona davlat universiteti Axborot-resurs markazida tanishish mumkin. 267 raqami bilan ro'yxatga olingan). (Manzil: 100151, Farg'ona shahri, Murabbiylar ko'chasi, 19-uy. Tel.: (99873) 244-71-28.

Dissertatsiya avtoreferati 2023-yil "16" 05 da tarqatildi.

(2023-yil "16" 05 dagi 14 raqamli reyestr bayonnomasi).



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Kirish (falsafa doktori (PhD) dissertatsiyasi annotatsiyasi)

Dissertatsiya mavzusining dolzarbligi va zarurati. Jahon tilshunosligida kompyuter leksikografiyasiga oid tadqiqotlarning tobora rivojlanishi, yangi texnologiyalar va metodlarni taqdim qilish sohadagi zamonaviy yo‘nalishlarda ham ijobiy natijalarga erishishda muhim omil vazifasini o‘taydi. Leksikografik tadqiqotlar bilimlarni qayta ishlash mahsuli sifatida tabiiy tilni tadqiq qilish va kompyuter lingvistikasida muayyan darajada amaliy masalalarni hal etish uchun muhim qadam bo‘ldi.

Dunyo tilshunosligida kompyuter texnologiyalari asosida mashina formatidagi lug‘atlarning yaratilishi lingvistik baza sifatida til ta‘limi, amaliy tilshunoslik hamda tarjima nazariyasi va amaliyotida muhim burilishlar hosil qilishga xizmat qildi. Ayniqsa, kompyuter lingvistikasi negizida korpusga asoslangan lug‘atchilikning taraqqiy etishi web dasturlarda onlayn, mobil ilovalar hamda zamonaviy elektron qurilmalarda ishlash uchun mo‘ljallangan turli tipdagi lug‘atlarning platformasi yaratilishiga zamin hozirladi.

O‘zbek tilining davlat tili sifatidagi nufuzini oshirish borasida yurtimizda olib borilayotgan keng ko‘lamli islohotlar ona tilining boy imkoniyatlaridan samarali foydalanish ko‘nikmalarini o‘stirishga xizmat qiluvchi amaliy tadqiqotlarga keng yo‘l ochdi. O‘zbek tilshunosligida o‘quv lug‘atlari, ularning o‘ziga xos xususiyati, ijtimoiy, psixologik, leksikografik, ta‘limiy ahamiyati, mavjud lug‘atlarning elektron, xususan, mobil ilovalarini yaratishning lingvistik asoslari masalalari to‘liq o‘rganilmagan. Binobarin, “bugungi globallashuv davrida har bir xalq, har qaysi mustaqil davlat o‘z milliy manfaatlarini ta‘minlash, bu borada, avvalo, o‘z madaniyatini, azaliy qadriyatlarini, ona tilini asrab-avaylash va rivojlantirish masalasiga ustuvor ahamiyat qaratishi tabiiydir. O‘zbek tilining xalqimiz ijtimoiy hayotida va xalqaro miqyosdagi obro‘-e‘tiborini tubdan oshirish, yoshlarimizni vatanparvarlik, milliy an‘ana va qadriyatlarga sadoqat, ulug‘ ajdodlarimizning boy merosiga vorislik ruhida tarbiyalash, mamlakatimizda davlat tilini to‘laqonli joriy etishni ta‘minlash”¹ maqsadida o‘zbek tili o‘quv leksikografiyasi tarmog‘ini rivojlantirish, zamonaviy, yangi avlod o‘quv lug‘atlarini tuzish hamda ularning elektron shakllarini va sohalar bo‘yicha atamalar lug‘atini yaratishni kun tartibiga qo‘yadi.

O‘zbekiston Respublikasi Prezidentining 2019-yil 21-oktabrdagi PF-5850-son “O‘zbek tilining davlat tili sifatidagi nufuzi va mavqeyini tubdan oshirish chora-tadbirlari to‘g‘risida”, 2020-yil 20-oktabrdagi PF-6084-son “Mamlakatimizda o‘zbek tilini yanada rivojlantirish va til siyosatini takomillashtirish chora-tadbirlari to‘g‘risida”, 2020-yil 6-noyabrdagi PF-6108-son “O‘zbekistonning yangi taraqqiyot davrida ta‘lim-tarbiya va ilm-fan sohalarini rivojlantirish chora-tadbirlari to‘g‘risida”, 2022-yil 28-yanvardagi PF-60-son “2022-2026-yillarga mo‘ljallangan yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida”gi

¹ Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг “Ўзбек тилининг давлат тили сифатидаги нуфузи ва mavqeyini tubdan oshirish chora-tadbirlari tўg‘risida”ги Фармони. www.xabar.uz (murojaat sanasi: 12.08.2022)

Farmonlari; 2017-yil 17-fevraldagi PQ-2789-son “Fanlar akademiyasi faoliyati, ilmiy-tadqiqot ishlarini tashkil etish, boshqarish va moliyalashtirishni yanada takomillashtirish chora-tadbirlari to‘g‘risida”, 2019-yil 4-oktabrdagi PQ-4479-son “O‘zbekiston Respublikasining “Davlat tili haqida”gi Qonuni qabul qilinganining o‘ttiz yilligini keng nishonlash to‘g‘risida”gi qarorlari, 2022-yil 20-dekabrdagi O‘zbekiston Respublikasi Prezidentining Oliy Majlisga Murojaatnomasi hamda mazkur faoliyatga tegishli boshqa me‘yoriy-huquqiy hujjatlarda belgilangan ustuvor vazifalarni amalga oshirishda ushbu tadqiqot muayyan darajada xizmat qiladi.

Tadqiqotning respublika fan va texnologiyalari rivojlanishining ustuvor yo‘nalishlariga mosligi. Tadqiqot respublika fan va texnologiyalari rivojlanishining I. “Axborotlashgan jamiyat va demokratik davlatni ijtimoiy, huquqiy, iqtisodiy, madaniy, ma‘naviy-ma‘rifiy rivojlantirish, innovatsion iqtisodiyotni rivojlantirish” ustuvor yo‘nalishiga muvofiq bajarilgan.

Muammoning o‘rganilganlik darajasi. Jahon tilshunosligida o‘quv lug‘atchiligi, so‘zlarning shakl va ma‘no munosabatiga ko‘ra turlaridan biri hisoblangan omonimlar talqini bilan bog‘liq bahslar, ushbu sermahsul til hodisasiga bo‘lgan yondashuvlarni yangi bosqichga ko‘tarish hamda tadqiqot sohasini kengaytirish borasida izlanishlar olib borilgan. Mobil lug‘atlarning til ta‘limida turgan o‘rni va undan instrument sifatida foydalanish masalalari² A.Kukulska-Xulme, L.Shield, M.Sharples, M.Tayyebinik, M.Puteh, G.Chinneri, J.Traxler, A.Trifanova, M.Hussey, E.Klopfer, J.Kronj, K.Stil, P.Sornton kabi tadqiqotchilar tomonidan o‘rganilgan.

Rus tilshunosligida kompyuter leksikografiyasi va elektron lug‘atchilikka doir izlanishlar bir qator olimlar ishlarida o‘z ifodasini topgan³.

² Kukulska-Hulme A., Shield L. An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. ReCALL, 2008. – P. 271; Sharples M. Big issues in mobile learning. Report of a workshop by the Kaleidoscope Network of Excellence Mobile Learning Initiative; 2006. – P. 115; Tayyebinik M., Puteh M. Mobile learning to support teaching English as a second language. Journal of Education and Practice, 2012. – P. 56-63; Chinnery G.M. Emerging technologies, going to the MALL: Mobile Assisted Language Learning and Technology, 2006. – P. 9-16; Traxler J. Mobile Learning: It’s here, but what is it? Interactions, 2005. – P. 78-92; Trifanova A., Ronchetti M. Where is mobile learning going? Proceedings of the E-learn Conference, 2003. – P. 1795-1801; El-Hussein M.O.M., Cronje J.C. Defining mobile learning in the higher education landscape. Educational Technology and Society, 2010. – P. 12-21; Steel C. Fitting learning into life: Language students’ perspectives on benefits of using mobile apps. Proceedings of ascilite 2012. – P. 35-41; Thornton P., Houser C. Using mobile phones in English education in Japan. Journal of Computer Assisted Learning, 2005. – P. 217-228.

³ Рублева О.С. Слово в электронном словаре (с позиций пользователя электронными ресурсами) Автореф. дисс. ... канд. филол. наук. – Тверь, 2010; Шакер И.Т. Лексические производные омонимы – существительные и их отражение в словарях. Автореф. дисс. ... канд. филол. наук. – Воронеж, 2013; Ахмедова М.Н. Лексико-семантические особенности омонимов персидского языка: Автореф. дисс. ... канд. филол. наук. – Душанбе, 2010; Алексеева Н.А. Совершенствование орфографической компетенции Иностранцев студентов-нефилологов на основе Учебного словаря-справочника: Автореф. дисс. ... канд. филол. наук. – Санкт-Петербург, 2008; Петрушова О.Л. Учебные словари в межкультурной коммуникации: Автореф. дисс. ... канд. филол. наук. – Ярославль, 2009; Тимофеева Н.М. Проектирование учебных словарей по педагогическим дисциплинам: Автореф. дисс. ... канд. филол. наук. – Смоленск, 2004; Старикова И.Л. Основы построения учебных словарей сопроводительного типа: Автореф. дисс. ... канд. филол. наук. – М., 2008; Лебедева С.В. Учебные словари различных типов в культурологическом: Автореф. дисс. ... канд. филол. наук. – Иваново, 2005; Fellbaum Cristiane (Ed.), WordNet: An Electronic Lexical Database. The MIT

O‘zbek leksikografiyasi o‘zining uzoq tarixiga ega bo‘lib, uning ilk namunasi Mahmud Koshg‘ariyning “Devonu lug‘otit turk” asaridir. Uzoq davriy bosqichlardan bugungi kunga qadar qomusiy va lingvistik lug‘atlar⁴ yaratilib, takomillashtirildi hamda qator tadqiqot⁵ ishlari maydonga keldi.

O‘zbek tilshunosligida XX asr oxiri va XXI asrning boshlarida kompyuter lingvistikasi, matnlarni kompyuter leksikografiyasi bilan bog‘liq holda tahlil etish borasida A.Po‘latov, S.Muhammedov, N.Ayimbetov, S.Muhamedova, G.Jumanazarova, A.Babanarov, D.O‘rinboyeva, A.Norov va boshqalar tomonidan turli tadqiqotlar amalga oshirilgan.

Press, Cambridge, London, England, 1998; Estienne, R. Thesaurus linguae latinae / R. Estienne. Paris, 1531; Estienne, R. Dictionnaire François-latin contenant les motz etmanieres de parler François, tournez en Latin /R. Estienne. Paris, 1539.

⁴Mengliyev V., Xolyorov O‘. Ona tili Qomus (maktab o‘quvchilari uchun). – Toshkent: Yangi asr avlodi, 2009; Kўnғurov P., Tихонов A. Ўзбек тилининг чаппа луғати, Самарқанд: 1968; Рустамов А., Каримов Қ., Умаров З. Форсча-ўзбекча ўқув луғати. – Тошкент: Ўқитувчи, 1975; Асомиддинова М., Бегматов Э. ва бошқалар Ўзбек адабий талаффузи луғати. – Тошкент: Фан, 1984; Ҳожиёв А. Ўзбек тили синонимларининг изоҳли луғати. – Тошкент: Ўқитувчи, 1974; Маруфов А. Паронимлар луғати, Тошкент: Ўқитувчи, 1974; Ғуломов А., Тихонов А., Кўнғуров Р. Ўзбек тили морфем луғати. – Тошкент: Ўқитувчи, 1977; Раҳматуллаев Ш., Маматов Н., Шукуров Р. Ўзбек тили антонимларининг изоҳли луғати. – Тошкент: Ўқитувчи, 1980; Раҳматуллаев Ш. Ўзбек тили омонимларининг изоҳли луғати. – Тошкент: Ўқитувчи, 1984; Муҳаммедов С. Ўзбек тилининг алфавитли-частотали луғати. – Тошкент: Фан, 1982; Ножийев А., Nurmonov A. va boshqalar Hozirgi o‘zbek tili faol so‘zlarining izohli lug‘ati. – Toshkent: Sharq, 2001; Сулаймонова Н., Абзалова М. Ўзбек тилидаги арабий сўзлар имлоси. – Тошкент: Фан ва технология, 2008; Раҳматуллаев Ш. Ўзбек тилининг этимологик луғати (3-жилдли). – Тошкент: Университет, 2000-2009; Махмудов Н. Худоберганова Д. Ўзбек тили ўхшатишларининг изоҳли луғати. – Тошкент: Маънавият, 2013; Маматов Н. Ўзбек тилидаги ҳозирги кўшма сўзлар луғати. – Тошкент: Фан ва технология, 2019; Vafoiy A., Avezmetov Sh. O‘zbek tiliga o‘zlashgan forcha so‘zlar. – Tehron-Toshkent. Al-Hudo, Mavarounnahr, 2005; Содиков Қ. Илк ва ўрта асрлар туркий матнлари номларининг изоҳли луғати. – Тошкент: Шарқшунослик, 2001; Volkovskaya D., Peremqulova A., Hakimov M. Inglizcha-ruscha-o‘zbekcha kompyuter ilmi bo‘yicha o‘quv lug‘ati. – Тошкент: O‘zbekiston milliy universiteti, 2004; Абдуллаева М. ва бошқалар Фалсафа қисқача изоҳли луғати. – Тошкент: Шарқ, 2004; Рўзимбоев С., Рўзметов Х., Фольклор атамалари қисқача луғати. – Урганч: 2007;

⁵Мадвалиев А. Ўзбек терминологияси ва лексикографияси. – Тошкент: Ўзбекистон миллий энциклопедияси, 2017; Худжаева Р.М. Инглиз ва ўзбек тилларидаги генетик боғланмаган лексик омонимларнинг самарадорлиги ва уларнинг лексикографик талқини: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2017; Ғофурова С. Салоҳиддин Тошкандий «Луғоти салос» асарининг лексикографик хусусиятлари: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Фарғона, 2018; Норматов С. Ўзбек луғатчилигининг шаклланиши ва ривожланишида жадид маърифатпарварларининг ўрни: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент, 2019; Бердимуратов Д. Феъл фразеологик бирликларнинг лексикографик талқини тамойиллари (немис тили изоҳли луғати мисолида): Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2019; Бахридинова Б. Ўзбекистонда ўқув луғатчилиги: лингвистик асослари, тарихи ва истиқболлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Самарқанд, 2020; Розикова Г. «Девону луғотит турк» асаридаги от лексемаларнинг семантик, функционал ва услубий хусусиятлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона, 2021; Убайдуллаев А. “Луғати туркий”нинг лексикографик тадқиқи. – Тошкент: Mumtoz so‘z, 2021; Нигматова Л. Мустақиллик даври ўзбек луғатчилигида тил ва маданият муштараклиги муаммоси: Филол. фанлари доктори (DSc) ... дисс. автореф. – Бухоро. 2021; Султонова Ш. Грамматик терминлар электрон луғатини яратишнинг лингвистик асослари: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2022; Мирханова Г. Ўзбек тилининг синоним сўзлар ўқув луғатини тузишнинг лингвистик асослари: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Қарши, 2022; Ражабова З.И. Ўзбек ўқув фразеографиясининг лингвистик аспекти: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Қарши, 2022; Эшбоев Қ. Сўзлараро даражаланиш ўқув луғатини тузиш асослари: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2022; Шарипов С. Замонавий икки тилли луғатларнинг ривожланиш ва тузилиш муаммолари (рус-ўзбек ва ўзбек-рус луғатлари материаллари мисолида): Филол. фанлари бўйича фалсафа доктори (PhD) автореф. дисс. – Бухоро, 2023.

So‘nggi yillarda o‘zbek tilshunosligida ham kompyuter lingvistikasi, korpus lingvistikasi hamda kompyuter leksikografiyasiga oid ishlar amalga oshirildi⁶, xususan, N.Abduraxmonova, Sh.Xamroyeva, Sh.Gulyamova, A.Eshmo‘minov, M.Abjalova va boshqalarning tadqiqotlarida o‘zbek tilida yangi avlod lug‘atlarini yaratishning lingvistik xususiyatlari monografik aspektida o‘rganilgan.

Tadqiqotning dissertatsiya bajarilgan oliy ta‘lim muassasasining ilmiy-tadqiqot ishlari rejalari bilan bog‘liqligi. Dissertatsiya Farg‘ona davlat universiteti ilmiy-tadqiqot ishlari rejasining “Zamonaviy tilshunoslik muammolari” yo‘nalishi doirasida bajarilgan.

Tadqiqotning maqsadi o‘zbek tili omonimlar o‘quv lug‘atining tarkibiy qismi sifatida leksik, affiksial va frazeologik til birliklarining omonimik paradigmasini shakllantirish, kompyuter leksikografiyasi nuqtayi nazaridan yangi avlod o‘quv lug‘atlarini yaratishning nazariy asoslariga tayanib, ilg‘or texnologiyalarni tatbiq etgan holda, o‘zbek tili omonimlari mobil lug‘atini shakllantirishdan iborat.

Tadqiqotning vazifalari sifatida quyidagilar belgilangan:

o‘zbek tili o‘quv lug‘atlarini yaratishning korpusga asoslangan nazariy metodologiyasini tahlil qilish;

yangi avlod o‘quv lug‘atlarini yaratishda kompyuter leksikografik tadqiqotlarning konseptologik jihatlarini amaliyotga tatbiq etish;

o‘zbek tili omonimlar o‘quv lug‘ati mobil ilovasining lug‘at strukturasi va kontentini yaratish;

o‘quv lug‘atlari misolida elektron lug‘atlarga xos funksional imkoniyatlarni tadqiq etish orqali uning nazariy asoslarini yoritib berish.

Tadqiqotning obyekti sifatida “O‘zbek tili omonimlarining izohli lug‘ati”, “O‘zbek tilining izohli lug‘ati” hamda “O‘zbek tilining elektron korpusi” dagi lingvistik resurslar olingan.

Tadqiqotning predmeti o‘zbek tili omonimlari o‘quv lug‘ati mobil ilovasini yaratish orqali yangi avlod o‘quv lug‘atlarining lingvistik va lingvodidaktik asoslarini tadqiq etishdan iborat.

⁶ Абдурахмонова Н. Ўзбек тили электрон корпусининг компьютер моделлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент, 2021; Хамроева Ш. Ўзбек тили морфологик анализаторининг лингвистик таъминоти: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона, 2021; Тоирова Г. Ўзбек тили миллий корпусини яратишнинг назарий ва амалий масалалари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Бухоро, 2021; Abjalova M.A. O‘zbek tili ontologiyasini yaratish tamoyillari: Filol. fanlari doktori (DSc) ...diss. avtoref. – Farg‘ona. 2022; Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022; A.Agostini, T.Usmanov, U.Khamdamov, N.Abdurakhmonova, M.Mamasaidov. 2021. UZWORDNET: A Lexical-Semantic Database for the Uzbek Language. In Proceedings of the 11th Global Wordnet Conference, – P. 8–19, University of South Africa (UNISA). Global Wordnet Association; Mengliev, D; Barakhnin, V; Abdurakhmonova, N. Development of Intellectual Web System for Morph Analyzing of Uzbek Words. Appl. Sci. 2021, 11, 9117. <https://doi.org/10.3390/app11199117>; Абдурахмонова Н., Ҳайдаров М. Ўзбек тилида WORDNET яратиш масалаларига доир // “O‘zbekistonda hozirgi tillar” elektron jurnali № 4 (27) / 2019; Абдурахмонова Н. Ўзбек тили электрон корпусининг компьютер моделлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент. 2021; Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022; Мамедова М.А. Умумталим мактаблари ўқувчиларини инглиз тили омонимларига ўқитишдаги компьютер технологиялари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент, 2017;

Tadqiqotning usullari. Dissertatsiya mavzusini yoritishda tavsiflash, tasniflash, qiyoslash, korpusga asoslangan tahlil, struktur-semantik modellashtirish metodlaridan foydalanildi.

Tadqiqotning ilmiy yangiligi quyidagilardan iborat:

o‘quv lug‘atlaridan foydalanishda mobil ta’lim nazariyasining multimediya, rasm, audio va shu kabi metodologik imkoniyatlari asosida yaratilgan omonimlar o‘quv lug‘ati ma’lumotlar bazasiga omograf, omoforma va omofon birliklari kiritilib, ularning lingvistik imkoniyatlari ochib berilgan;

zamonaviy elektron o‘quv lug‘atlarining asosiy vazifalari ma’lum bir sohaga oid so‘z va atamalarni to‘plash, ulardan foydalanish me’yorlarini belgilash, kommunikativ funksiyalardan iborat ekanligi aniqlangan;

elektron o‘quv lug‘atning leksik vositalarini mavzu yo‘nalishiga muvofiq tanlash, terminologik tizimda mavjud bo‘lgan mantiqiy va konseptual munosabatlarni hisobga olgan holda omonimlar lug‘atini tuzish va tizimlashtirish, kontekstli manba matn qismini kiritish uchun ensiklopedik qism yaratish, ochiqlik, ya’ni o‘quv materialini o‘zgartirish va to‘ldirish imkoniyati kabi xususiyatlari bilan bog‘liqligi dalillangan;

omonimlar o‘quv lug‘ati mobil ilovasi uchun grammatik, leksik, matniy bilimlar bazalari asosida lingvistik ta’minot yaratilib, uni doimiy ravishda yangilab borish, yangi kirib kelayotgan omonim birliklarni kiritish imkoniyati asoslangan.

Tadqiqotning amaliy natijalari quyidagilardan iborat:

Ushbu tadqiqot ishi “Yangi avlod o‘quv lug‘atlari va uning mobil ilovasini yaratish” (2021-2023) nomli loyiha doirasida amalga oshirilgan tadqiqotda o‘z ifodasini topgan. Natijada <http://tilshunos.com/> saytida omonimlar o‘quv lug‘ati va uning interaktiv topshiriqlaridan iborat lingvistik bazasi shakllantirilgan;

“Yangi avlod o‘quv lug‘atlari va ularning mobil ilovalarini yaratish – omonimlar lug‘ati” (DGU 2022 2572) va “Omonimlar lug‘ati” (BGU 2022 0055) uchun mualliflik guvohnomasi olingan⁷.

Tadqiqot natijalarining ishonchliligi mobil lug‘atlarning lingvistik tahlil metodologiyasi negizida shakllantirilgani, birlamchi ilmiy-uslubiy manbalarga tayanilgani, ishonchli va samarali tavsiflash, tasniflash, qiyosiy-tarixiy, tarixiy-genetik hamda statistik tahlil usullaridan foydalanilgani, nazariy fikr va xulosalarning amaliyotga joriy etilganligi, olingan natijalarning vakolatli tashkilotlar tomonidan tasdiqlanganligi bilan o‘z isbotini topadi.

Tadqiqot natijalarining ilmiy va amaliy ahamiyati.

Tadqiqot natijalarining ilmiy ahamiyati shundaki, ishning nazariy metodologik asoslari hamda erishilgan amaliy natijalar asosida “O‘zbek tili omonimlarining o‘quv lug‘ati” yaratilgani, ushbu o‘quv lug‘atning kontenti korpusga asoslangan tahlil asosida shakllantirilib, mobil lug‘atga kiritilgani, kompyuter leksikografiyasiga oid metodologik ishlanmani yaratishda ilmiy tadqiqotlarga, xususan, zamonaviy elektron lug‘atlar

⁷ Назирова Э., Абдурахмонова Н., Абдувахобов Ф. Янги авлод ўқув луғатлари ва уларнинг мобиль иловаларини яратиш – омонимлар луғати DGU 2022 2572, 15.06.2022; Назирова Э., Абдурахмонова Н., Абдувахобов Ф., Азимов С. Омонимлар луғати. BGU 2022 005511.03.2022.

yaratish tamoyillariga tayanilgani, kompyuter lingvistikasi hamda kompyuter leksikografiyasi, korpus lingvistikasi kabi fanlarda erishilgan nazariy xulosalardan foydalanish mumkinligi bilan belgilanadi.

Tadqiqot natijalarining amaliy ahamiyati shundan iboratki, kompyuter lingvistikasi, tilshunoslikning “Leksikologiya”, “Leksikografiya” va “Semasiologiya” bo‘limlari, “Amaliy tilshunoslik” fanlaridan darslik va qo‘llanmalar, mobil hamda assotsiativ lug‘atlar yaratish, lingvodidaktika, pedagogik leksikografiyani fan sifatida o‘qitishning metodik ta‘minotini shakllantirishda foydalanish mumkinligi bilan belgilanadi.

Tadqiqot natijalarining joriy qilinishi.

Yangi avlod omonimlar o‘quv lug‘ati mobil ilovasini yaratishning lingvistik asoslaridan:

elektron o‘quv lug‘atning leksik vositalarini mavzu yo‘nalishiga muvofiq tanlash, terminologik tizimda mavjud bo‘lgan mantiqiy va konseptual munosabatlarni hisobga olgan holda omonimlar lug‘atini tuzish va tizimlashtirish, kontekstli manba matn qismini kiritish uchun ensiklopedik qism yaratish, ochiqlik, ya‘ni o‘quv materialini o‘zgartirish va to‘ldirish imkoniyati kabi xususiyatlari bilan bog‘liqligi xususidagi xulosalardan 2018-2021-yillarga mo‘ljallangan Erasmus + xalqaro loyihasi doirasida “Class – Markaziy Osiyo universitetlarida Kompyuter lingvistikasi magistratura dasturini rivojlantirish” nomli xalqaro amaliy loyihasida foydalanilgan (Alisher Navoiy nomidagi Toshkent davlat o‘zbek tili va adabiyoti universitetining 2022-yil 16-noyabrdagi 04/1-3158-son ma‘lumotnomasi). Natijada kompyuter lingvistikasi bo‘yicha magistratura dasturini rivojlantirish, yangi avlod o‘quv lug‘atlari mohiyatini magistrantlarga yetkazish, omonimlarning ma‘lumotlar bazasini yaratish orqali leksikografik tadqiqotlarning nazariy asoslarini dalillash, lug‘at yaratish mezonlarini tasniflashning ilmiy-amaliy jihatlari boyitilgan;

o‘quv lug‘atlaridan foydalanishda mobil ta‘lim nazariyasining multimediya, rasm, audio va shu kabi metodologik imkoniyatlar asosida yaratilgan omonimlar o‘quv lug‘ati ma‘lumotlar bazasiga omograf, omoforma va omofon birliklari kiritilib, ularning lingvistik imkoniyatlaridan Toshkent davlat o‘zbek tili va adabiyoti universitetida 2020-2022-yilda amalga oshirilgan AM-FZ-201908172 raqamli “O‘zbek tilining ta‘limiy korpusini yaratish” mavzusidagi innovatsion ilmiy loyihada foydalanilgan (Alisher Navoiy nomidagi Toshkent davlat o‘zbek tili va adabiyoti universitetining 2022-yil 21-dekabrdagi 01/4-3528-son ma‘lumotnomasi). Natijada o‘quv lug‘atlari mobil ilovasini yaratish orqali ta‘lim jarayonida mobil lug‘atning interaktivligini ta‘minlashga doir fikrlar ilmiy asoslangan;

tadqiqotning omonimlar o‘quv lug‘ati mobil ilovasi uchun grammatik, leksik, matniy bilimlar bazalari asosidagi lingvistik ta‘minot yaratilgan, uni doimiy ravishda yangilab borish, yangi kirib kelayotgan omonim birliklarni kiritish imkoniyatiga oid materiallaridan 2021-2022-yillarda O‘zbekiston Milliy teleradiokompaniyasi “O‘zbekiston” teleradiokanalining “Bedorlik”, “Ijod zavqi”, “Ta‘lim va taraqqiyot”, “Millat va ma‘naviyat” eshittirishlarining ssenariysini

yoʻzishda foydalanilgan (Oʻzbekiston milliy teleradiokompaniyasi “Oʻzbekiston” teleradiokanali davlat muassasasining 2022-yil 27-dekabrda 04-36-2142-son maʼlumotnomasi). Natijada radiodasturlarda berilgan mazkur ilmiy natijalar tinglovchilarning muloqot madaniyati, badiiy tafakkuri, falsafiy qarashlari borasidagi bilimlari oshishiga xizmat qilgan.

Tadqiqot natijalarining aprobatsiyasi.

Tadqiqot natijalari 6 ta ilmiy-amaliy anjuman va seminarda, jumladan, 4 ta xalqaro va 2 ta respublika ilmiy-amaliy konferensiyasida maʼruza qilingan va aprobatsiyadan oʻtkazilgan, shuningdek, muallifning quyidagi <https://scholar.google.com/citations?user=UTx-aZsAAAAJ&hl=ru> google schooler platformasida ilmiy ishlari muhokama qilingan.

Tadqiqot natijalarining eʼlon qilinishi.

Dissertatsiya boʻyicha jami 12 ta ilmiy ish chop etilgan boʻlib, shundan 1 ta oʻquv lugʻat va Oʻzbekiston Respublikasi Oliy attestatsiya komissiyasi tomonidan doktorlik dissertatsiyalari asosiy ilmiy natijalarini chop etish tavsiya etilgan ilmiy nashrlarda 4 ta maqola (shu jumladan, 2 tasi respublika va 2 tasi xorijiy jurnallarda) nashr etilgan.

Dissertatsiyaning tuzilishi va hajmi.

Dissertatsiya kirish, uch bob, xulosa, foydalanilgan adabiyotlar roʻyxatidan iborat boʻlib, ishning umumiy hajmi 138 sahifani tashkil etadi.

DISSERTATSIYANING ASOSIY MAZMUNI

Dissertatsiyaning **Kirish** qismida tadqiqotning dolzarbligi va zarurati asoslangan, tadqiqot ishining maqsad va vazifalari, obykti va predmeti tavsiflangan, respublika fan va texnologiyalar rivojlanishining ustuvor yo‘nalishlariga mosligi ko‘rsatilgan, tadqiqotning ilmiy yangiligi va amaliy natijalari bayon qilingan, olingan natijalarning ilmiy va amaliy ahamiyati ochib berilgan, tadqiqot natijalarini amaliyotga joriy qilish, nashr etilgan ishlar va dissertatsiya tuzilishi bo‘yicha ma‘lumotlar keltirilgan.

Dissertatsiyaning *“Elektron lug‘atlar kompyuter leksikografiyasining o‘rganish obykti sifatida”* deb nomlangan birinchi bobida kompyuter leksikografiyasida lingvistik resurslarning o‘rganilishi, kitobiy va elektron lug‘atlarning umumiy va farqli jihatlari, lingvistik lug‘atlarning zamonaviy turlari, lug‘at kompozitsiyasi va kontentini yaratishga doir jahon va o‘zbek tilshunosligida antropotsentrik tamoyillar asosida bajarilgan ishlar xususida ma‘lumot berilgan va uning nazariy asoslari tadqiq etilgan.

Dissertatsiya birinchi bobining *“O‘quv lug‘atchiligiga oid tadqiqotlar sharhi”* deb nomlangan birinchi faslida o‘quv lug‘atlarining jahon, rus va o‘zbek tilshunosligidagi o‘rni haqidagi fikrlar yoritilgan.

Lug‘atchilikning tadrijiy taraqqiyoti haqida gap ketar ekan, ko‘p o‘rinlarda tarjima lug‘ati – lingvistik lug‘at – qomusiy lug‘at – ta‘limiy (o‘quv) lug‘at – elektron lug‘atlar ketma-ketligi keltiriladi. Jahon tilshunosligida lug‘atchilik tarixi yuzasidan olib borilgan tadqiqotlar lug‘atning dastlabki ko‘rinishlari sifatida ta‘limiy maqsadga yo‘naltirilgan ilk lug‘at namunalari aslida maktab uchun yaratilgan ibtidoiy o‘quv qo‘llanmalari bo‘lgan, aniqrog‘i, ibtidoiy maktabda lug‘at darslik vazifasini o‘tagan⁸.

Mustaqil fan sifatida o‘quv leksikografiyasi xalqaro aloqalar kengayishi natijasida XX asrning ikkinchi yarmida chet tillarni o‘rganishga qiziqish bilan bog‘liq holda shakllandi.

So‘nggi yillarda o‘zbek tilshunosligida ham lingvistik lug‘atchilikda hamda kompyuter lingvistikasida qator ishlar amalga oshirildi⁹. Xususan, B.Bahriddinova,

⁸ Бахридинова Б.Б. Ўзбекистонда ўқув луғатчилиги: лингвистик асослари, тарихи ва истиқболлари. Филол. фанлари доктори (DSc) ... дисс. автореф. – Самарқанд, 2020. – Б. 69

⁹ Alessandro Agostini, Timur Usmanov, Ulugbek Khamdamov, Nilufar Abdurakhmonova, and Mukhammadsaid Mamasaidov. 2021. UZWORDNET: A Lexical-Semantic Database for the Uzbek Language. In Proceedings of the 11th Global Wordnet Conference, –P. 8–19, University of South Africa (UNISA). Global Wordnet Association; Mengliev, D; Barakhnin, V; Abdurakhmonova, N. Development of Intellectual Web System for Morph Analyzing of Uzbek Words. Appl. Sci. 2021, 11, 9117. <https://doi.org/10.3390/app11199117>; Абдурахмонова Н., Хайдаров М. Ўзбек тилида WORDNET яратиш масалаларига доир // “O‘zbekistonda xorijiy tillar” elektron jurnali № 4 (27) / 2019; Абдурахмонова Н. Ўзбек тили электрон корпусининг компьютер моделлари: Филол. фанлари доктори (DSc) ... дисс. автореф – Тошкент. 2021; Бахридинова Б.М. Ўзбекистонда ўқув луғатчилиги: лингвистик асослари, тарихи ва истиқболлари: Филол. фанлари доктори (DSc) ... дисс. автореф – Самарқанд. 2020; Ражабова З.И. Ўзбек ўқув фразеографиясининг лингвистик аспекти: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Қарши, 2022; Мирханова Г.Р. Ўзбек тилининг синоним сўзлар ўқув луғатини тузишнинг лингвистик асослари. Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Қарши, 2022; Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022; Нормаматов С.Э. Ўзбек луғатчилигининг шаклланиши ва ривожланишида жаҳид маърифатпарварларининг ўрни: Филол. фанлари доктори (DSc) ... дисс. автореф. –

Z.Rajabova, G.Mirxanova, N.Abduraxmonova, Sh.Gulyamova va boshqalarning tadqiqotlari o‘zbek tilida yangi avlod omonimlar o‘quv izohli lug‘atlarni yaratishning lingvistik xususiyatlari monografik aspektida o‘rganildi.

Birinchi bobning ikkinchi fasli “*Kompyuter leksikografiyasida lingvistik resurslarning o‘rganilishi*” deb nomlanib, unda lingvistik birliklar taraqqiyotida leksikografiya va uning yangi tarmoqlaridan biri hisoblangan kompyuter leksikografiyasida lingvistik resurslarni tartiblash va uni o‘zbek tilshunosligida yangi bosqichga olib chiqishning amaliy va nazariy asoslari o‘rganilgan (*tezaurus va ontologiya* haqida aniq dalillar bilan keltiriladi).

Inson hayoti, jamiyat, tillararo hamda madaniyatlararo muloqotda lug‘atlarning o‘rni juda katta. Shu sababli lug‘at va leksikografiyaga bo‘lgan qiziqish, talab va ehtiyoj kundan kunga ortib bormoqda. Shuni ta’kidlash kerakki, turli xalqlar va mamlakatlar o‘rtasidagi munosabatlar kuchayib, faollashib borayotgan bir davrda ushbu sohaga bo‘lgan e’tibor ortmoqda. Bu munosabatlarda lug‘atlar ko‘prik, vosita rolini o‘taydi. Dunyoning barcha mamlakatlarida leksikografiyaga e’tibor kuchayayotganligi kuzatilmoqda. Turli lug‘atlar tuzishning asosiy sabablaridan biri axborot texnologiyalari sohasining takomillashishidir.

Kompyuter yordamida lug‘atlar bilan ishlashning optimallasuvi natijasida kompyuter leksikografiyasi yo‘nalishi shakllandi. Kompyuter leksikografiyasi amaliy tilshunoslikning muhim tarkibiy qismi bo‘lib, unda lingvistik va dasturiy ta’minot asosida ishlaydigan, kodlash va dekodlash tamoyili asosida yaratilgan kompyuter lug‘atlari, ularni tuzish dasturlari, algoritmlari o‘rganiladi. Mazkur sohaning rivojlanishi natijasida turli nomlarda elektron lug‘atlar yaratilmoqda. Eng mashhur elektron lug‘atlar sirasiga CONTEXT, ABBY LINGVO, MULTITRAN, POLYGLOSSUM, MULTILEKS¹⁰ kabilar kiradi.

“Elektron lug‘at” tushunchasi tilshunoslik fanida so‘nggi o‘ttiz yil mobaynida paydo bo‘lgan termindir. “Kompyuter leksikografiyasi” termini esa nisbatan ilgari paydo bo‘lgan. Mazkur tushunchaning ilmiy talqini Y.N.Marchukning 1976-yilda nashrdan chiqqan “Hisoblash leksikografiyasi”, E.V.Vertelning 1984-yilda nashr qilingan “Mashina leksikografiyasi”, O.A.Kazakevichning 1985-yildagi “Avtomatlashtirilgan leksikografiya”, V.V.Markovkinning 1990-yilda yaratilgan “Kompyuter leksikografiyasi” nomli darslik va o‘quv qo‘llanmalarida bayon etilgan. Xususan, Y.N.Marchuk ushbu terminlarni “Kompyuter lingvistikasi” sarlavhasi ostida umumlashtirish zarurligi, tilshunoslikning dolzarb muammolarini hal qilish zamonaviy dasturiy yo‘nalishlariga asoslangan kompyuterlar yordamida muhokama qilinishini ta’kidlaydi¹¹. Q.M.Mandrikova esa “hisoblash leksikografiyasi”, “hisoblash mashinasi” va “avtomatik leksikografiya”

Тошкент: 2019; Худжаева Р.М. Инглиз ва ўзбек тилларидаги генетик боғланмаган лексик омонимларнинг самарадорлиги ва уларнинг лексикографик талқини: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2017. –181 б; Мамедова М.А. Умумтаълим мактаблари ўқувчиларини инглиз тили омонимларига ўқитишдаги компьютер технологиялари: Филол. фанлари бўйича фалсафа доктори (PhD) дисс. – Тошкент, 2017.

¹⁰ Rahimov A. Kompyuter lingvistikasi asoslari – Toshkent: Akademnashr, 2011.

¹¹ Марчук Ю.Н. Основы компьютерной лингвистики. – М.: МГОУ, 2002.

terminlarining bir tushuncha ekanligini va ularning mohiyatida yagona vosita – kompyuter mavjudligini ta’kidlaydi. U “kompyuter leksikografiyasi” tilshunoslikning alohida yo‘nalishi ekanligiga katta urg‘u beradi. Leksikografiyani alohida soha sifatida ko‘rib chiqish lozim, degan xulosaga keladi. Ushbu fanning mazmuni har xil turdagi kompyuter lug‘atlarining nazariy va amaliy masalalari mavjudligini tan olib, ushbu muammo bilan bog‘liq barcha natijalarni nashr etishni nazarda tutadi¹².

Bizning fikrimizcha, bir xil hodisani ifodalovchi “hisoblash leksikografiyasi”, “mashina leksikografiyasi”, “elektron leksikografiya”, “avtomatik (avtomatlashtirilgan) leksikografiya” terminlarini muayyan termin – kompyuter leksikografiyasiga almashtirish orqali ulardagi xilma-xillikning oldini olish mumkin va uni kompyuter lingvistikasining bir tarmog‘i sifatida shu kontekstda o‘rganish o‘rinli hisoblanadi. Bu termin avvallari faol qo‘llanilgan hisoblash leksikografiyasi, mashina leksikografiyasi, avtomatlashtirilgan leksikografiya va statistik leksikografiya atamalarini ham o‘z ichiga oladi.

N.Abdurahmonova “Kompyuter lingvistikasi” darsligida an’anaviy va elektron lug‘atlarni quyidagicha farqlaydi: “An’anaviy lug‘atda u yoki bu so‘zlarning tuzilish kompozitsiyasi aks etgan izohlar qay holatda berilishi nazarda tutilsa, elektron (avtomatik, kompyuter) lug‘at yaratish tamoyillariga ko‘ra foydalanuvchilar uchun maxsus kompyuter formatida yoki muayyan tarkibiy qism dasturi sifatida berilgan dastur nazarda tutiladi (masalan, mashina tarjimasini). Shu bilan birga, foydalanuvchining undan qay tarzda foydalanishiga ko‘ra, elektron lug‘at hamda matnni qayta ishlovchi dastur uchun avtomatik lug‘at sifatida farqlanadi. Foydalanuvchi uchun mo‘ljallangan avtomatik lug‘atlarni erkin tarzda ishlatish mumkin”¹³.

Bizningcha, kompyuter lug‘atlari oddiy an’anaviy lug‘atlardan quyidagi afzalliklari bilan farqlanadi:

- lug‘atga kirish va undan ma’lum so‘rovlar asosida ma’lumot olish tartibining sodda va tezkorligi;
- bir vaqtning o‘zida bir nechta lug‘atlarga murojaat qilish, qisqa vaqt ichida so‘zning ma’nosini oydinlashtirish va umumiy xulosalar chiqarish mumkinligi (an’anaviy lug‘atlarda bu juda ko‘p vaqt hamda kuch talab qiluvchi jarayon hisoblanadi);
- istalgan tildagi so‘zni ajratib ko‘rsatish va boshqa lug‘atlar bilan solishtirish imkoniyatining mavjudligi. Masalan, 8 tilli tarjima lug‘ati har qanday tilga asoslanishi mumkin, ya’ni ko‘p tilli lug‘atlarda ifodalangan barcha tillarning bir xil huquqlarga va qidiruv imkoniyatlariga egaligi;
- oddiy lug‘atlar nashr etilgandan so‘ng so‘zlar soni va izohi qayta nashr etilgunga qadar o‘zgartirilishi mumkin emas. Kompyuter lug‘atlari ochiq mobil tizimlardir. Bunday lug‘atlarda yangi so‘zlarni ma’lumotlar bazasiga qo‘shish,

¹² Мандрикова Г.М. Учебное компьютерное лексикографирование в теоретическом и прикладном рассмотрении: Автореф. дисс. ... канд. филол. наук. – М., 1994.

¹³ Abduraxmonova N. Kompyuter lingvistikasi – Toshkent: Nodirabegim, 2021. – B 148.

tuzatishlar kiritish va eskirgan soʻzlarni olib tashlash (yoki bu soʻzlarni alohida guruhlariga joylashtirish) mumkin.

“Elektron oʻquv lugʻatchiligining konseptologik asoslari” deb nomlangan birinchi bobning uchinchi faslida maxsus qidiruv tizimiga asoslangan elektron lugʻat korpusi, korpusga asoslangan lugʻatlarning malumotlar bazasi hamda dasturiy taʼminotlarni shakllantirish, til oʻrganuvchilar qidiruv tizimidan foydalangan holda kerakli soʻzning umumiy maʼlumotlarini olish kabi imkoniyatlarning mavjudligi nazariy jihatdan oʻrganilganligi bayon qilinadi.

Kompyuter lingvistikasi, mashina tarjimai, til texnologiyasi, tabiiy tilni qayta ishlash, sunʼiy intellekt texnologiyasi kabi terminlar amaliy tilshunoslikda tez-tez qoʻllanishi tilga zamonaviy yondashuvlar asosida nazariy qarashlarni yuzaga keltirmoqda. Bu esa insoniyat tomonidan yaratilgan lingvistik resurs orqali oʻz tadrijiy takomiliga ega boʻlib ulgurdi. Endilikda lingvistik taʼminotning asosiy turlaridan biri sifatida elektron shakldagi korpuslar nazarda tutilmoqda. Korpus lingvistikasi matnlarni annotatsiyalash, yigʻish, tasniflash va boshqa shu kabi vazifalarni bajaradi. Korpus tabiiy tilni tushunish jarayonini lingvistik jihatdan aniq va toʻgʻri koʻrsata olgani bois NLP – natural language processing sohasida uning oʻrni muhim ahamiyatga ega. Shu bois ilmiy manbalarda korpus lingvistikasi tabiiy tilni qayta ishlash sohasining (NLP) bir yoʻnalishi sifatida qayd etiladi¹⁴. Zamonaviy innovatsion texnologiyalarga asoslangan kompyuter lingvistikasi va amaliy lingvistikaning muayyan sohasi sifatida eʼtirof etiladi.

Korpus texnologiyasiga asoslangan har xil turdagi lugʻatlarda mavjud maʼlumot bazasining maxsus qidiruv parametrlari leksik birlikning lugʻaviy maʼnosi va unga tegishli misollarni oʻqiy olish imkoniga ega boʻlishi kerak.

Foydalanuvchilar uchun lugʻat maqolasining tuzilishi, soʻz haqida ishonchli maʼlumot beruvchi uning tarkibiy qismlari, toʻplami alohida ahamiyatga ega. Lugʻat yozuvining tarkibiy qismlari va tuzilishi tasvirlangan lugʻat birliklarining obyektiv murakkabligini, leksikografik janrlarning oʻziga xosligini aks ettiradi, ularning umumiy obyekt leksik birliklarning ochiq toʻplamidir. Shunday qilib, lugʻatlar til va dunyo haqidagi bilimlarimizni tizimlashtiradi. Bu bilimlar lugʻat turi, lugʻat hajmi, leksikografik materialni taqdim etish usulida, lugʻat yozuvining tuzilishi va obyektlarida oʻz ifodasini topgan. Shundan kelib chiqib, maʼlumotlar massiviga kiritish uchun u yoki bu leksikografik manbani tanlash mezonlaridan kamida bittasi lugʻat turi boʻlishi mumkin, degan xulosaga keldik. Boshqa tomondan, bir turdagi lugʻatlarning har biri faqat oʻzigagina xos xususiyatlarga ega. Masalan, nomlash tizimi, lugʻat hajmi, lugʻat tarkibining tuzilishi va lugʻatda soʻz maʼnolarini izohlash yoʻllari, lugʻatga kirgan leksik birliklarning xronologik qatlami va boshqalar. Toʻliq tahlil bir nechta leksikografik manbalarga, jumladan, bir xil turdagi lugʻatlarga murojaat qilishni oʻz ichiga oladi. Bundan tashqari, bir xil leksik birlik haqida bir xil turdagi maʼlumotlar boʻlgan har xil turdagi

¹⁴ Mohamed Zakaria Kurdi. *Natural Language Processing and Computational Linguistics: Speech, Morphology and Syntax*. — Great Britain, USA: Wiley-ISTE 2016. – B. 300.

lugʻatlarda bu maʼlumotlarning mazmuni oʻzaro farqlanishi mumkin: kengroq yoki torroq boʻlishi yoki sifat jihatidan farq qilishi mumkin.

Dissertatsiyaning “*Mobil lugʻatlarni oʻrganishning amaliy masalalari*” deb nomlangan ikkinchi bobida til pedagogikasida mobil lugʻatlardan foydalanishning amaliy masalalari sifatida kompyuter yoki mobil qurilmalar yordamida tabiiy tillarni oʻrganish uchun, birinchi navbatda, lugʻat, grammatika va suhbatlar kitobini qoʻshish oʻrinli hisoblanib, ushbu jarayonni tashkillash lingvistlar va dasturchilar tomonidan amalga oshirilishi lugʻatning elektron versiyasini qoʻllash, grammatik qoidalar va topshiriqlarni ishlab chiqish, axborot-qidiruv tizimlari, dialog tizimlari, ekspert tizimlari, lugʻatlarning talaffuzi, soʻrovlar tizimini tayyorlash, lingvistik taʼminot va dasturiy taʼminot muammosini hal qilish zarurligi bayon qilinadi.

Ikkinchi bobning birinchi fasli “*Mobil lugʻatlardan foydalanishning amaliy jihatlari*” deb nomlanib, bu faslda tillarni kompyuter va mobil qurilmalar orqali oʻrgatish tizimining joriy qilinishi til oʻqitish jarayoniga ijobiy taʼsir etishi tizimli oʻrganilgan.

XXI asrda axborot-kommunikatsiya texnologiyalarining rivojlanishi, taʼlim uchun yaratilgan misli koʻrilmagan imkoniyatlar tufayli taʼlim va oʻqitish muhiti juda tez oʻzgarib bormoqda. Taxminan yarim asr davomida kompyuterlardan oʻqitish vositasi, til oʻrgatishning yangi tajribasi sifatida taʼlim jarayoniga integratsiyalanishi va mobil qurilmalarning tez rivojlanishi natijasida amaliyotga keng tatbiq etildi.

Mobil taʼlim – bu mobil qurilmalar yordamida amalga oshiriladigan taʼlim shakli¹⁵ boʻlib, istalgan joyda va istalgan vaqtda taʼlim olishni taʼminlash demakdir. Dastlab, mobil taʼlimda mobil texnologiyalar va qurilmalarning roliga eʼtibor qaratilgan boʻlsa, soʻnggi yillarda mobil taʼlim foydalanuvchining harakatchanligi va sinfdan tashqari mustaqil taʼlimda amalga oshiriladigan norasmiy taʼlim shakli bilan tavsiflanadi¹⁶. Ushbu holat portativ (koʻchuvchan) media pleyer qurilmalari, planshetlar va mobil telefonlar kabi har qanday palmtop qurilmalari mobil oʻrganishga alohida hissa qoʻshgani bilan belgilanadi.

Kompyuter lingvistikasida olib borilgan tadqiqotlar shuni koʻrsatadiki, mobil qurilmalar orqali til oʻrganish MALL deb nomlanib, bu jarayon portativ qurilmalar yordamida amalga oshiriladigan til oʻrganishning har qanday turi hisoblanadi. Mobil qurilmalar umumiy maʼnoda til oʻrganish, koʻnikmalarni rivojlantirish uchun samarali va ijobiy taʼsir koʻrsatadi.

MALL boʻyicha tadqiqotlar, asosan, oʻqituvchilar tomonidan boshqariladigan mobil taʼlim va oʻquvchilarning mobil ilovalardan foydalanishiga qaratilgan boʻlib, adabiyotlarda mobil ilovalarning til oʻrganishdagi oʻrni tabiiy deb qabul

¹⁵ Kukulska-Hulme A., Shield L. An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 20, 2008. – P. 271

¹⁶ Sharples M. Big issues in mobile learning. Report of a workshop by the Kaleidoscope Network of Excellence Mobile Learning Initiative. 2006. – P. 28

qilingan. Til o'rganuvchilar "mavjudligi, qulayligi va arzonligi" tufayli ushbu ilovalardan tez-tez foydalanadilar¹⁷.

"Elektron lug'atlarga xos ilmiy paradigma" deb nomlangan ikkinchi bobning ikkinchi faslida elektron lug'atlarning yaratilishi va uning kompyuter lingvistikasi, xususan, kompyuter leksikografiyasidagi o'rni tahlil qilinadi. Kompyuter lug'atlari ilmiy markazlar tomonidan turli maqsadlarda tuziladi. Shuning uchun ham bunday lug'atlar axborot texnologiyalari tizimida turli parametrlarga ko'ra tasniflanadi. Ulardan ba'zilari faqat internet tizimlarida keng foydalanish uchun mo'ljallangan va qog'oz (kitob) shakliga ega emas. Ba'zi kompyuter lug'atlarining qog'oz variantlari mavjud. To'g'rirog'i, ba'zan ilmiy jamoatchilik tomonidan ma'qullangan va kundalik hayotda foydalaniladigan lug'atlarning elektron versiyalari yaratiladi. Ushbu versiyalar ham elektron, ham qog'oz lug'atlarning ayrim xususiyatlarini aks ettiradi. Lug'atning qog'oz ko'rinishidagi elektron turlari yaratilib, bu ulardan kengroq foydalanish imkonini beradi. Bu lug'atlarning qisman elektron va to'liq elektron shakllari mavjud. Natijada mavjud kompyuter lug'atlarini keng ma'noda quyidagicha tasniflash mumkin bo'ladi:

a) mashina tarjimasi va sun'iy intellekt tizimlarida qo'llanuvchi lug'atlar;

b) terminologik banklar ma'lumotlar bazasini tashkil etuvchi lug'atlar va tarjimonlarga yordam berish maqsadida yaratilgan "poliglot" tipidagi lug'atlar;

c) turli bibliografik va ensiklopedik ma'lumotlarni o'z ichiga olgan elektron fayllar;

d) lug'atlarning qog'oz (kitob) ko'rinishida anchadan beri mavjud bo'lgan va foydalanish doirasi keng bo'lgan elektron versiyalari.

Ingliz tilidagi eng keng tarqalgan va ko'p qo'llaniladigan "Dictionary.com", "Dictionaries", "Your Dictionary" "Hypertext Dictionary", "WordNet", "Intralinguas English Language Dictionary" va "Onelook Dictionaries" elektron kompyuter lug'atlari misol bo'ladi.

"Your Dictionary" ingliz tili lug'atlaridan maxsus "Onlayn lug'at" va "Onlayn tezaurus" lug'atlar bir vaqtning o'zida har qanday so'z kataloglari "Hypertext Dictionary", "WordNet" va "Intralinguas English Language Dictionary" kabi elektron resurslardan ham izlash, ularning fonetik xususiyatlarini o'rganish hamda ma'nosini oydinlashtirish imkonini beradi. Shuningdek, ushbu elektron lug'at orqali ingliz tilini interaktiv metodlar asosida o'rganish mumkin.

"WordNet" lug'atidan so'zning u yoki bu gap bo'lagiga mansubligi, shu so'zning sinonim, antonim va omonimlari haqida ma'lumot olish mumkin. Katalogda "Thesaurus and Quotes", Dictionary of Difficult Words", "American Heritage Dictionary", "Database Query", "Cambridge Dictionaries Online", "Online Dictionary", "The Jargon Dictionary", "Ono-look Dictionary", "Grandiloquent Dictionary" va shu kabi lug'atlar joylashtirilgan. Ushbu

¹⁷ Steel C. Fitting learning into life: Language students' perspectives on benefits of using mobile apps. Proceedings of ascilite 2012, Future Challenges Sustainable Future. Wellington, New Zealand. Available at: http://www.ascilite.org.au/conferences/wellington12/2012/images/custom/steel%2c_caroline_-_fitting_learning.pdf.

lug‘atlarning har biri ko‘p tilli va maxsus soha (domen) lug‘atlariga kirish huquqiga ega. Maxsus soha lug‘atlari 86 ta faoliyat sohasini qamrab olgan. Bunga biznes, moliya, tibbiyot, kompyuter texnologiyalari, sport va boshqa faoliyat turlari misol bo‘la oladi.

Internetda juda ko‘p glossariylar, lug‘atlar, tezauruslar mavjudki, ularning har biri haqida alohida ma‘lumot berishning iloji va hojati ham yo‘q. “Google”da va yana boshqa qidiruv serverlariga so‘rov yuborish orqali ularning har biri haqida ma‘lumot olish va xizmatlaridan foydalanish mumkin. O‘zbek tilidagi shunday lug‘atlar bilan Google O‘zbekiston qidiruv blokida tanishish imkoniyati mavjud.

Ikkinchi bobning uchinchi fasli “*O‘quv lug‘atchiligida mobil lug‘atlar lingvistik vosita sifatida*” deb nomlanib, unda mobil lug‘atlarni yaratishda kompyuter leksikografiyasining tarmoqlari hisoblangan korpus leksikografiyasi va kiberleksikografiyaga tayanilgan.

Korpus leksikografiyasi ma‘lumotlarni saqlash, uzatish va tahlil qilish kabi vazifalarni bajarishga yo‘naltirilgan kompyuterning muayyan fazasida ko‘p qo‘llaniladigan matn yoki akustik korpusi asosida tilni o‘rganish sohasi hisoblanadi¹⁸. Ushbu soha kompyuter texnologiyalari bilan chambarchas bog‘liq. Korpus leksikografiyasining vazifalariga nafaqat tilni tahlil qilish, balki kompyuter yordamida matnni tahlil qilishning texnologiya va metodlarini o‘rganish ham kiradi.

Kompyuter va lug‘atshunoslik o‘rtasidagi o‘zaro muvofiqlashuv o‘tgan asrning 60-yillarida o‘z ifodasini topdi. Bu yillarda Braun korpusi, 1978-yilda avtomatik tekshiruvchi tizim hamda tilni qayta ishlash uchun maxsus kodlangan “Zamonaviy ingliz tili Longman lug‘ati” (Longman Dictionary of Contemporary English¹⁹) yaratildi.

Lug‘atlar yaratilishida uch narsa hisobga olinishi kerak:

- lug‘at yaratilishining maqsad va vazifalari;
- lug‘atda tavsiflangan matnlar;
- foydalanuvchilar kategoriyasi.

An’anaviy va kompyuter leksikografiyasining asosiy vazifalarini lug‘atning tuzilishi, lug‘atdagi maqolalarning holati va strukturasi aniqlash tashkil etadi. Elektron ko‘rinishdagi lug‘atlarni I.A.Voronsova “mediya lug‘at” deb nomlashni tavsiya qiladi²⁰.

An’anaviy lug‘atda u yoki bu so‘zlarning tuzilish kompozitsiyasi aks etgan izohlar qay holatda berilishi nazarda tutilsa, elektron (avtomatik, kompyuter) lug‘atni yaratish tamoyillariga ko‘ra foydalanuvchilar uchun maxsus kompyuter formatida yoki muayyan tarkibiy qism sifatida berilgan dastur nazarda tutiladi (masalan, mashina tarjimasini). Shu bilan birga, foydalanuvchi uni qay tarzda qo‘llashiga ko‘ra *elektron lug‘at* hamda matnni qayta ishlovchi dastur uchun

¹⁸ Бархударов С.Г., Новиков Л.А. Каким должен быть учебный словарь? // Русский язык за рубежом. – 2001. – № 3. – С. 46–50.

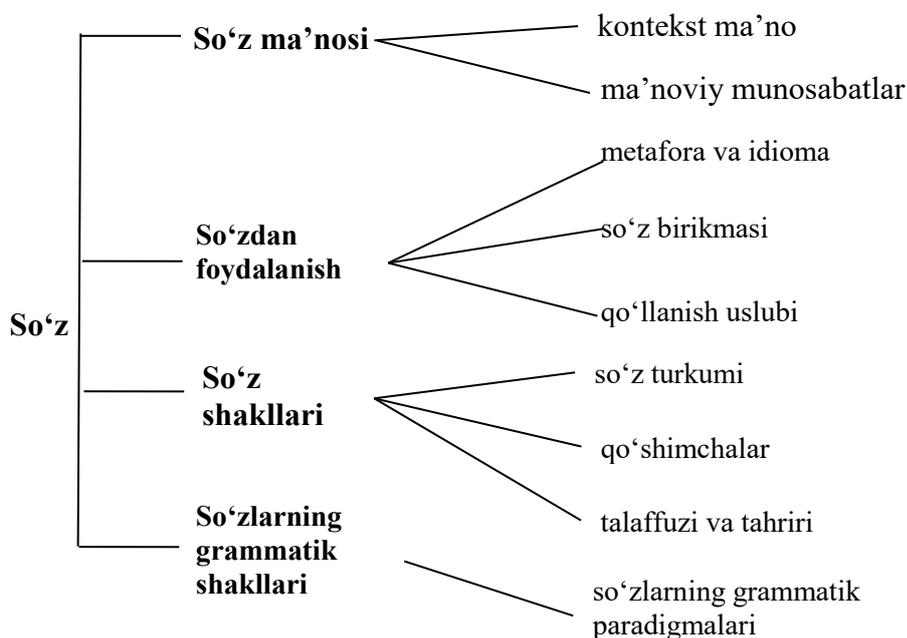
¹⁹ <https://www.ldoceonline.com/> (murojaat sanasi: 10.09.2022)

²⁰ Воронцова И.А. Медиясловарь: принципы организации и перспективы развития // Ярославский педагогический вестник. Том I (Гуманитарные науки). 2014. № 2. – С. 176–182.

avtomatik lug‘atdan farqlanadi. Foydalanuvchi uchun mo‘ljallangan avtomatik lug‘atlarni erkin tarzda ishlatish mumkin.

Lug‘atchilikda maqolaning matn sifatida berilish formati ham muhim masalalardan biridir. Lug‘atning auditoriyasini tanlash lug‘at yaratishning asosiy mezonlaridan biri sanaladi. Foydalanuvchilarning yoshi va qo‘llash sohasi lug‘at hajmi va uning kontentini belgilashga xizmat qiladi. Lug‘at formatidagi so‘zlarning shrifti, rangi va abbreviaturalarining berilish tartibi ham jiddiy qoidalar va ma’lum tartibga ko‘ra belgilanishi muhim. Lug‘atdan mahalliy yoki chet el foydalanuvchilarining tanlab olinishi so‘zga tegishli lug‘at atributlarini belgilashda bosh omil hisoblanadi.

Korpusga asoslangan lug‘atchilikda quyidagi jadvalda aks etgan afzal jihatlarni ko‘rish mumkin:



1-rasm. So‘zlarni mobil lug‘atlarga kiritishda korpus texnologiyasining ishlash xususiyatlari

Dissertatsiyaning uchinchi bobi “*Omonimlar mobil o‘quv lug‘atini yaratishning leksikografik tamoyillari*” deb nomlanadi. Mazkur bobda korpusga asoslangan omonimlar o‘quv lug‘atini yaratish metodologiyasi, <http://uzbekcorpus.uz/> saytida mavjud turli uslubga doir matnlardan olingan namunalar asosida lug‘at kontentini yaratish, o‘quv lug‘atning faol va nafaol leskikonlar bazasini tuzishda korpusga asoslangan statistik tahlil, omonimlar o‘quv lug‘atining strukturasi va kontentini shakllantirishda erishilgan natijalar o‘rganilib, ulardan lug‘at yaratish jarayonida samarali foydalanilgan.

Mazkur bobning birinchi fasli “*Korpusga asoslangan omonimlar o‘quv lug‘atini yaratish metodologiyasi*” deb nomlanib, korpus lingvistikasi va korpusga asoslangan o‘quv lug‘atlari, xususan, omonimlar o‘quv lug‘atini yaratish metodlari yoritilgan.

Kundan kunga ilm-fanning barcha sohalariga zamonaviy axborot-kommunikatsiya texnologiyalarining jadallik bilan tatbiq etilishi, xususan, filologik fanlarga jadallik bilan kirib kelishi tilning turli aspektlarini o'rganishda kompyuter lingvistikasi nazariyasi asosida shakllangan korpuslardan foydalanishni ommalashtirdi. So'nggi yillarda o'quvchi-talabalar uchun chet tilini turli lingvistik korpuslar vositasida o'qitish masalalariga bag'ishlangan uslubiy adabiyotlar paydo bo'ldi. Tadqiqotchilarning "Lingvistik korpus" atamasi ostida olib borgan izlanishlari asosida konseptual mazmundagi tavsifi haqida ma'lum bir xulosaga kelganliklarini ko'rish mumkin. Odatda, ma'lum maqsadlarda elektron shaklga keltirilgan matnlar korpus sifatida tushuniladi²¹.

O'zbek tilshunosligi, xususan, kompyuter lingvistikasiga oid tadqiqotlarda o'zbek tilidagi omonim birliklar dastur tomondan kompyuter xotirasida "taniy olish", "o'qiy olish", "tahlil qilish" va "tushunish" borasidagi tahlil dasturlarini yaratish borasidagi harakatlarni M.Abjalova²² va Sh.Gulyamova²³larning ilmiy izlanishlarida uchratishimiz mumkin, lekin mazkur ishlarda o'zbek tiliga oid omonim birliklar lug'atining mobil ilovasini yaratish borasidagi mulohazalar berilmaganligini ta'kidlash lozim.

"Omonimlar o'quv lug'atining tuzilishi va kontenti" deb nomlangan uchinchi bobning ikkinchi faslida omonim birliklarning strukturasi va kontentini shakllantirishda omonim birliklar va ularning lingvistik xususiyatlari va modellari misollar yordamida tahlil qilindi.

Odatda omonimiya quyidagicha tasniflanadi²⁴:

- I. Lug'aviy omonimiya;
- II. Grammatik omonimiya.

"Oy I – Yerning tabiiy yo'ldoshi, tunda Quyosh nurini Yerga aks ettirib turuvchi planeta; oy II – o'rta hisobda 30 kunlik muddat – yilning o'n ikkidan bir qismi" kabi leksemalarda lug'aviy birliklar ifodasining o'zaro teng kelishi lug'aviy omonimiyani shakllantirsa, grammatik omonimiyada esa grammatik birliklarning ifoda planida o'zaro mos kelishi, ya'ni "-siz I – ikkinchi shaxs ko'pligining tuslovchisi; -siz II – ikkinchi shaxs ko'pligining turlovchisi; -siz III – sifat yasovchi" kabi.

Tilshunoslikda lug'aviy omonimlarning ikki turi farqlanadi:

a) leksik omonimiya – leksemalarning ifoda planida o'zaro teng kelishi: *asr I* – "Yuz yillik davr, yuz yil", *asr II* – "Quyosh botish chog'idan bir soatcha oldingi payt va shu paytda o'qiladigan namoz";

b) frazeologik omonimiya – frazemalarning ifoda planining o'zaro teng kelishi: ichagi uzilmoq I – "qotib-qotib kulmoq", ichagi uzilmoq II – "juda-juda ochiqmoq, och qolmoq". Misollar: *Hammalari kulishib, ayniqsa, Xolmirza akaning*

²¹ Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022. – Б. 76.

²² Abjalova M.A. O'zbek tili ontologiyasini yaratish tamoyillari: Filol. fanlari doktori (DSc) ... diss. avtoref. – Farg'ona. 2022.

²³ Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фан. доктори (DSc) дисс. – Фарғона. 2022;

²⁴ Турсунов У., Мухторов Ж., Раҳматуллаев Ш. Ҳозирги ўзбек адабий тили: – Тошкент: Ўзбекистон, 1992.

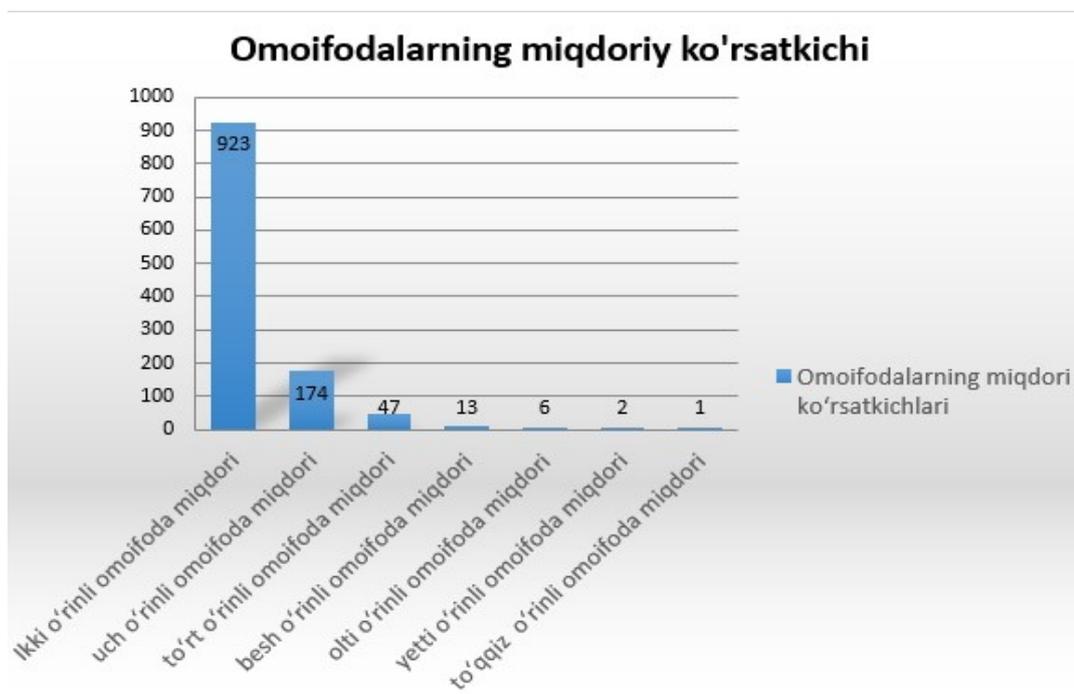
xixilashidan ichagi uzilayozdi (A.Qodiriy, “Obid ketmon”). *Qo‘y, bolam, bunaqa behuda xayollarni... Ol, oshingni ich, ichaging uzilib ketgandir* (S.Akbariy, “Cho‘ldagi parvoz”).

Tilshunoslikda yuqoridagi ikkita asosiy turdan tashqari, yana quyidagi holatlar ham mavjud bo‘lib, bunday omonimlarda leksik birlik bilan grammatik birlik teng kelish hollari uchraydi: -xon I – otlarda lug‘aviy shakl yasovchi; -xon II – ot yasovchi ko‘makchi morfema; xon III – turkiy va mo‘g‘ul xalqlari hukmdorlarining unvoni.

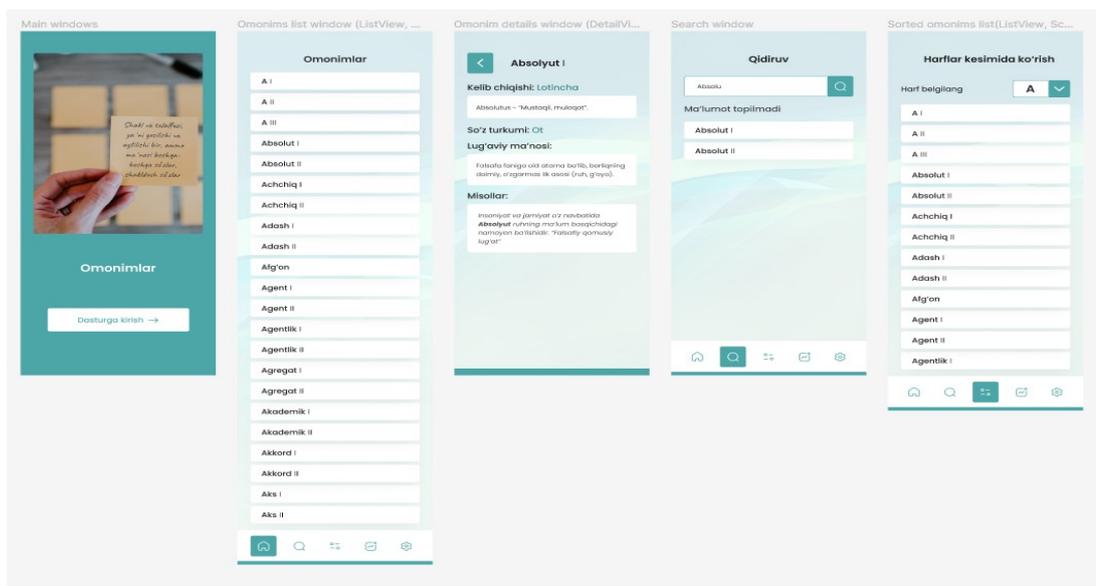
Xon leksemasi bilan morfema o‘rtasidagi bunday omonimiyada tenglik maqomida, qisman, fonemalar tizimi jihatidan mavjud bo‘lib, aytilishi va yozilishi jihatidan ular o‘zaro farqlanadi. *Xon* leksemasi o‘z mustaqil urg‘usi bilan aytilsa, morfema o‘zi qo‘shilgan asos bilan birgalikda urg‘u oladi; *xon* leksemasi yozuvda ayrimlik saqlaydi, morfema esa yetakchi morfemaga qo‘shib yoziladi. Shunga ko‘ra, bunda omonimiya ko‘zga tashlanmaydi. Umuman, bunday o‘zaro omonimiya til birliklari orasidagi omonimiyadir.

Tadqiqotimiz natijasida omonimlar (omoifoda, omograf va omonim) ma’lumotlar bazasiga kiritildi. O‘quv lug‘atda foydalanuvchilarning umumiy auditoriyasini hisobga olgan holda nafaqat leksema shaklidagi omonimlar, balki affiksial omonimlar, so‘z birikmasi va ibora bilan o‘zaro shakldoshlik hosil qiluvchi birliklar guruhlararo tasniflanib, ularning struktur imkoniyatlari o‘rganildi.

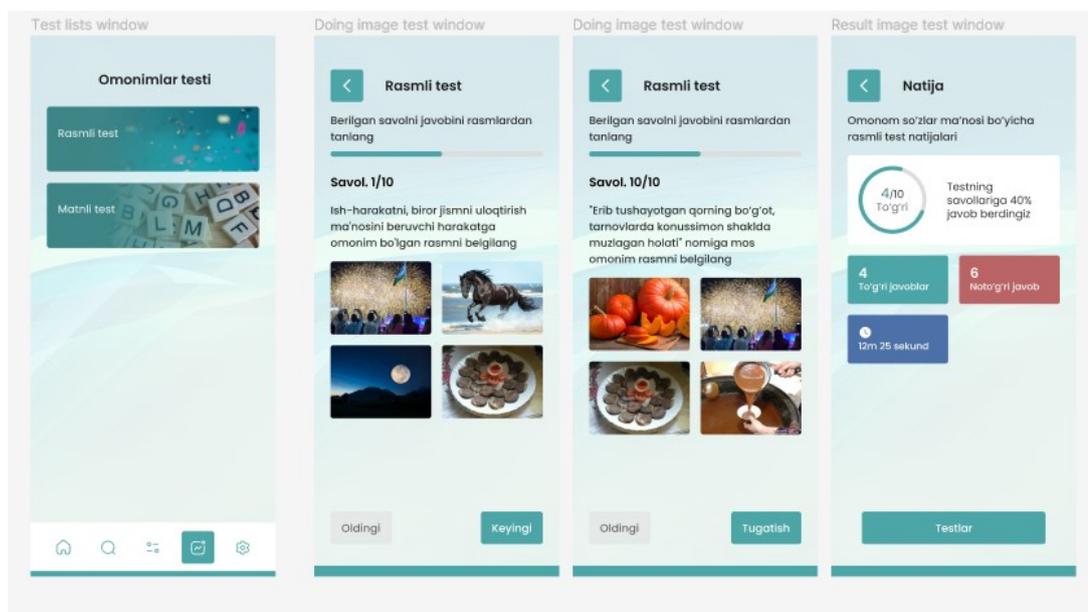
Leksik omonimlarning kontenti va sturukturasini shakllantirishda leksik omonim birliklarning necha o‘rinda omonim bo‘la olishi, qaysi turkumlarda o‘zaro omonim bo‘la olishi va o‘zlashma omonim birliklar tahlilga tortilgan. Buni quyidagi jadval orqali ko‘rishimiz mumkin:



2-rasm. Omoifodalarning miqdoriy ko‘rsatkichlari



3-rasm. O‘zbek tili omonimlar o‘quv lug‘ati mobil ilovasining ko‘rinishi



4-rasm. Mobil ilovaning interaktiv ko‘rinishi

Mobil lug‘at yaratishda mukammal ishlangan lingvistik ta‘minot dasturining sifatini belgilab beradi.

Mobil lug‘atning samaradorligini oshirish, interaktivligini ta‘minlashda test hamda foydalanuvchining o‘zini tekshirish va baholash uchun tizimli mobil loyiha ishlab chiqildi. Ushbu mobil ilovaning kontentini doimiy ravishda yangilab borish, kamchiliklarni tahrirlash va takomillashtirish kompyuter leksikografiyasi uchun funksional imkoniyatlarga ega istiqbolli vazifalarni belgilab berishga xizmat qiladi.

XULOSA

1. O‘zbek tilida mavjud an’anaviy shakldagi lug‘atlarning barchasini izchil tadqiq etgan holda ensiklopedik va lingvistik lug‘atlarni elektron lug‘at shakliga o‘tkazishda lug‘atlarning ma’lumotlar bazasini ishlab chiqish hamda dasturiy ta’minotni yaratish asnosida lug‘atlarning elektron va mobil ilovalarining zamonaviy turlarini yaratish muhim hisoblanadi.

2. Kompyuter va mobil texnologiyalarning rivojlanishi natijasida kompyuter leksikografiyasining imkoniyatlari ham kengaymoqda. Endilikda elektron lug‘atchilikning tezaurus, ontologiya, web dastur va korpus kabi turlarining tez sur’atda takomillashib borayotgani lingvistik lug‘atlar kontentini doimiy ravishda yangilab borish hamda kompyuter leksikografiyasi uchun lingvistik resurslarini yanada rivojlantirish kerakligini ko‘rsatadi.

3. Tilning mobil o‘quv lug‘atlarini yaratish an’anaviy lug‘at tajribalaridan oziqlanadi va ularning yanada takomillashuvi natijasida ular bir-birini boyitib boradi. Mobil lug‘atlarning texnik imkoniyatlari va lingvistik kontentini muvofiqlashtirish kompyuter lingvistikasi oldida turgan muhim vazifalardan biridir.

4. O‘rganilgan ilmiy tadqiqotlar shuni ko‘rsatadiki, mobil ilovalarga asoslangan lug‘atlar nafaqat axborot berish, balki til o‘rganish bo‘yicha qo‘shimcha imkoniyatlarga ega bo‘lishi bilan ham ahamiyatlidir. Bunda zamonaviy ingliz va rus tili bo‘yicha yaratilgan qator mobil dasturlardan namuna olish va ularni o‘zbek tiliga tatbiq etish lozim. Zero mobil ilovalarda audio, multimedia, rasm, gipperilova, baholash, takrorlash kabi bir qator imkoniyatlar yaratilganki, ularni tez fursatda o‘zbek tili lingvistik lug‘atlari uchun joriy etish maqsadga muvofiq.

5. O‘zbek tiliga doir o‘quv lug‘atchilikning mobil ilovalarini yanada takomillashtirish zamonaviy ta’lim muhiti, ta’lim instrumentariysi va resurslarini boyitishga xizmat qiladi. Axborot asrining muhim belgilaridan biri tezlik, ixchamlik va qulaylik insoniyat uchun doim birlamchi sanalgan. Shu bois til ta’limi texnologiyasida mobil ilovaga asoslangan til o‘qitish tizimlarini ishlab chiqish va muvofiqlashtirish dolzarb masalalardan biridir.

6. Korpusga asoslangan leksikografik tadqiqotlar metodologik jihatdan eng sermahsul usul sanaladi. O‘quv lug‘atlarining ko‘p funksiyalligi aynan maqolalarni tegishli matnlar korpusidan olish imkoniyatini yaratdi. Shu jumladan, kontekstga asoslangan leksikogrammatikani yanada takomillashtirishga doir tadqiqotlar uchun o‘rganish obyekti bo‘lib xizmat qiladi.

7. Mobil o‘quv lug‘atlari qator afzalliklari bilan birga, kamchiliklarga ham egadir. Biroq zamonaviy dunyoda kompyuter va internetsiz na ta’lim jarayoni, na fan olamini tasavvur qilish mumkin. Mobil lug‘atlarning yaratilishi til korpusi materiallarini elektron texnologiyalar yordamida ishonchli va mukammal tarzda tartibga soladi.

8. O‘zbek tilida omonimiya shakl va mazmun bilan aloqador murakkab hodisa sanaladi. Tadqiqotimiz doirasida yaratilgan omonimlar lug‘ati mobil ilovasi omoifodalar, omonimik xarakterdagi leksik, affiksial, frazeologik birliklar hamda erkin va turg‘un birikmalar o‘rtasidagi omonimlik hodisasini o‘z ichiga oladi. Mobil ilovada ularni aniq tasavvur qilish uchun qo‘shimcha funksional imkoniyatlar yaratilganligi bilan xarakterlanadi.

9. Jahon tajribasiga asoslangan holda O‘zbekistonda ham masofaviy ta’lim yo‘nalishlari yo‘lga qo‘yilayotganligi bugungi kunda ta’lim jarayonini mobillashtirish zaruratini yuzaga keltirdi. Bu borada mamlakatimizdagi barcha oliy ta’lim muassasalarida mobil ta’limning joriy etilishi elektron vositalar dolzarbligini kun tartibiga qo‘ydi.

10. Lingvistik birliklar taraqqiyotida leksikografiya sohasining o‘rni cheksiz bo‘lib, lug‘at ishini tashkil etish nafaqat xususiy tilshunoslik, balki umumiy tilshunoslikka doir ayrim masalalar yechimida ham muhim ahamiyatga ega. Tilshunoslikning zamonaviy yo‘nalishi bo‘lgan kompyuter lingvistikasi ham leksikografiya sohasini rivojlantirishga samarali hissa qo‘shadi, shuningdek, tilshunoslikda kompyuter leksikografiyasi, korpus leksikografiyasi va kiberleksikografiyaning taraqqiy etishiga xizmat qiladi.

**FERGANA STATE UNIVERSITY CURRENT DEGREE GRANDER
DSc.03/30.12.2019.Phil.05.02 DIGITAL SCIENTIFIC COUNCIL**

FERGANA STATE UNIVERSITY

ABDUVAKHOBOV GIYOSIDDIN GAYRATJON UGLI

**THE LINGUISTIC BASIS OF CREATING A NEW GENERATION
LEARNING DICTIONARY MOBILE APPLICATION OF HOMONYMS**

10.00.11 – Language theory. Applied and computational linguistics

**DISSERTATION ABSTRACT FOR DOCTOR OF PHILOSOPHY
(PhD) IN PHILOLOGICAL SCIENCES**

Ferghana – 2023

The theme of PhD dissertation was registered by the Higher Attestation Commission under the number B2023.1.PhD/Phil.1898.

The doctoral thesis has been completed at the chair of Uzbek linguistics of Fergana State University.

The abstract of the dissertation is posted in three languages (Uzbek, English and Russian (summary)) on the website of Scientific Council and the information-education portal "ZiyoNet" (www.ziynet.uz)

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The dissertation is available in the Information Resource centre of Fergana State University (registered under № 268). Address: 19, Murabbiylar street, Ferghana, 100151. Tel.: (+99873) 244-71-28.

The abstract of the dissertation is distributed on " 16 " 05 , 2023.

(Mailing report No. 14 dated «16» 05 2023).



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INTRODUCTION (abstract of the dissertation of the doctor of Philosophy (PhD))

The actuality and significance of the dissertation work. The progressive development of computer lexicography research in world linguistics, the introduction of new technologies and methods play an important role in achieving positive results even in modern trends in the field. Lexicographic research has become an important step for the study of natural language as a product of knowledge processing and for solving practical problems in computer linguistics to a certain extent.

In world linguistics, the creation of dictionaries in machine format based on computer technologies served to create important turns in language education, applied linguistics, and the theory and practice of translation as a knowledge and linguistic base. In particular, the development of corpus-based lexicography based on computational linguistics has served as basis for the creation of a platform of various types of dictionaries designed to work online in web applications, mobile applications, and modern electronic devices.

The large-scale reforms that being carried out in our country in order to increase the prestige of the Uzbek language as a State language have opened the way for practical research that serves to develop the skills of effectively using the rich opportunities of our mother tongue. In Uzbek linguistics, taking into account educational dictionaries, their special features, social, psychological, lexicographical, educational importance, the issues of the linguistic basis of creating electronic, especially mobile dictionaries of existing dictionaries in the Uzbek language were not fully studied. Therefore, "In today's age of globalization, it is natural that every nation, every independent state should prioritize its national interests, and in this regard, first of all, preserve and develop its culture, ancient values, and mother tongue. The goal of “fundamentally increasing the prestige of the Uzbek language in the social life of our people and at the international level, educating our young generation in the spirit of patriotism, loyalty to national traditions and values, and inheriting the rich heritage of our great ancestors, to ensure the full introduction of the state language in our country”²⁵ puts priority in order to develop the network of Uzbek language educational lexicography, to create modern, new generation educational dictionaries and to create their electronic forms and a dictionary of terms by fields.

To a certain extent, this dissertation work will serve to implement the tasks set out in the Decree of the President of the Republic of Uzbekistan No. PF-4947 of February 7, 2017 "On the Strategy of Actions for Further Development of the Republic of Uzbekistan", No. PF-5850 of October 21, 2019 "On Measures to Radically Increase the Prestige and Status of the Uzbek Language as a State Language", No. PF-6084 dated October 20, 2020 "On measures to further develop

²⁵ Ў Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг “Ўзбек тилининг давлат тили сифатидаги нуфузи ва мавқеини тубдан ошириш чора-тадбирлари тўғрисида”ги Фармони. www.xabar.uz (murojaat sanasi: 12.08.2022)

the Uzbek language and improve language policy in our country", No. PF-6108 dated November 6, 2020 "Development of education and science in the period of new development of Uzbekistan Decrees on measures; PQ-2789 dated February 17, 2017 "On measures to further improve the activities of the Academy of Sciences, organization, management and financing of research and development", resolutions on the large celebration of the thirtieth anniversary of the adoption of the PQ-4479 dated October 4, 2019 "On the State language of the Republic of Uzbekistan", and other regulatory legal documents related to this activity.

The appropriateness of the research to the prior directions of the development of science and technologies of the republic. The research was carried out in accordance with the priority direction of republican science-technologies and innovative development "social, legal, economic, cultural, spiritual and educational development of the information society and democratic state, formation of innovative economy".

The scope of study of the problem. In world linguistics, researches were carried out to raise the approaches to this prolific language phenomenon to a new level and to expand the field of research. Research on the role of mobile dictionaries in language learning and their use as an instrument²⁶ were studied by such researches as A. Kukulska-Hulme, M. Sharples, M. Tayebinik, G. Chinneri, J. Traxler, A. Trifanova, M. Hussein, E. Klopfer, C. Steele, P. Thornton.

Researches on computer lexicography and electronic lexicography in Russian linguistics are reflected in the works of a number of scientists²⁷.

²⁶ Kukulska-Hulme A., Shield L. An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 2008. – P. 271; Sharples M. Big issues in mobile learning. Report of a workshop by the Kaleidoscope Network of Excellence Mobile Learning Initiative; 2006. – P. 115; Tayebinik M., Puteh M. Mobile learning to support teaching English as a second language. *Journal of Education and Practice*, 2012. – P. 56-63; Chinneri G.M. Emerging technologies, going to the MALL: Mobile Assisted Language Learning and Technology, 2006. – P. 9-16; Traxler J. Mobile Learning: It's here, but what is it? *Interactions*, 2005. – P. 78-92; Trifanova A., Ronchetti M. Where is mobile learning going? *Proceedings of the E-learn Conference*, 2003. – P. 1795-1801; El-Hussein M.O.M., Cronje J.C. Defining mobile learning in the higher education landscape. *Educational Technology and Society*, 2010. – P. 12-21; Steel C. Fitting learning into life: Language students' perspectives on benefits of using mobile apps. *Proceedings of ascilite 2012*. – P. 35-41; Thornton P., Houser C. Using mobile phones in English education in Japan. *Journal of Computer Assisted Learning*, 2005. – P. 217-228.

²⁷ Рублева О.С. Слово в электронном словаре (с позиций пользователя электронными ресурсами) Автореф. дисс. ... канд. филол. наук. – Тверь, 2010; Шакер И.Т. Лексические непроеизводные омонимы – существительные и их отражение в словарях. Автореф. дисс. ... канд. филол. наук. – Воронеж, 2013; Ахмедова М.Н. Лексико-семантические особенности омонимов персидского языка: Автореф. дисс. ... канд. филол. наук. – Душанбе, 2010; Алексеева Н.А. Совершенствование орфографической компетенции Иностраных студентов-нефилологов на основе Учебного словаря-справочника: Автореф. дисс. ... канд. филол. наук. – Санкт-Петербург, 2008; Петрушова О.Л. Учебные словари в межкультурной коммуникации: Автореф. дисс. ... канд. филол. наук. – Ярославль, 2009; Тимофеева Н.М. Проектирование учебных словарей по педагогическим дисциплинам: Автореф. дисс. ... канд. филол. наук. – Смоленск, 2004; Старикова И.Л. Основы построения учебных словарей сопроводительного типа: Автореф. дисс. ... канд. филол. наук. – М., 2008; Лебедева С.В. Учебные словари различных типов в культурологическом: Автореф. дисс. ... канд. филол. наук. – Иваново, 2005; Fellbaum Cristiane (Ed.), *WordNet: An Electronic Lexical Database*. The MIT Press, Cambridge, London, England, 1998; Estienne, R. *Thesaurus linguae latinae* / R. Estienne. Paris, 1531; Estienne, R. *Dictionnaire François-latin contenant les motz etmanieres de parler françois, tourne en Latin* /R. Estienne. Paris, 1539.

Uzbek lexicography has a long history, the first example of which is Mahmud Koshgari's "Devonu lug'otit Turk". Encyclopedic and linguistic dictionaries²⁸ were created and improved over long periods of time²⁹. The end of the 20th century and the beginning of the 21st century, A.Q.Polatov, S.M.Muhammedov, N.K.Ayimbetov, S.Muhammedova, S.A.Karimov, G U. Jumanazarova, A. Babanarov, D. B. Orinboeva, N. Z. Abdurahmonova, A. M. Norov and others the computational linguistics, the research of the texts linking with the lexicography of computers carried out various studies in this field. These studies have become relevant because they were able to make necessary recommendations regarding the modern methods of researching lexicography with the help of an innovative approach - the achievements of computational linguistics.

²⁸ Mengliyev B., Xolyorov O'. Ona tili Qomus (maktab o'quvchilari uchun). – Toshkent: Yangi asr avlodi, 2009; Kўnғиров Р., Тихонов А. Ўзбек тилининг чаппа луғати, Самарқанд: 1968; Рустамов А., Каримов Қ., Умаров З. Форсча-ўзбекча ўқув луғати. – Тошкент: Ўқитувчи, 1975; Асомиддинова М., Бегматов Э. ва бошқалар Ўзбек адабий талаффузи луғати. – Тошкент: Фан, 1984; Ҳожиев А. Ўзбек тили синонимларининг изоҳли луғати. – Тошкент: Ўқитувчи, 1974; Маруфов А. Паронимлар луғати, Тошкент: Ўқитувчи, 1974; Ғуломов А., Тихонов А., Кўнғиров Р. Ўзбек тили морфем луғати. – Тошкент: Ўқитувчи, 1977; Раҳматуллаев Ш., Маматов Н., Шуқуров Р. Ўзбек тили антонимларининг изоҳли луғати. – Тошкент: Ўқитувчи, 1980; Раҳматуллаев Ш. Ўзбек тили омонимларининг изоҳли луғати. – Тошкент: Ўқитувчи, 1984; Муҳаммедов С. Ўзбек тилининг алфавитли-частотали луғати. – Тошкент: Фан, 1982; Ножийев А., Nurmonov A. va boshqalar Hozirgi o'zbek tili faol so'zlarining izohli lug'ati. – Toshkent: Sharq, 2001; Сулаймонова Н., Абзалова М. Ўзбек тилидаги арабий сўзлар имлоси. – Тошкент: Фан ва технология, 2008; Раҳматуллаев Ш. Ўзбек тилининг этимологик луғати (3-жилдли). – Тошкент: Университет, 2000-2009; Махмудов Н. Худоберганова Д. Ўзбек тили ўхшатишларининг изоҳли луғати. – Тошкент: Маънавият, 2013; Маматов Н. Ўзбек тилидаги ҳозирги кўшма сўзлар луғати. – Тошкент: Фан ва технология, 2019; Vafoiy A., Avezmetov Sh. O'zbek tiliga o'zlashgan forcha so'zlar. – Tehron-Toshkent. Al-Hudo, Mavarounnahr, 2005; Содиков Қ. Илк ва ўрта асрлар туркий матнлари номларининг изоҳли луғати. – Тошкент: Шарқшунослик, 2001; Volkovskaya D., Peremqulova A., Hakimov M. Inglizcha-ruscha-o'zbekcha kompyuter ilmi bo'yicha o'quv lug'ati. – Тошкент: O'zbekiston milliy universiteti, 2004; Абдуллаева М. ва бошқалар Фалсафа қисқача изоҳли луғати. – Тошкент: Шарқ, 2004; Рўзимбоев С., Рўзметов Х., Фольклор атамалари қисқача луғати. – Урганч: 2007;

²⁹ Мадвалиев А. Ўзбек терминологияси ва лексикографияси. – Тошкент: Ўзбекистон миллий энциклопедияси, 2017; Худжаева Р.М. Инглиз ва ўзбек тилларидаги генетик боғланмаган лексик омонимларнинг самарадорлиги ва уларнинг лексикографик талқини: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2017; Ғофурова С. Салоҳиддин Тошкандий «Луғоти салос» асарининг лексикографик хусусиятлари: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Фарғона, 2018; Норматов С. Ўзбек луғатчилигининг шаклланиши ва ривожланишида жадид маърифатпарварларининг ўрни: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент, 2019; Бердимуратов Д. Феъл фразеологик бирликларнинг лексикографик талқини тамойиллари (немис тили изоҳли луғати мисолида): Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2019; Бахриддинова Б. Ўзбекистонда ўқув луғатчилиги: лингвистик асослари, тарихи ва истиқболлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Самарқанд, 2020; Розикова Г. «Девону луғотит турк» асаридаги от лексемаларининг семантик, функционал ва услубий хусусиятлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона, 2021; Убайдуллаев А. «Луғати туркий»нинг лексикографик тадқиқи. – Тошкент: Mumtoz so'z, 2021; Нигматова Л. Мустақиллик даври ўзбек луғатчилигида тил ва маданият муштараклиги муаммоси: Филол. фанлари доктори (DSc) ... дисс. автореф. – Бухоро. 2021; Султонова Ш. Грамматик терминлар электрон луғатини яратишнинг лингвистик асослари: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2022; Мирханова Г. Ўзбек тилининг синоним сўзлар ўқув луғатини тузишнинг лингвистик асослари: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Қарши, 2022; Ражабова З.И. Ўзбек ўқув фразеографиясининг лингвистик аспекти: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Қарши, 2022; Эшбоев Қ. Сўзлараро даражаланиш ўқув луғатини тузиш асослари: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2022; Шарипов С. Замонавий икки тилли луғатларнинг ривожланиш ва тузилиш муаммолари (рус-ўзбек ва ўзбек-рус луғатлари материаллари мисолида): Филол. фанлари бўйича фалсафа доктори (PhD) автореф. дисс. – Бухоро, 2023.

In recent years, a number of works have been carried out in Uzbek linguistics in linguistic lexicography and computer linguistics³⁰ in particular, in the researches of B. Bahriddinova, Z. Rajabova, G. Mirkhanova, N. Z. Abdurakhmonova, Sh. Gulyamova, A. Eshmominov, M. Abjalova and others³¹, the linguistic features of creating new generation dictionaries in Uzbek language were studied on a monographic scale³².

³⁰ Абдурахмонова Н. Ўзбек тили электрон корпусининг компьютер моделлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент, 2021; Хамроева Ш. Ўзбек тили морфологик анализаторининг лингвистик таъминоти: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона, 2021; Тоирова Г. Ўзбек тили миллий корпусини яратишнинг назарий ва амалий масалалари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Бухоро, 2021; Abjalova M.A. O'zbek tili ontologiyasini yaratish tamoyillari: Filol. fanlari doktori (DSc) ...diss. avtoref. – Farg'ona. 2022; Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022; A.Agostini, T.Usmanov, U.Khamdamov, N.Abdurakhmonova, M.Mamasaidov. 2021. UZWORDNET: A Lexical-Semantic Database for the Uzbek Language. In Proceedings of the 11th Global Wordnet Conference, – P. 8–19, University of South Africa (UNISA). Global Wordnet Association; Mengliev, D; Barakhnin, V; Abdurakhmonova, N. Development of Intellectual Web System for Morph Analyzing of Uzbek Words. Appl. Sci. 2021, 11, 9117. <https://doi.org/10.3390/app11199117>; Абдурахмонова Н., Хайдаров М. Ўзбек тилида WORDNET яратиш масалаларига доир // “O'zbekistonda xotijiy tillar” elektron jurnali № 4 (27) / 2019; Абдурахмонова Н. Ўзбек тили электрон корпусининг компьютер моделлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент. 2021; Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022; Мамедова М.А. Умумтаълим мактаблари ўқувчиларини инглиз тили омонимларига ўқитишдаги компьютер технологиялари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент, 2017;

³¹ Мадвалиев А. Ўзбек терминологияси ва лексикографияси, -Тошкент: Ўзбекистон миллий энциклопедияси, 2017. 384 б; Худжаева Р.М. Инглиз ва ўзбек тилларидаги генетик боғланмаган лексик омонимларнинг самарадорлиги ва уларнинг лексикографик талқини: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2017.–52 б; Ғофурова С. Салоҳиддин Тошкандий «Луғоти салос» асарининг лексикографик хусусиятлари: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Фарғона, 2018. – 52 б; Норматов С. Ўзбек луғатчилигининг шаклланиши ва ривожланишида жадид маърифатпарварларининг ўрни: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент, 2019. – 69 б; Бердимуратов Д. Фезл фразеологик бирликларнинг лексикографик талқини тамойиллари (немис тили изоҳли луғати мисолида): Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2019. – 50 б; Бахриддинова Б. Ўзбекистонда ўқув луғатчилиги: лингвистик асослари, тарихи ва истиқболлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Самарқанд, 2020. – 72 б; Розикова Г. «Девону луғотит турк» асаридаги от лексемаларнинг семантик, функционал ва услубий хусусиятлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона, 2020. – 76 б; Убайдуллаев А. “Луғати туркий”нинг лексикографик тадқиқи, -Тошкент: Мумтоз сўз, 2021. 136 б; Нигматова Л. Мустақиллик даври ўзбек луғатчилигида тил ва маданият муштараклиги муаммоси: Филол. фанлари бўйича фалсафа доктори (PhD) автореф. дисс. –Бухоро ,2021. -52 б. Султонова Ш. Грамматик терминлар электрон луғатини яратишнинг лингвистик асослари: Филол. фанлари бўйича фалсафа доктори (PhD) автореф. дисс. – Тошкент,2022. – 52 б; Мирханова Г. Ўзбек тилининг синоним сўзлар ўқув луғатини тузишнинг лингвистик асослари: Филол. фанлари бўйича фалсафа доктори (PhD) автореф. дисс. –Қарши, 2022. – 52 б; Ражабова З.И. Ўзбек ўқув фразеографиясининг лингвистик аспекти: Филол. фанлари бўйича фалсафа доктори (PhD) автореф. дисс. – Қарши, 2022. – 145 б; Эшбоев Қ. Сўзлараро даражаланиш ўқув луғатини тузиш асослари: Филол. фанлари бўйича фалсафа доктори (PhD) автореф. дисс. – Тошкент, 2022. – 52 б; Шарипов С. Замонавий икки тилли луғатларнинг ривожланиш ва тузилиш муаммолари (рус-ўзбек ва ўзбек-рус луғатлари материаллари мисолида): Филол. фанлари бўйича фалсафа доктори (PhD) автореф. дисс. –Бухоро, 2023. – 52 б.

³² Абдурахмонова Н. Ўзбек тили электрон корпусининг компьютер моделлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент, 2021; Хамроева Ш. Ўзбек тили морфологик анализаторининг лингвистик таъминоти: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона, 2021; Тоирова Г. Ўзбек тили миллий корпусини яратишнинг назарий ва амалий масалалари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Бухоро, 2021; Abjalova M.A. O'zbek tili ontologiyasini yaratish tamoyillari: Filol. fanlari doktori (DSc) ...diss. avtoref. – Farg'ona. 2022; Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022; A.Agostini, T.Usmanov, U.Khamdamov, N.Abdurakhmonova, M.Mamasaidov. 2021. UZWORDNET: A Lexical-Semantic Database for the Uzbek Language. In Proceedings of the 11th Global Wordnet Conference, – P. 8–19, University of South Africa (UNISA).

The relevance of the research to the research plans of the higher education institution where the dissertation was completed. The dissertation was completed within the "Problems of Modern Linguistics" direction of the research plan of Fergana State University.

The aim of the research is forming a homonymic paradigm of lexical and phraseological language units as a component of the Uzbek homonyms educational dictionary, based on the theoretical foundations of creating new generations of educational dictionaries from the point of view of computer lexicography, and applying advanced technologies, forming a mobile dictionary of Uzbek homonyms.

The tasks of the research are defined as:

analyzing the theoretical and methodological foundations of creating educational dictionaries in the Uzbek language using the corpus-based method;

practical implementation of conceptual aspects of computer lexicography research in the creation of new generation educational dictionaries;

creating the structure and content of the dictionary in the creation of the mobile application of the homonyms educational dictionary in the Uzbek language;

analysis of the functionality of electronic dictionaries on the example of educational dictionaries.

The object of the research is linguistic resources from "O‘zbek tili omonimlarining izohli lug‘ati", "O‘zbek tilining izohli lug‘ati" and "O‘zbek tilining elektron korpusi".

The subject of the research is the study of the linguistic and lingua-didactic foundations of new generation educational dictionaries by creating a mobile application of Uzbek Homonyms dictionary.

Research methods. Description, classification, comparison, corpus-based analysis, and structural-semantic modeling methods were used to clarify the topic of the dissertation.

The scientific novelty of the research is:

in the use of educational dictionaries, homograph, homoform and homophone units are included in the database of homonyms educational dictionary created on the basis of multimedia, picture, audio and similar methodological possibilities of the theory of mobile education, and their linguistic possibilities are revealed;

it was determined that the main tasks of modern electronic educational dictionaries consist of collecting words and terms related to a certain field, defining the norms of their use, and communicative functions;

Global Wordnet Association; Mengliev, D; Barakhnin, V; Abdurakhmonova, N. Development of Intellectual Web System for Morph Analyzing of Uzbek Words. Appl. Sci. 2021, 11, 9117. <https://doi.org/10.3390/app11199117>; Абдурахмонова Н., Хайдаров М. Ўзбек тилида WORDNET яратиш масалаларига доир // “O‘zbekistonda xorijiy tillar” elektron jurnali № 4 (27) / 2019; Абдурахмонова Н. Ўзбек тили электрон корпусининг компьютер моделлари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент. 2021; Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022; Мамедова М.А. Умумтаълим мактаблари ўқувчиларини инглиз тили омонимларига ўқитишдаги компьютер технологиялари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент, 2017;

selection of lexical tools of the electronic educational dictionary in accordance with the topic direction, creation and systematization of the dictionary of homonyms taking into account the logical and conceptual relations existing in the terminological system, creation of an encyclopedic part to include the contextual source text, openness, or it has been proven that it is related to such features as the possibility of changing and supplementing the educational material;

linguistic support is created for the mobile application of homonyms educational dictionary on the basis of grammatical, lexical, textual knowledge bases, it is based on the possibility of constantly updating it, introducing new incoming homonymous units.

The practical results of the study are as follows:

This research work is reflected in the research carried out within the framework of the project "Creation of new generation educational dictionaries and its mobile application" (2021-2023). As a result, a linguistic database consisting of a homonyms study dictionary and its interactive tasks was formed on the site <http://tilshunos.com/>.

Copyright certificates were issued for dictionaries "Yangi avlod o'quv lug'atlari va ularning mobil ilovalarini yaratish – omonimlar lug'ati" (DGU 2022 2572) and "Omonimlar lug'ati" (BGU 2022 0055)³³.

The reliability of the research result. It is proven by the fact that it is formed on the basis of the methodology of linguistic analysis, relies on primary scientific and methodical sources, uses reliable and effective description, classification, comparative-historical, historical-genetic and statistical analysis methods, puts theoretical ideas and conclusions into practice, and confirms the obtained results by authorized organizations.

Scientific and practical significance of research results. The scientific significance of the results of the research is as following: the "Educational Dictionary of Uzbek Language Homonyms" was created based on the theoretical methodological foundations of the work and the practical results achieved. The content of this educational dictionary was formed on the basis of corpus-based analysis and included in the mobile dictionary, scientific research. In particular, it is determined by the fact that it is based on the principles of creating modern electronic dictionaries, and the results of the obtained theory can be used for disciplines such as computer linguistics and computer lexicography, corpus linguistics.

The practical significance of the results of this research is, computational linguistics, determined by the fact that the sections of linguistics "Lexicology", "Lexicography" and "Semasiology", textbooks and manuals from the disciplines "Applied Linguistics", the creation of mobile dictionaries, anthropocentric

³³ Назирова Э., Абдурахмонова Н., Абдувахобов Ф. Янги авлод ўқув луғатлари ва уларнинг мобил иловаларини яратиш – омонимлар луғати DGU 2022 2572, 15.06.2022; Назирова Э., Абдурахмонова Н., Абдувахобов Ф., Азимов С. Омонимлар луғати. BGU 2022 005511.03.2022.

lexicography, lingua-didactics, and pedagogical lexicography can be used in the formation of the methodological support for teaching as a science.

Implementation of research results. From the linguistic basics of creating a new-generation homonyms educational dictionary mobile application:

selection of lexical tools of the electronic educational dictionary in accordance with the topic direction, creation and systematization of the dictionary of homonyms taking into account the logical and conceptual relations existing in the terminological system, creation of an encyclopedic part to include the contextual source text, openness, or from the conclusions regarding its features such as the possibility of changing and supplementing the educational material in the international practical project "Class - Development of the Computational Linguistics Master's Program in Central Asian Universities" within the framework of the Erasmus+ international project for 2018-2021 used (reference No. 04/1-3158 dated November 16, 2022 of Alisher Navoi Tashkent State University of Uzbek Language and Literature). As a result, the development of a master's program in computer linguistics, conveying the essence of new generation educational dictionaries to undergraduates, proving the theoretical foundations of lexicographic research by creating a database of homonyms, and enriching the scientific and practical aspects of classifying criteria for creating a dictionary;

homograph, homoform and homophone units are included in the database of homonyms educational dictionary created on the basis of multimedia, picture, audio and similar methodological possibilities of the theory of mobile education in the use of educational dictionaries. It was used in the innovative scientific project AM-FZ-201908172 on the topic "Creation of the educational corpus of the Uzbek language" carried out in 2020-2022 at the University of Uzbek Language and Literature Reference number 01/4-3528). As a result, the ideas on ensuring the interactivity of the mobile dictionary in the educational process by creating a mobile application of educational dictionaries are scientifically based;

On the basis of grammatical, lexical, and textual knowledge bases, linguistic support was created for the mobile application of homonyms educational dictionary, and from the materials related to the possibility of constantly updating it, introducing new homonymous units, in 2021-2022, the National Television and Radio Company of Uzbekistan used to write the script of the broadcasts "Bedorlik", "Ijod Zavqi", "Education and Development", "Nation and Spirituality" of the "Uzbekistan" television and radio channel (December 27, 2022 of the state institution of the "Uzbekistan" television and radio channel of the National Broadcasting Company of Uzbekistan reference number 04-36-2142). As a result, these scientific results given in the radio programs served to increase the knowledge of the listeners about communication culture, artistic thinking, and philosophical views.

Approbation of research results.

The results of the study were reported at six scientific and practical conferences and seminars, including four international and two Republican

scientific and practical conferences, as well as the following of the author <https://scholar.google.com/citations?user=UTx-aZsAAAAJ&hl=ru> the Google scholar platform discusses scientific work.

Publication of research results. Twelve scientific works on the dissertation were published, including one textbook and four articles in scientific publications recommended to be published by the Higher Attestation Commission of the Republic of Uzbekistan (including two in national and two foreign journals).

The structure and volume of the dissertation. The dissertation consists of an introduction, three chapters, a conclusion, a list of used literature, and its total volume is 138 pages.

MAIN CONTENT OF THE DISSERTATION

In the introduction part of the dissertation, the relevance and necessity of the research is described. The goals and objectives, object and subject of the research work are described, the compatibility with the priority directions of the national science and technology development is shown, the scientific innovation and practical results of the research are described, the scientific and practical significance of the obtained results is revealed, and the research results are presented. Implementation, published works and information on the structure of the dissertation are presented.

In the first chapter of the dissertation is entitled "Electronic dictionaries - as a study object of computer lexicography", the study of linguistic resources in computer lexicography, common and different aspects of book and electronic dictionaries, modern types of linguistic dictionaries, dictionary composition and content creation based on anthropocentric principles in world and Uzbek linguistics and its theoretical foundations are explored.

In the first part of the first chapter of the dissertation, entitled "*Review of studies on educational vocabulary*", the ideas about the role of educational dictionaries in world, Russian and Uzbek linguistics are highlighted.

When talking about the gradual development of lexicography, the sequence of translation dictionary - linguistic dictionary - encyclopedic dictionary - educational dictionary - electronic dictionary is mentioned in many places. Researches on the history of lexicography in world linguistics show that the first versions of the dictionary were created for educational purposes - the first examples of the dictionary were in fact primitive textbooks created for school, more precisely, the dictionary served as a textbook in elementary school³⁴.

Educational lexicography as an independent discipline was formed in the second half of the 20th century because of the expansion of international relations in connection with the interest in learning foreign languages.

³⁴ Бахриддинова Б.Б. Ўзбекистонда ўқув луғатчилиги: лингвистик асослари, тарихи ва истиқболлари. (DSc) диссертацияси автореферати. – Самарқанд, 2020., – Б.69

In recent years, a number of works have been carried out in Uzbek linguistics in linguistic lexicography and computer linguistics³⁵ in particular, the researches of B. Bahriddinova, Z. Rajabova, G. Mirkhanova, N. Abdurakhmonova, Sh. Gulyamova and others studied the linguistic features of the creation of new generation homonyms educational explanatory dictionaries in the Uzbek language on a monographic scale.

The second part of the first chapter is entitled "Study of Linguistic Resources in Computer Lexicography". It studies the practical and theoretical foundations of lexicography in the development of linguistic units and the classification of linguistic resources in computer lexicography, which is considered one of its new branches, and bringing it to a new stage in Uzbek linguistics. (provided with specific facts about thesaurus and ontology)

Dictionaries play a very important role in human life, society, inter-linguistic and inter-cultural communication. As a result, interest and demand for dictionary and lexicography is increasing day by day. It should be noted that the need for this field is increasing in the period when relations between different peoples and countries are becoming stronger and more active. In this relationship, dictionaries play the role of a bridge, communication. It is observed that attention is paid to lexicography in all countries of the world. One of the main reasons for creating different dictionaries is to show the improvement of fields.

The field of computer lexicography was formed as a result of the optimization of working with dictionaries using computers. Computer lexicography is an important component of applied linguistics, which studies linguistic and software-based computer dictionaries created on the basis of the principle of encoding and decoding, their compilation programs, and algorithms. Because of the development of this field, electronic dictionaries of various names are being created. The most popular electronic dictionaries include CONTEXT, ABBY LINGVO, MULTITRAN, POLYGLOSSUM, MULTILEX³⁶.

³⁵ Alessandro Agostini, Timur Usmanov, Ulugbek Khamdamov, Nilufar Abdurakhmonova, and Mukhammadsaid Mamasaidov. 2021. UZWORDNET: A Lexical-Semantic Database for the Uzbek Language. In Proceedings of the 11th Global Wordnet Conference, –P. 8–19, University of South Africa (UNISA). Global Wordnet Association; Mengliev, D; Barakhnin, V; Abdurakhmonova, N. Development of Intellectual Web System for Morph Analyzing of Uzbek Words. Appl. Sci. 2021, 11, 9117. <https://doi.org/10.3390/app11199117>; Абдурахмонова Н., Хайдаров М. Ўзбек тилида WORDNET яратиш масалаларига доир // “O‘zbekistonda xorijiy tillar” elektron jurnali № 4 (27) / 2019; Абдурахмонова Н. Ўзбек тили электрон корпусининг компьютер моделлари: Филол. фанлари доктори (DSc) ... дисс. автореф – Тошкент. 2021; Бахриддинова Б.М. Ўзбекистонда ўқув луғатчилиги: лингвистик асослари, тарихи ва истикболлари: Филол. фанлари доктори (DSc) ... дисс. автореф – Самарқанд. 2020; Ражабова З.И. Ўзбек ўқув фразеогрфиясининг лингвистик аспекти: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Қарши, 2022; Мирханова Г.Р. Ўзбек тилининг синоним сўзлар ўқув луғатини тузишнинг лингвистик асослари. Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Қарши, 2022; Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022; Нормаматов С.Э. Ўзбек луғатчилигининг шаклланиши ва ривожланишида жадид маърифатпарварларининг ўрни: Филол. фанлари доктори (DSc) ... дисс. автореф. – Тошкент: 2019; Худжаева Р.М. Инглиз ва ўзбек тилларидаги генетик боғланмаган лексик омонимларнинг самарадорлиги ва уларнинг лексикографик талқини: Филол. фанлари бўйича фалсафа доктори (PhD) ... дисс. автореф. – Тошкент, 2017. –181 б; Мамедова М.А. Умумтаълим мактаблари ўқувчиларини инглиз тили омонимларига ўқитишдаги компьютер технологиялари: Филол. фанлари бўйича фалсафа доктори (PhD) дисс. – Тошкент, 2017.

³⁶ Rahimov A. Kompyuter lingvistikasi asoslari – Т.: Akademnashr, 2011.

The concept of "electronic dictionary" is a term that has appeared in the last thirty years in the field of linguistics. The term "computer lexicography" appeared relatively earlier. The scientific interpretation of this concept is "Computational lexicography" published in 1976 by Y.N. Marchuk, "Machine lexicography" published in 1984 by E.V. Wertel, "Automated lexicography" by O.A. Kazakevich in 1985, "Automated lexicography" by V.V. Markovkin in 1990. It is described in the textbooks and training manuals "Computer lexicography" created in. In particular, Y.N. Marchuk emphasized the need to generalize these terms under the heading "Computational Linguistics" and to discuss solving the current problems of linguistics with the help of computers based on modern programming directions³⁷. Q.M. Mandrikova emphasizes that the terms "calculating lexicography", "calculating machine" and "automatic lexicography" are the same concept and in their essence there is a single tool - a computer. She emphasizes that "computer lexicography" is a special branch of linguistics. It is concluded that lexicography should be considered as a separate field. The content of this discipline considers the existence of theoretical and practical problems of various types of computer vocabulary, as well as the publication of all results related to this problem³⁸.

In our opinion, by replacing the terms computational lexicography, machine lexicography, electronic lexicography, automatic (automated) lexicography with a specific term, their diversity should be avoided, and computer lexicography should be studied in this context as a branch of computer linguistics. The term also included the once widely used terms computational lexicography, machine lexicography, automated lexicography, and statistical lexicography.

N. Abdurahmonova describes traditional and electronic dictionaries in her textbook "Kompyuter lingvistikasi" as follows: "In a traditional dictionary, comments reflecting the structural composition of one or another word are provided, according to the principles of creating an electronic (automatic, computer) dictionary in a special computer format for users or a given program is implied as a specific component program (e.g., machine translation). At the same time, depending on how the user uses it, an electronic dictionary differs from an automatic dictionary for a word processing program. User-defined automatic dictionaries are free to use"³⁹.

In our opinion, computer dictionaries differ from ordinary traditional dictionaries by the following features:

The procedure for accessing the dictionary and obtaining information from it based on certain requests is simple and fast;

The ability to refer to several dictionaries at the same time, to clarify the meaning of a word in a short time and to draw general conclusions. In ordinary dictionaries, this takes a lot of time and effort;

³⁷ Марчук Ю.Н. Основы компьютерной лингвистики. – М.: МГОУ, 2002.

³⁸ Мандрикова Г.М. Учебное компьютерное лексикографирование в теоретическом и прикладном рассмотрении: Автореф. дисс. ... канд. филол. наук. – М., 1994.

³⁹ Abdurahmonova N. Kompyuter lingvistikasi – Toshkent: Nodirabegim, 2021. – B 148.

Each of these dictionaries has the ability to highlight a word in any language and compare it with other dictionaries. For example, an 8-language translation dictionary can be based on any language. That is, that all languages represented in multilingual dictionaries have the same rights and search capabilities;

Once ordinary dictionaries are published, the word count and explanation cannot be changed until reprinted. Computer dictionaries are open, mobile systems. Such dictionaries can instantly add new words, make corrections and remove outdated words (or place these words in a separate group).

In the third part of the first chapter, entitled "Conceptual foundations of electronic educational vocabulary", it is stated that the existence of possibilities such as the creation of an electronic dictionary corpus based on a special search system, a database of corpus-based dictionaries and software, and the possibility of obtaining general information of the desired word using the search system for language learners is theoretically studied.

In applied linguistics, terms such as computational linguistics, machine translation, language technology, natural language processing, and artificial intelligence technology are often used. Each of these has its own gradual development through human-made linguistic resources. Electronic corpora are now considered as one of the main types of linguistic resources. Corpus linguistics performs tasks such as collecting, classifying, and annotating texts. Corpus is important in the field of natural language processing (NLP-natural language processing) because it can linguistically accurately and correctly show the process of understanding natural language for a machine. Therefore, in scientific sources, corpus linguistics is noted as a branch of the field of natural language processing (NLP)⁴⁰ in some contexts, it is recognized as a specific branch of computational linguistics or applied linguistics.

A mobile dictionary corpus based on a special search engine, search parameters should be able to read the dictionary meaning of the lexical unit and the examples of the searched lexeme or word from the database.

For users, the structure of the electronic dictionary entry, a set of its components that provide reliable information about the word is of particular importance. The components and structure of the dictionary record reflect the objective complexity of the described vocabulary units, the uniqueness of lexicographic genres, the common object of which is an open set of lexical units. Thus, Russian language dictionaries systematize our knowledge about the language and the world. This knowledge is expressed in the type of dictionary, the size of the dictionary, the method of presenting lexicographic material, the structure and objects of the dictionary entry. Based on this, we came to the conclusion that at least one of the criteria for choosing one or another lexicographic source for inclusion in the data array can be a dictionary type. On the other hand, each type of dictionary has its own unique characteristics. For example: the naming system, the

⁴⁰ Mohamed Zakaria Kurdi. Natural Language Processing and Computational Linguistics: Speech, Morphology and Syntax. — Great Britain, USA: Wiley-ISTE 2016. – B. 300.

size of the dictionary, the structure of the dictionary entry and the dictionary itself, the ways of interpreting the meaning of the dictionary, the chronological layer of the lexical units included in the dictionary, etc. A complete analysis involves referring to several lexicographic sources, including dictionaries of the same type. In addition, dictionaries of different types may have the same type of information about the same lexical unit, but the content of this information may differ in them: it may be broader or narrower, or it may differ in quality.

In the second chapter of the dissertation entitled "Practical issues of learning mobile dictionaries" as practical issues of using mobile dictionaries in language pedagogy, it is considered appropriate to add a dictionary, grammar and conversation book to learn natural languages using computers or mobile devices, and organization of this process by linguists and programmers implementation of the application of the electronic version of the dictionary, the development of grammatical rules and tasks, information-search systems, dialog systems, expert systems, the pronunciation of dictionaries, the preparation of a query system, the need to solve the problem of linguistic support and software is stated.

The first part of the second chapter is entitled "Practical Aspects of Using Mobile Dictionaries", and in this part it is systematically studied that the introduction of the language teaching system through computers and mobile devices has a positive effect on the language teaching process.

In the 21st century, the environment of education and training is changing very rapidly due to the unprecedented opportunities created by the development of information and communication technologies for education. For nearly half a century, the integration of computers as a teaching tool into the educational process and the rapid evolution of mobile devices have brought new experiences of language teaching into practice.

Mobile learning is learning that takes place using mobile devices⁴¹ that means learning anywhere and anytime. While initially mobile learning focused on the role of mobile technologies and devices in education, in recent years mobile learning has been characterized by user mobility and informal learning that takes place outside the classroom⁴² in this case, any number of tablet devices such as portable media players, tablets and mobile phones have contributed to mobile learning.

In computational linguistics, mobile-assisted language learning is called MALL, and this process is any type of language learning that takes place using portable devices. A number of scientists estimate that mobile devices have an effective and positive effect on language learning and development of skills in general.

The role of mobile applications in learning is taken for granted in the literature, where research on MALL focuses primarily on teacher-led mobile learning and student use of mobile applications. Language learners use these

⁴¹ Kukulska-Hulme A., Shield L. An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 20, 2008. – P. 271

⁴² Sharples M. Big issues in mobile learning. Report of a workshop by the Kaleidoscope Network of Excellence Mobile Learning Initiative. 2006. – P. 28

apps very often because of their "availability, convenience, and affordability."⁴³

In the second part of the second chapter entitled "*Scientific Paradigm of Electronic Dictionaries*" the creation of electronic dictionaries and its place in computer linguistics, in particular computer lexicography, are analyzed. Different scientific centers compile computer dictionaries for different purposes. That is why they classify such dictionaries according to various parameters in the information technology system. Some of them are only intended for wide use in Internet systems and there is not have hard copy (book) versions. Some computer dictionaries have paper versions. Rather, electronic versions of dictionaries approved by the scientific community and used in everyday life are sometimes created. These versions reflect some features of both electronic and paper dictionaries. An electronic version of the dictionary in paper form has been created, which allows the use of these dictionaries for a wider range of users. These dictionaries themselves have partially electronic and fully electronic versions. As a result, existing computer dictionaries can be broadly classified as:

- used in machine translation and artificial intelligence systems;
- dictionaries forming the database of terminological banks and dictionaries of the "Polyglot" type created to help translators
- electronic files containing various bibliographic and encyclopedic information;

electronic versions of dictionaries that have been available for a long time in the form of paper (books) and have a wide range of use.

Examples of the most widely used English language dictionaries are "Dictionary.com", "Dictionaries", "Your Dictionary", "Hypertext Dictionary", "WordNet", "Intralinguas English Language Dictionary", and "Onelook Dictionaries".

"Your Dictionary" English language dictionaries, special "Online dictionary" and "Online thesaurus" at the same time search any word catalogs "Hypertext Dictionary", "WordNet" and "Intralinguas English Language Dictionary", their phonetic features allows to learn and clarify the meaning.

From the "WordNet" dictionary, you can get information about whether a word belongs to a particular sentence, synonyms, antonyms and homonyms of this word. The catalog includes "American Heritage Dictionary", "Thesaurus and Quotes", "Cambridge Dictionaries Online", "Dictionary of Difficult Words", "The Jargon Dictionary", "Online Dictionary", "Database Query", "Ono-look Dictionary", "Grandiloquent Dictionary" and similar dictionaries are placed. Each of these dictionaries is multilingual and has access to domain-specific dictionaries. Special field dictionaries cover 86 fields of activity. This

⁴³ Steel C. Fitting learning into life: Language students' perspectives on benefits of using mobile apps. Proceedings of ascilite 2012, Future Challenges Sustainable Future. Wellington, New Zealand. Available at: http://www.ascilite.org.au/conferences/wellington12/2012/images/custom/steel%2c_caroline_-_fitting_learning.pdf.

includes business, finance, medicine, computer technology, sports and other types of activities.

There are so many glossaries, dictionaries, and thesauruses on the Internet that it is impossible to provide information about each of them. You can get information about each of them and use their services by sending a query to Google and other search servers.

The third part of the second chapter is entitled "Mobile dictionaries as a linguistic tool in educational lexicography" and it studies the reliance on corpus lexicography and cyber lexicography, which are branches of computer lexicography, in the creation of mobile dictionaries.

Corpus lexicography is closely related to computer technology as a field of language study based on a text or acoustic corpus, which is widely used in a certain phase of a computer aimed at performing the task of storing, transmitting and analyzing information. If the tasks of corpus lexicography include not only language analysis, but also the technology and methods of computer-aided text analysis, cyber lexicography uses the Internet for text-related work or dictionary creation⁴⁴.

The interaction between computer and lexicology was expressed in the 60s of the last century. During those years, the Brown Corpus was created, and in 1978, it was created an automatic checking system and the Longman Dictionary of Contemporary English⁴⁵, which was coded specifically for language processing.

Three things should be considered when creating dictionaries:

- goals and tasks according to the creation of the dictionary
- texts described in the dictionary;
- category of users.

The main tasks of traditional and computer lexicography include determining the structure of the dictionary and organizing the position and structure of the articles in the dictionary⁴⁶.

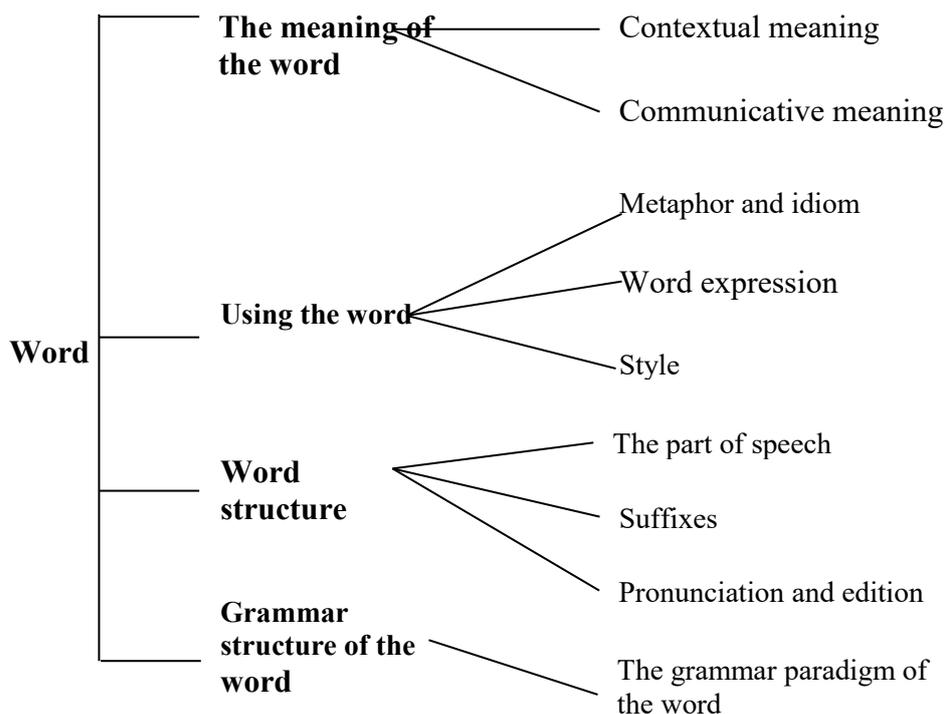
In a traditional dictionary, comments reflecting the structural composition of one or another word are provided, in accordance with the principles of creating an electronic (automatic, computer) dictionary, a program is provided for users in a special computer format or as a specific component program (for example, machine translation). At the same time, depending on how the user uses it, an electronic dictionary differs from an automatic dictionary for a word processing program. User-defined automatic dictionaries are freely available.

The advantages of corpus-based vocabulary can be seen in the table below.

⁴⁴ Бархударов С.Г., Новиков Л.А. Каким должен быть учебный словарь? // Русский язык за рубежом. – 2001. – № 3. – С. 46–50.

⁴⁵ <https://www.ldoceonline.com/> (murojaat sanasi: 10.09.2022)

⁴⁶ Воронцова И.А. Медиасловарь: принципы организации и перспективы развития // Ярославский педагогический вестник. Том I (Гуманитарные науки). 2014. № 2. – С. 176–182.



1 View. Working mechanisms of corpus technology in entering words into mobile dictionaries

The third chapter of the dissertation is entitled "Lexicographic principles of creating a mobile educational dictionary of homonyms". It includes the methodology of creating a corpus-based homonym educational dictionary, creating dictionary content based on samples taken from texts of various styles available on the website <http://uzbekcorpus.uz/>. Active and passive educational vocabulary corpus-based statistical analysis, the structure and content of the homonyms educational dictionary were studied and effectively used in the dictionary creation process.

The first part of this chapter is entitled "Methodology for creating a corpus-based homonyms learning vocabulary" and covers corpus linguistics and corpus-based learning vocabularies, in particular, methods for creating homonyms learning vocabulary.

The application of modern information and communication technologies to all fields of science, in particular to philological sciences, popularized the use of linguistic corpora in the study of various aspects of the language. In recent years, methodological literature has appeared on the issues of teaching a foreign language to pupils/students by means of various linguistic corpora. The analysis of such studies shows that the authors have come to a certain conclusion about the description of the term "linguistic corpus" in the conceptual content. Usually, a corpus is understood as a set of texts in electronic form⁴⁷.

⁴⁷ Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фанлари доктори (DSc) ... дисс. автореф. – Фарғона. 2022. – Б. 76.

In the researches of Uzbek linguistics, in particular, computer linguistics, M. Abjalova⁴⁸ and Sh. Gulyamova⁴⁹ made efforts to create analysis programs for "recognizing", "reading", "analyzing" and "understanding" homonymous units in the Uzbek language in the computer memory. However, in these works, there are no comments on the creation of a mobile application of the dictionary of homonymous units of the Uzbek language.

In the second part of the third chapter entitled "Structure and content of the homonymic vocabulary", homonymous units and their linguistic practices and models were analyzed with the help of examples in the formation of the structure and content of homonymous units.

Homonymy is usually classified as follows⁵⁰:

I. Lexical homonymy

II. Grammatical homonymy

" "Oy" (Moon) I is a natural satellite of the Earth, a planet that reflects the sunlight to the Earth at night and "oy" (month) II is an average period of 30 days, one-twelfth of a year" occurrence - forms lexical homonymy, and in grammatical homonymy the correspondence of grammatical units in the plan of mutual expression, i.e. "-siz I - accusative of the second person plural, "-siz" II - genitive of the second person plural, "-siz" III - as an adjective maker.

In linguistics, two types of lexical homonyms are distinguished:

A. Lexical homonymy is the equivalence of lexemes from the plan of mutual expression: "asr" (century) I - "A period of one hundred years", "asr" II - "One hour before sunset and the prayer at this time".

B. Phraseological homonymy is the equalization of the mutual expression plan of phrases: *ichagi uzilmoq* I - "to laugh loudly", *ichagi uzilmoq* II - "to be very hungry". Examples: *Hammalari kulishib, ayniqsa, Xolmirza akaning xixilashidan ichagi uzilayozdi.* (Everyone laughs, especially Khalmirza's giggles make his stomach burst). A.Qodiriy, "Obid ketmon". *Qo'y, bolam, bunaqa behuda xayollarni... Ol, oshingni ich, ichaging uzilib ketgandir.* S.Akbariy, "Cho'ldagi parvoz". (A. Qadiri, "Obid hoe". Stop, my child, such vain dreams... Take, drink your soup, your stomach is broken. S. Akbari, "Flight in the Desert").

In linguistics, in addition to the above two main types, there are also the following cases, in such homonyms; there are cases where the lexical unit and the grammatical unit are equal:

- xon I - lexical form maker in nouns, - xon II - auxiliary morpheme forming a noun, xon III - the title of the rulers of the Turkic and Mongolian peoples.

In this kind of homonymy between the lexeme "xon" (word) and the morpheme, it exists in the status of equality, partially, in terms of the phoneme system, and in terms of pronunciation and writing, they differ from each other.

⁴⁸ Abjalova M.A. O'zbek tili ontologiyasini yaratish tamoyillari: Filol. fanlari doktori (DSc) ... diss. avtoref. – Farg'ona. 2022.

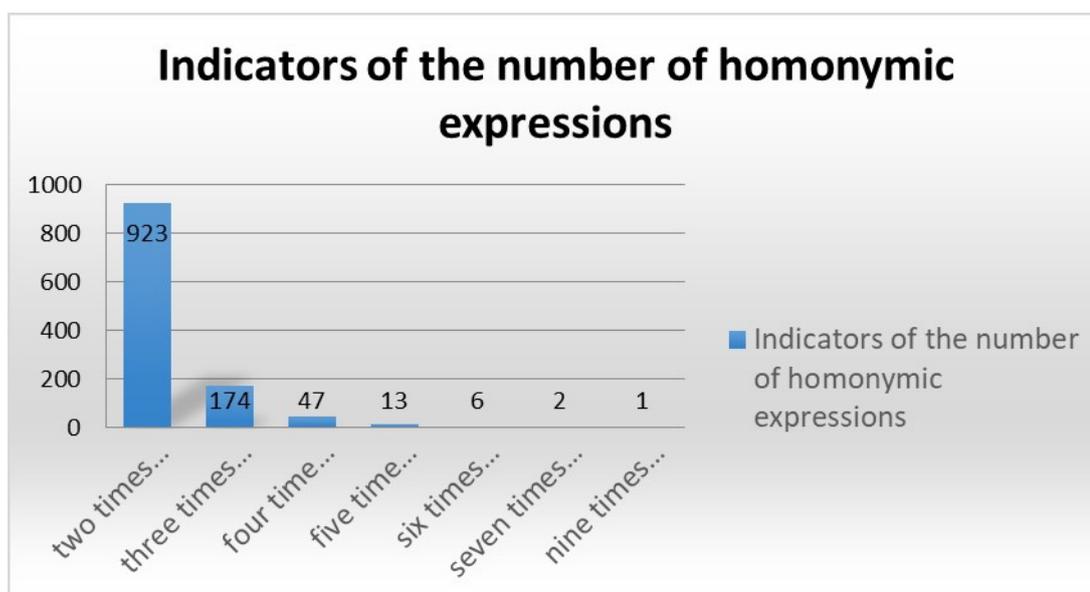
⁴⁹ Гулямова Ш.К. Ўзбек тили семантик анализаторининг лингвистик асослари: Филол. фан. доктори (DSc) дисс. – Фарғона. 2022;

⁵⁰ Турсунов У., Мухторов Ж., Раҳматуллаев Ш. Ҳозирги ўзбек адабий тили: – Тошкент: Ўзбекистон, 1992.

Xon lexeme is pronounced with its own independent accent, while the morpheme is accented together with the base to which it is added; khan lexeme is written separately, and morpheme is written by adding to the leading morpheme. Accordingly, such homonymy is not noticeable. In general, such homonymy is homonymy between linguistic units: both lexeme and morpheme are linguistic units.

As a result of our research, homonyms (omoifoda, homograph and homonym) were included in the database. In this educational dictionary, taking into account the general audience of users of the dictionary, not only homonyms in the form of lexemes, but also affixal homonyms, word combinations, units and groups that form a reciprocal relationship with the phrase are mutually classified, and then entered into the mobile dictionary.

When forming the content and structure of lexical homonyms, how many places lexical homonym units can be homonyms, which categories can be mutual homonyms, and self-homonymous units are analyzed. We can see this through the table below



2 View. Indicators of the number of homonymic expressions

The homonym database of the mobile application has been divided into four components according to the relationship of homonymy, and the homonyms in the Uzbek language are arranged in alphabetical order:

- Lexical homonyms
- Affix based homonyms
- Phraseological homonyms
- Homonyms between fixed conjunctions and collocations

Words with a similar form of expression can be differentiated according to certain characteristics as follows:

- | | |
|---------------|---------------|
| a) homophone; | b) homograph; |
| c) homoform; | d) homonym. |

The third part of the third chapter under the title "Designing a homonym dictionary database" deals with the role of the database in computer lexicography and the formation of a database of homonyms.

The homonym database for the mobile dictionary is aimed at storing, editing and processing sorted linguistic data. The database management system is implemented in connection with the user interface and the expert system. It performs all processes.

As we know, the MySQL programming language was used for the database management system and it was designed in the Flutter framework. We can see this in the following structured query process.

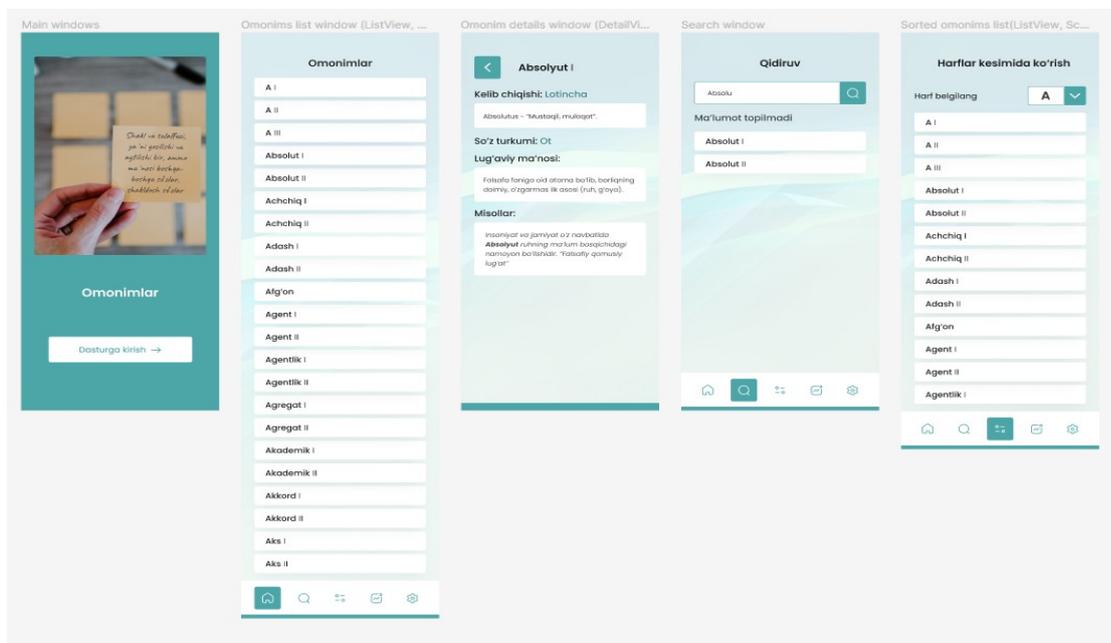
SQL query -> database management system -> homonym database

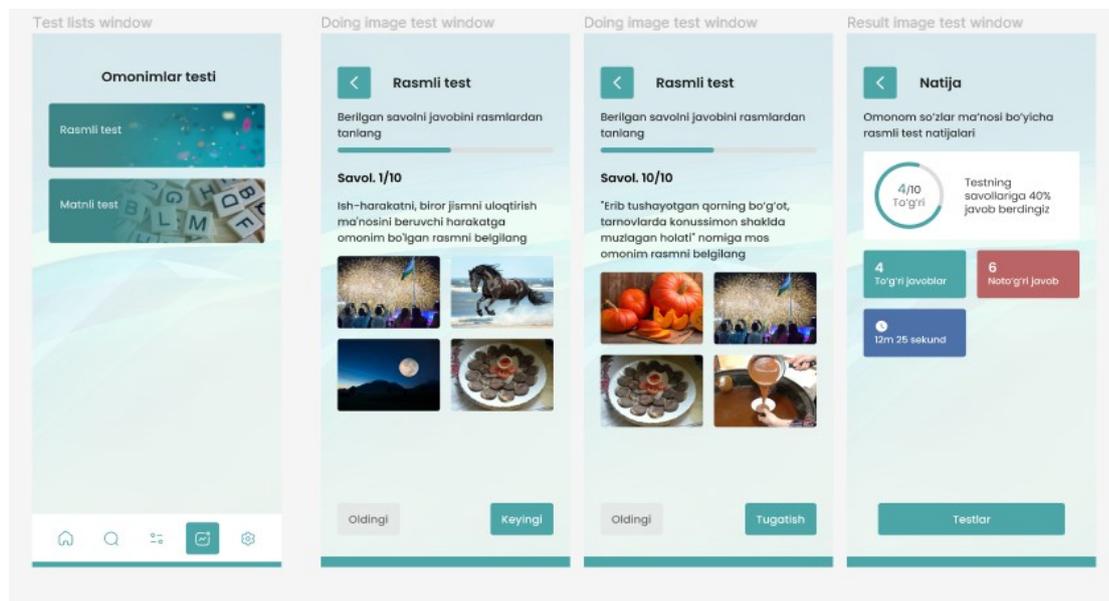
Get results from homonyms database:

Homonym database -> database management system -> Query response

In order to create a mobile application of homonyms of the Uzbek language, the structure of the database of the mobile application was created by entering the dictionary of homonyms into the database as a linguistic resource, coding their general and specific meanings, separating them into fields such as lexical and grammatical homonymous units and their lexical meaning as an example of the unit being explained, and based on this structure An online program for the Windows platform of the database of homonymous units available in the Uzbek language was created, and its mobile application was also presented to the public.

3 View. The view of the mobile app of Uzbek language homonyms study dictionary





4 View. Interactive view of the mobile app

The quality of the application determines the quality of the linguistic support when creating a mobile dictionary.

A systematic mobil project was developed to increase the efficiency of the mobile dictionary, to ensure its interactivity, and to test and self-check and evaluate for users.

Functional capabilities of this mobile application, such as constantly updating its content, editing and improving its shortcomings, serve to define promising tasks for computer lexicography.

CONCLUSION

1. It is important to develop a database of dictionaries and develop electronic modern mobile applications of dictionaries with the help of software creation in the process of converting encyclopedic and linguistic dictionaries into the form of electronic dictionaries through systematic investigations on all existing dictionaries in the traditional form in the Uzbek language.

2. As a result of the development of computer and mobile technologies, the possibilities of computer lexicography have been expanding. Today, the rapid development of types of electronic lexicography, such as thesaurus, ontology, web application and corpus, shows the need to constantly update the content of linguistic dictionaries and further develop its linguistic resources for computer lexicographic semantics.

3. The creation of a mobile educational dictionaries of the language is nourished and enriched by the principles of the traditional dictionaries and is their more improved modern form. Coordinating the technical capabilities and linguistic content of mobile dictionaries is one of the important tasks facing computer linguistics.

4. Studies have shown that dictionaries based on mobile applications are not only useful for providing information, but also for providing additional opportunities for language learning. It is important to take a sample of a number of mobile programs created in the modern English and Russian languages and it is important to apply them to the Uzbek language as well. Because mobile applications have created a number of possibilities, such as audio, multimedia, picture, hyper-app, evaluation, repetition, which should be introduced as soon as possible for linguistic dictionaries of the Uzbek language.

5. Further improvement of mobile applications of the Uzbek language educational dictionary will contribute to the enrichment of the modern educational environment, educational instruments and resources. One of the important features of the information age is that speed, compactness and convenience have always been considered primary for mankind. Therefore, the development and coordination of language teaching systems based on mobile applications in language education technology is one of crucial matters.

6. Corpus-based lexicographic research is considered the most fruitful methodological method. The multi-functionality of educational dictionaries made it possible to get articles from the corpus of relevant texts. Among other things, it serves as a study object for research on further improvement of context-based lexicogrammar.

7. Mobile educational dictionaries have a number of advantages as well as disadvantages. However, in the modern world, it is impossible to imagine either the educational process or the world of science without a computer and the Internet. Their creation of mobile dictionaries provides reliability and development for organizing the materials of the language corpus using electronic technologies.

8. In the Uzbek language, homonymy is a complex phenomenon related to form and content. The dictionary of homonyms created within the framework of our research includes the phenomenon of homonymy between homonyms, homonymous lexical, affixal, phraseological units and free and fixed combinations in the mobile application. It is characterized by the creation of additional functional possibilities for their clear visualization in the mobile application.

9. Based on the world experience, distance education courses are being launched in Uzbekistan today, which creates the need to mobilize the educational process. In this regard, the introduction of mobile education in all higher educational institutions of our country has put the relevance of electronic tools on the agenda.

10. The role of lexicography in the development of linguistic units is unlimited, and the organization of dictionary work is important not only in specific linguistics, but also in solving some issues related to general linguistics. Research in this direction, computer linguistics, which is a modern branch of linguistics, also develops the field of lexicography and serves the development of computer lexicography, corpus lexicography and cyber lexicography in linguistics.

**НАУЧНЫЙ СОВЕТ DSc. 03/30.12.2019.Fil.05.02 ПО
ПРИСУЖДЕНИЮ УЧЁНЫХ СТЕПЕНЕЙ ПРИ ФЕРГАНСКОМ
ГОСУДАРСТВЕННОМ УНИВЕРСИТЕТЕ**

ФЕРГАНСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ

АБДУВАХОБОВ ГИЁСИДДИН ГАЙРАТЖОН УГЛИ

**ЛИНГВИСТИЧЕСКИЕ ОСНОВЫ СОЗДАНИЯ МОБИЛЬНОГО
ПРИЛОЖЕНИЯ УЧЕБНОГО СЛОВАРЯ ОМОНИМОВ НОВОГО
ПОКОЛЕНИЯ**

**10.00.11 – Теория языка. Прикладная и компьютерная
лингвистика**

**АВТОРЕФЕРАТ ДИССЕРТАЦИИ ДОКТОРА ФИЛОСОФИИ
(PhD) ПО ФИЛОЛОГИЧЕСКИМ НАУКАМ**

Фергана – 2023

Тема диссертации доктора философии (PhD) зарегистрирована в Высшей аттестационной комиссии за №В2023.1.PhD/Fil1898

Диссертация выполнена в Ферганском государственном университете. Автореферат диссертации на трёх языках (узбекский, английский, русский (резюме)) размещен на веб-странице Ферганского государственного университета по адресу: www.fdu.uz и в Информационно-образовательном портале «Ziyonet» www.ziyonet.uz

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Защита диссертации состоится «30» 05 2023 года в 9⁰⁰ часов на заседании Научного совета DSc.03/30.12.2019.Phil.05.02 при Ферганском государственном университете по адресу 100151, г. Фергана, улица Б.Маргиноний, 105. Тел.: (+99873) 244-57-82; e-mail: info@fdu.uz

С диссертацией можно ознакомиться в Информационно-ресурсном центре Ферганского государственного университета (зарегистрирована под №267). Адрес: 100151, г. Фергана, улица Мураббийлар, 19. Тел.: (+99873) 244-71-28

Автореферат диссертации разослан «16» 05 2023 года
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ВВЕДЕНИЕ (аннотация диссертации доктора философии (PhD))

Целью исследования сформировать омонимическую парадигму лексических, аффиксальных и фразеологических единиц узбекского языка как составляющую учебного словаря омонимов, создать мобильный словарь омонимов узбекского языка, опираясь на теоретические основы создания новых поколений учебных словарей с точки зрения компьютерной лексикографии и применения передовых технологий.

Предметом исследования является исследование лингвистических и лингводидактических основ учебных словарей нового поколения путем создания мобильного приложения учебного словаря узбекских омонимов.

Научная новизна исследования заключается в следующем:

при использовании учебных словарей омографы, омоформы и омофонные единицы включаются в базу данных учебного словаря омонимов, созданного на основе мультимедийных, картинных, аудио и подобных им методологических средств теории мобильного обучения, раскрываются их лингвистические возможности;

определено, что основные задачи современных электронных учебных словарей состоят в отборе слов и терминов, относящихся к определенной сфере, определении норм их употребления и коммуникативных функций;

подбор лексических средств электронного образовательного словаря в соответствии с тематической направленностью, создание и систематизация словаря омонимов с учетом существующих в терминосистеме логических и понятийных отношений, создание энциклопедической части для включения контекстуального исходного текста. Доказано, что она связана с такими особенностями, как возможность изменения и дополнения учебного материала;

лингвистическое обеспечение мобильного приложения учебного словаря омонимов создано на основе грамматической, лексической, текстовой баз знаний, основанных на возможности его постоянного обновления, введения новых поступающих омонимических единиц.

Внедрение результатов исследования.

Научные результаты и материалы по обеспечению интерактивности мобильного словаря в образовательном процессе путем создания мобильного приложения учебных словарей были использованы в международном практическом проекте «Class – Марказий Осиё университетларида Компьютер лингвистикаси магистратура дастурини ривожлантириш» в рамках в рамках международного проекта Erasmus+ на 2018-2021 годы (справка Ташкентского государственного университета им. Алишера Навои № 04/1-3158 от 16 ноября 2022 года);

материалы по созданию учебных словарей нового поколения слова в составе омонимов, сгруппированных по омографам, омоформам и омонимам, мобильного словаря из его базы были использованы в инновационном

научном проекте АМ-ФЗ-201908172 по теме «Создание образовательного корпуса узбекского языка», проведенном в 2020-2022 годах в Ташкентском государственном университете узбекского языка и литературы (справка № 01/4-3528 Ташкентского государственного университета узбекского языка и литературы от 21 декабря 2022 г.). В результате научно обоснованы идеи по обеспечению интерактивности мобильного словаря в образовательном процессе путем создания мобильного приложения учебных словарей;

выводы исследования по созданию мобильного приложения учебных словарей и обеспечению интерактивности мобильного словаря были использованы в 2021-2022 годах для создания сценариев передач «Бедорлик», «Ижод завқи», «Таълим ва тараққиёт», «Миллат ва маънавият» телерадиоканала “O‘zbekiston” Национальной телерадиокомпании Узбекистана (справка государственного учреждения телерадиоканала “O‘zbekiston” Национальной телерадиокомпании Узбекистана № 04-36-2142 от 27 декабря 2022 года). Научные результаты исследования послужили повышению знаний слушателей о культуре общения, художественном мышлении, философских взглядах.

Апробация результатов исследования. Результаты исследования были представлены и одобрены на 6 научно-практических конференциях и семинарах, в том числе на 4-х международных и 2-х национальных научно-практических конференциях, а также результаты исследования обсуждались на авторских ссылках на платформе Google Scholar <https://scholar.google.com/citations?user=UTx-aZsAAAAJ&hl>.

Опубликованность результатов исследования. Всего по теме диссертации опубликовано 12 научных работ, в том числе 1 учебник и 4 статьи в научных изданиях, рекомендованных Высшей Аттестационной Комиссией Республики Узбекистан для публикации основных научных результатов докторских диссертаций, в том числе 2 в республиканских и 2 в зарубежных журналах.

Структура и объем диссертации. Диссертация состоит из введения, трех глав, заключения, списка литературы, общий объем составляет 138 страниц.

E'LON QILINGAN ISHLARI RO'YXATI
СПИСОК ОПУБЛИКОВАННЫХ РАБОТ
LIST OF PUBLISHED WORKS

I бўлим (I часть; I part)

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Avtoreferat Farg‘ona davlat universiteti
«Lingvistik tahrir va tarjimashunoslik»
markazida tahrirdan o‘tkazildi (24.02.2023-yil)

Bosishga ruxsat etildi: 2023.05.07 Nashriyot bosma tabog‘i –3,5.
Shartli bosma tabog‘i – 1,75. Bichimi 84x108 1/16.
Adadi 100. «Poligraf Super Servis» Mchj
150114, Farg‘ona Viloyati, Farg‘ona shahar,
Aviasozlar ko‘chasi 2-Uy.

