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Мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетін қалыптастыру

Мақалада мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетін қалыптастыру мәселесі қарастырылған. Адамгершілік тәрбие мәселесі бүгінгі күнге дейін өзекті және зерттеуде кең таралған мәселелердің бірі болды десек, онда бүгінгі қоғам дамуының қазіргі кезеңіндегі адамгершілік мәдениеті қалыптасқан жеке тұлғаға білім беру жүйесінде қойылатын әлеуметтік сұраныстарды және балаларды адамгершілік құндылықтар жүйесімен таныстыру қажеттілігін анықтайтын маңызды құндылықтардың бірі. Адамгершілік мәдениеттің қалыптасуы адамның адамгершілік жағынан өзін-өзі тәрбиелеу процесінің нәтижесі болып табылады. Авторлар әртүрлі психологиялық-педагогикалық әдебиеттердегі «адамгершілік мәдениет» түсінігіне берілген әртүрлі анықтамалар мен көзқарастарға талдау жасаған. В.А. Сластенин, И.Ф. Харламов және т.б. көптеген танымал психологтер мен педагогтер адамгершілік мәдениеттің мәнін жеке адамгершілік нормаларын, принциптерін, категорияларын, мұраттарын игеру және қабылдау деп түсінеді, сонымен бірге оның басқа адамдарға, өзіне, өзінің еңбегіне, табиғатқа деген белгілі бір қатынастарын білдіреді. Сондай-ақ, авторлар мектеп жасына дейінгі ересек кезеңін адамгершілік мәдениеттің қалыптасуына сезімтал кезеңі деп санайды. Ғалым В.А. Сухомлинскийдің пайымдауынша адамгершілік көзқарастардың өзгермейтін негізі балалық шақта пайда болады деп есептейді. Мектепке дейінгі ересек жастағы балалар адамгершілік талаптар мен ережелерді саналы түрде түсіне бастайды, өз әрекеттерінің салдарын болжай алады. Мақалада мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетін зерттеу әдістемелері мен адамгершілік қасиеттердің даму деңгейлерінің көрсеткіштері анықталып, зерттеу нәтижелері бойынша қорытынды тұжырымдар жасалды.

Кілт сөздер: адамгершілік, адамгершілік тәрбие, өзін-өзі тәрбиелеу, сезімтал кезеңі, адамгершілік қасиеттер, адамгершілік сана, адамгершілік мәдениет, жеке тұлғаның адамгершілік мәдениеті.

Кіріспе

Қазіргі кезде мектепке дейінгі тәрбие мен оқыту мазмұнын іске асырудағы басты міндет — жас ұрпаққа адамгершілік мәдениетін арттыру болып отыр. Қазақстан Республикасы Оқу-ағарту министрінің 2022 жылғы 14 қазандағы № 422 бұйрығының қосымшасына сәйкес «Мектепке дейінгі тәрбие мен оқытудың үлгілік оқу бағдарламасында» мәдени-әлеуметтік нормаларға баулу, рухани-адамгершілік құндылықтарды қалыптастыру керек делінген болатын [1]. Осыған орай, баланың адамгершілік мәдениеті адамдарға адамгершілікпен қарауға негізделген және олардың қоғамның адамгершілік тәжірибесін қаншалықты меңгергендігін көрсетеді. Ол баланың мінез-құлқы мен айналасындағы адамдармен қарым-қатынасынан көрініс табады. Адамгершілік мәдениетін тәрбиелеу арқылы біз балаларды жалпыадамзаттық және этикалық адамгершілік құндылықтарға баулимыз. Олардың бойында адамгершілік

тұрғысынан өзін-өзі тәрбиелеуге деген мотивациясын қалыптастырамыз. Өзін-өзі тәрбиелеу — бұл баланың адамға және оны қоршап тұрған барлық нәрселерге нақты қарым-қатынас жүйесінің мақсатты дамуы. Адамгершілік мәдениеттің қалыптасуы адамның адамгершілік жағынан өзін–өзі тәрбиелеу процесінің нәтижесі болып табылады. Әр адамға тән жеке тұлғасының мәдениеті адамдар арасындағы қарым–қатынастың барлық формалары мен түрлерінен көрінетіндіктен, бұл біздің бүкіл қоғамымыздың негізін құрайды.

Мектепке дейінгі ересек кезеңі айналадағы адамдарға деген құрмет, толеранттылық, отансүйгіштік, қоршаған табиғатты сүю және бағалау, өз іс–әрекеттеріне жауап беру сияқты жеке қасиеттердің қалыптасуына неғұрлым сезімтал кезеңі екенін ескере отырып, қазіргі заманғы мектепке дейінгі ұйымның бала дамуына айтарлықтай әсер ететін ең маңызды факторлардың бірі ретінде қарастыруды қажет етеді. Өйткені, мінез–құлық пен іс–әрекеттің тетіктерін дамытудағы, жалпы мектеп жасына дейінгі баланың жеке тұлғасының қалыптасуындағы ең маңызды кезең болып табылады. Соның ішінде, бұл мектепке дейінгі ересек жастағы балалардың психикалық және эмоционалды–ерікті дамуында, мотивациялық салада, ересектермен және құрдастарымен қарым–қатынаста болатын үлкен өзгерістерге де, адамгершілік тәрбиесінің қол жеткізілген деңгейіне де байланысты. Мектепке дейінгі ересек жастағы балалар адамгершілік талаптар мен ережелерді саналы түрде түсіне бастайды, өз әрекеттерінің салдарын болжай алады. Егер кіші мектеп жасына дейінгі балалардың мінез–құлқы ситуациялық тұрғыда болса, ал ересек жастағы балаларда мақсатты және саналы болады. Сондықтан да, мектепке дейінгі ұйымдардың тәрбиешілерінің назарын тәрбиеленушілердің адамгершілік даму мәселелеріне аударған жөн.

Алайда, жеке тұлғаның адамгершілік қалыптасуында мектепке дейінгі шақ өте маңызды кезең болып табылады. Адамгершілік тәрбиесі педагогикалық әсердің арқасында өтеді, балалар ойын және оқу іс–әрекеті процесінде адамгершілік нормаларымен танысады. Баланың өзін–өзі бағалауын арттыру; іс–әрекеттерге, сезімдерге, іс–әрекетіне талдау жасау қабілетін дамыту; балаларды өз отбасын сүюге және құрметтеуге, отбасына, Отанына қамқорлық жасауға; отбасының, елдің адамгершілік және мәдени дәстүрлерін сақтауға және байытуға ұмтылуға үйрету өте маңызды. Сонымен қатар, жеке тұлғаның адамгершілік дамуы баланың рухани–адамгершілік идеяларын кеңейтуге; адамгершілік сананы; тәрбиеленушілердің практикалық «адамгершілік» әрекетін дамыту сияқты мәселелерді шешу шеңберінде практикалық іс–әрекеттің осындай міндеттерін шешетін құндылықтарды қалыптастыруды білдіреді. Осы кезеңде балаларда өзін–өзі танудың сыни деңгейі және мінез-құлықты ерікті реттеу қалыптасады. Бұл балада оның ішкі позициясы — өзіне, адамдарға, айналасындағыларға жеткілікті тұрақты қарым–қатынас жүйесінің қалыптасуымен сипатталады. Баланың ішкі ұстанымы одан әрі оның бойында табандылықпен, тәуелсіздікпен және мақсаттылықпен көрінетін көптеген басқа, негізінен ерікті, жеке қасиеттердің қалыптасуы мен дамуына түрткі болады.

Зерттеліп отырған мәселе Л.С. Выготский, Д.Б. Эльконин, Л.И. Божович, А.В. Запорожец, Я.З. Неверович және тағы басқалардың еңбектерінде көрініс тапты, этикалық сатылардың, адамгершілік нормаларының пайда болуы мен қалыптасуының уақыты дәл осы мектепке дейінгі кезең болып саналады. Сонымен бірге, біз қарастырып отырған мәселеге ғылыми тұрғыдан талдау жасасақ онда, психолог, ғалым В.С. Мухина мектепке дейінгі ересек жастағы балаларда адамгершілік қасиеттерінің қалыптасуындағы ең маңызды рөл мінез–құлық мотивтеріне бағыну қабілетінің қалыптасуы екенін атап өтті. Дұрыс тәрбие жағдайында 5 жастағы балалар өздерінің мінез–құлқына адамгершілік мотивтерге сүйену қабілетін дамытады, бұл адамның адамгершілік бағытының негіздерінің қалыптасуына әкеледі. Бұл процесте мектепке дейінгі ересек жаста мазмұны жағынан бай және ауқымды болатын дамып келе жатқан адамгершілік сезімдер маңызды рөл атқарады. Мектепке дейінгі ересек жастағы балалар үшін өз сезімдерін саналы түрде басқару мүмкіндігі үлкен қиындық тудырады. Осыған байланысты, балалардың мінез–құлқы тәрбиешінің үнемі назарын талап етеді [2].

В.А. Сухомлинскийдің пайымдауынша адамгершілік көзқарастардың өзгермейтін негізі балалық шақта пайда болады деп есептейді. Баланың адамгершілік құндылықтарды түсінбей тұрып, адамгершілік мәдениетті қалыптастыруда өте маңызды болып табылатын патриоттық сезімдерді дамыту жүзеге аспайды [3].

Ғылыми педагогиканың негізін қалаушылардың бірі И.Ф. Герберт педагогика мәселелерін дамыта отырып: «Тәрбиенің бірыңғай міндеті толығымен бір сөзбен — адамгершілікпен көрсетілуі мүмкін», – деп жазған болатын. В.Г. Белинский, А.И. Герцен, А.Н. Радищев секілді ғалымдар адамгершілікті дамыту мәселесіне үлкен қызығушылық танытты және адамгершілікті адам тұлғасының үйлесімді және жан–жақты қалыптасуының маңызды құрамдас бөлігі ретінде қарастырды [4].

К.Д. Ушинский тұлғаның дамуындағы адамгершілік тәрбиесінің маңыздылығын нақты және толық ашып көрсеттті. Ол өз еңбегінде: «адамгершілік ақыл–ой дамуының қажетті салдары емес екеніне, сонымен қатар, адамгершілік ықпал жалпы ақыл–ойды дамытудан да маңызды тәрбиенің ең басты міндеті екеніне сенімдіміз», – деп тұжырым жасаған [5].

Әр түрлі авторлардың зерттеулерін талдау (Л.С. Выготский, Т.П. Гаврилова, Е.А. Киянченко, М.И. Лисина) мектепке дейінгі жастағы балалардың бойында адамгершілік қасиеттерді қалыптастыру құралдары ретінде әртүрлі іс-әрекет түрлері: ойын, оқу, қарым-қатынасты атап көрсетті. В.Г. Нечаеваның, Т.А. Маркованың, Н.В. Мельникованың, Р.В. Овчарованың пікірінше, адамгершілік қасиеттерді қалыптастыруда өнердің рөлі ерекше.

Мектепке дейінгі ұйым жағдайында адамгершілік тәрбие базасына мынадай қағидаттар негізделуі керек: тәрбиенің гуманистік бағыты (педагог тәрбиеленушіге өз дамуының субъектісі ретінде тең қарауы керек); табиғатқа сәйкестігі (адамның дамуының жалпы заңдарымен үйлесімділігі — оның жынысы мен жасына сәйкес); мәдени сәйкестігі (білім беруді бала өмір сүріп жатқан аймақтың нормаларына, құндылықтарына, дәстүрлеріне сәйкес құру).

Жоғарыда айтылғандарға сүйене отырып, адамгершілік мәдениет — бала кезден қалыптасады деуге болады. В.А. Сластенин, И.Ф. Харламов және т.б. көптеген танымал психологтер мен педагогтер адамгершілік мәдениеттің мәнін жеке адамгершілік нормаларын, принциптерін, категорияларын, мұраттарын игеру және қабылдау деп түсінеді, сонымен бірге оның басқа адамдарға, өзіне, өзінің еңбегіне, табиғатқа деген белгілі бір қатынастарын білдіреді.

Мектепке дейінгі ересек жастағы балаларда адамгершілік мәдениет негіздері көрінісінің критерийлері төмендегідей:
- адамгершілік сана мен адамгершілік құзыреттіліктің даму дәрежесі;
- адамгершілік сезімдер мен адамгершілік қатынастардың көрінісі;
- адамгершілік мінез–құлықты жүзеге асыру;
- рефлексияның даму дәрежесі [6].

Адамгершілік мәдениетті қалыптастыру процесі адамның рухани дамуының нәтижесі ретінде қарастырылады және адамгершілік құндылықтарды игеру деңгейімен, оларды құруға адамның қатысуымен сипатталады. Адамгершілік мәдениет адамның адамгершілік нормалардың талаптарын саналы түрде орындау, жеке сенімдер мен қоғамдық мүдделерге сәйкес мінез–құлықты көрсету қабілетінде көрінеді. Адамгершілік мәдениет — бұл адамның адамгершілік дамуы мен жетілуінің сапалық сипаттамасы.

Зерттеу әдістері мен материалдар

Аталған мәселені зерттеудің негізгі әдістері мәдениет деңгейі, оның ішінде адамгершілік мәдениет деңгейін түсіну үшін әртүрлі зерттеу тәсілдерін қарастыруға мүмкіндік беретін салыстырмалы, ғылыми дерек көздерін талдау, нақтылау сияқты жалпы теориялық және эмпирикалық зерттеу әдістері алынды. Адамгершілік тәрбие және мәдениет туралы іргелі зерттеулердің тұжырымдамаларымен сипатталды.

Мектепке дейінгі ересек жастағы балаларда адамгершілік мәдениеті дамуын зерттеу үшін педагогикалық диагностиканың келесі әдістемелерін қолдандық. Атап айтсақ: О.С. Богдованың «Мен қандаймын?» әдістемесі (өзгертілген нұсқасы). Мақсаты: мектепке дейінгі ересек жастағы баланың адамгершілік қасиеттері мен мәдениетінің деңгейін анықтау. Нұсқаулық: балаларға әртүрлі адамгершілік қасиеттерді бейнелейтін иллюстрацияларды таңдау және олардың қасиеттеріне сәйкес қораптарға орналастыру ұсынылады. Ақ қорапта — оң қасиеттер, қара қорапта — теріс қасиеттер.

«Сюжеттік суреттер» әдісі (Р.М. Калининаның өзгертілген нұсқасы). Адамгершілік мәдениет дамуының когнитивті (танымдық) компонентінің деңгейін анықтау. Мақсаты: мектепке дейінгі ересек жастағы балаларда адамгершілік түсініктер туралы білімді зерттеу. Мектепке дейінгі ересек жастағы балаларға арналған суреттерде олардың сипаттамаларына қарама–қарсы адамгершілік нормалар көрсетілген. Нұсқаулық: балаларға әртүрлі жағдайларды бейнелейтін суреттер таратылады. «Мен балаларға түрлі суреттер ұсынамын. Балалар өздеріне жақсы ұнайтын және жаман суреттерді таңдайды». Әр жұп суретті ұсынғаннан кейін балаға сұрақ қойылады: «Неге бұлай ойлайсың?». Бірінші тапсырманы орындағаннан кейін, мектепке дейінгі ересек жастағы балалар кезек-кезек II, III, V жұптардың суреттерін орналастырады және келесі сұрақтарға жауап беру ұсынылады: «Олар не сезінеді деп ойлайсың? Бұл суреттегі адамдардың көңіл-күйі қандай? Неліктен?».

Нәтижелері мен оларды талқылау

Экспериментке Қарағанды қаласының мектепке дейінгі білім беру ұйымдарына баратын 4-5 жастағы 25 бала қатысты: оның ішінде 14 ұл мен 11 қыз бала. Зерттеуге дейін тәрбиешілермен әңгіме жүргізілді, мақсаты — тәрбиеленушілердің әлеуметтік мәртебесін, балалардың ерекшеліктерін анықтау. Сонымен қатар, жүргізілген әдістемелердің нәтижелері бойынша, 25 баланың 5-і берілген тапсырмаларды өте жылдам және жоғары деңгейде орындады. Бұл балалар ұсынылған тапсырманы тез орындады, барлық ұсынылған иллюстрацияларды тиісті түсті қораптарға оңай таратып, ересек адамның көмегіне жүгінбеді. Мектепке дейінгі ересек жастағы 11 балаға сұрақтарға жауап беру қиынға соқты, кейбір иллюстрацияларды ұзақ уақыт тарата алмады, бірақ соңында олар тапсырманы сәтті орындады. Зерттелуші 9 бала өз іс-әрекеттеріне күмәнданып, ересек адамның көмегіне жүгініп, таңдауларын бірнеше рет түзетіп отырды, осылайша басқа балаларға қарағанда тапсырманы орындауға көп уақыт кетті. Алынған зерттеу нәтижелері бойынша мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетінің қалыптасу деңгейінің % көрсеткіші жоғары, орташа, төмен. Ол 1-кестеде ұсынылды.

1-к е с т е

Мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетінің қалыптасу деңгейінің % көрсеткіші

Мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетінің қалыптасу деңгейі	Зерттелушілердің % көрсеткіші
Жоғары	20 %
Орташа	44 %
Төмен	36 %

Берілген кестеде көрсетілгендей мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетінің жоғары көрсеткіші 20% болса, адамгершілік мәдениеттің орташа деңгейін балалардың 44% құрады. Ал, балалардың 36% адамгершілік мәдениетінің төмен деңгейін көрсетті. Берілген әдістемелердің нәтижелері балалардың қандай адамгершілік нормаларды игергенін, басқа адамдардың сезімдерінің ерекшеліктерін қаншалықты түсінетінін анықтауға және адамгершілік нормалар мен ережелерді игерудің үш деңгейлерін бөліп қарастыруға мүмкіндік берді.

Адамгершілік мәдениеттің жоғары деңгейі ересек мектеп жасына дейінгі баланың мейірімділік, қарапайымдылық, үнемшілдік секілді адамгершілік сезімдер мен қасиеттерді толықтай түсінуімен, қарапайым адамгершілік түсініктерге ие болуымен және қабылданған адамгершілік нормаларды үнемі сақтауымен сипатталады.

Адамгершілік мәдениеттің орташа деңгейі мектепке дейінгі ересек жастағы баланың мейірімділік, қарапайымдылық, үнемшілдік секілді адамгершілік сезімдер мен қасиеттерді жеткілікті түсінуімен қарапайым адамгершілік түсініктерге ие болуымен және қабылданған адамгершілік нормаларды сақтауымен сипатталады.

Адамгершілік мәдениеттің төменгі деңгейі мектепке дейінгі ересек жастағы баланың адамгершілік сезімдер мен қасиеттерді ішінара түсінуімен, қарапайым адамгершілік түсініктерге ие емес және қабылданған адамгершілік нормаларды жиі бұзуымен сипатталады.

Балалардың адамгершілік мәдениетінің анықталған деңгейлері адамгершілік түсініктердің әр қилы дәрежесімен және олардың нақты әрекеттердегі қатынасымен ерекшеленеді.

Сонымен, мектепке дейінгі ересек жастағы балаларда адамгершілік мәдениетінің орташа және төменгі деңгейі басымырақ болды. Бұл мәселені шешу үшін педагог-тәрбиешілердің мақсатты және әдістемелік жұмысын ұйымдастыру қажет. Балаларға өзінің және өзгелердің мінез-құлқын түсінуге, дұрыс бағалауға, мейірімділік, қамқорлық, сыйластық көрсетуге үйрету керек. Мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетінің негіздерін қалыптастырудың нақты практикалық міндеттері мектепке дейінгі ұйымдарды оқыту мен тәрбиелеудің мазмұнында, атап айтқанда, мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетінің негіздерін қалыптастыру технологиясын енгізуде көрініс табуы тиіс [7].

Алынған мәліметтер мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетін қалыптастыруда бірқатар психологиялық-педагогикалық шарттарды құру қажеттілігін көрсетеді. Біріншіден, балалармен көркем әдебиеттің әр түрлі жанрларын оқуды ұйымдастыру (өлең, ертегі, әңгіме, мақал-мәтелдер) мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетінің негіздерін

қалыптастыру процесі тиімдірек болады деп болжауға болады. М.М. Конина балалардың жан-жақты тәрбиесі мен дамуындағы көркем әдебиеттің маңыздылығын атап өтеді. Оның жұмысының негізгі ұстанымы: көркем әдебиет — бұл мектепке дейінгі ересек жастағы балалардың адамгершілік дағдыларын қалыптастыруда ерекше орын алатын және оның балаларға тәрбиелік әсерін күшейтуге тиімді ықпал ететін арнайы әдістемелік әдістерді қолдануды талап ететін өнердің ерекше түрі [8].

Екіншіден, тұлғаның адамгершілік мәдениетінің негіздерін қалыптастыру үшін ата-аналармен өзара әрекеттесудің дәстүрлі емес формаларын қолдану қажет. Қазіргі таңда мектепке дейінгі білім беру ұйымдарында ата-аналармен жұмыс істеудің әртүрлі дәстүрлі емес түрлері қолданылады. Нәтижесінде ата-аналар өз балаларын жақсырақ біле бастайды, өйткені оны басқа, өздері үшін жаңа жағдайда көреді, педагогтермен жақындаса түседі.

Қорытынды

Жоғарыда айтылғандарды қорытындылай келе, мектепке дейінгі ересек кезеңі — баланың алғашқы саналы адамгершілік қасиеттері пайда болып, жеке тұлғаның адамгершілік мәдениетін қалыптастыратын ең қолайлы кезең. Сондықтан баланың бойына жастайынан ізгілік, мейірімділік, қарапайымдылық, ұқыптылық, яғни адамгершілік құнды қасиеттерді сіңіріп тәрбиелеу өте маңызды. Бір жағынан ол ересектердің, ата-аналардың, педагогтердің балаларға белсенді ықпалынан, екінші жағынан — тәрбиеленушілердің белсенділігін қамтитын қылықтарынан, сезімдері мен қарым–қатынастарынан көрінеді.

Зерттеу тақырыбын бірізді, жүйелі қарастыра отырып, біз осы мәселе бойынша психологиялық-педагогикалық әдебиеттерді талдау нәтижесінде адамгершілік мәдениет ұғымының мәнін, мазмұны мен негізін, сондай-ақ мектепке дейінгі ересек жастағы балаларда адамгершілік қасиеттерді қалыптастыру ерекшеліктері мен жолдарын, балаларда адамгершілік мәдениеттің қалыптасу деңгейін анықтауға арналған әдістемелерді іріктеп, зерттеу нәтижесін өңдедік. Талданған психологиялық-педагогикалық әдебиеттер мен зерттеу жұмысы негізінде біз мектепке дейінгі ересек жастағы балалардың адамгершілік мәдениетін сәтті қалыптастыру үшін:

1. Мектепке дейінгі ересек жастағы балалардағы адамгершілік түсініктердің ерекшеліктерін білу.

2. Мектепке дейінгі ересек жастағы балаларда адамгершілік қасиеттерін анықтау әдістерін білу.

3. Мектепке дейінгі ересек жастағы балаларда адамгершілік түсініктерді қалыптастырудың әдістері мен жолдарын білу.

4. Мектепке дейінгі білім беру ұйымында осы бағыт бойынша кешенді жұмысты қамтамасыз ету қажет деген қорытындыға келдік.

Дегенмен де қай заманда болмасын адамзат алдында тұратын ұлы мұрат–міндеттерінің ең бастысы — өзінің ісін, өмірін жалғастыратын салауатты, саналы ұрпақ тәрбиелеу. Сол келешек қоғам иелерін жан-жақты жетілген, ақыл-парасаты мол, адамгершілік қасиеттерге ие мәдениеті тұлға етіп тәрбиелеу — біздің қоғам алдындағы борышымыз.

Әдебиеттер тізімі

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Ж.А. Карманова, С.М. Абылайхан, Г.Б. Бейсенбекова, Г.К. Бельгибаева, М.К. Ельшина

Формирование нравственной культуры детей старшего дошкольного возраста

В статье рассмотрена проблема формирования нравственной культуры детей старшего дошкольного возраста. Говоря о том, что вопрос нравственного воспитания актуален и по сей день и стал одним из самых распространенных в исследованиях, он является одной из важнейших ценностей, определяющих социальные запросы, предъявляемые к системе воспитания личности, в которой сложилась нравственная культура на современном этапе развития общества и необходимость приобщения детей к системе нравственных ценностей. Авторы проанализировали различные определения и подходы к пониманию понятия «нравственная культура» в различных психолого-педагогических литературах. В.А. Сластенин, И.Ф. Харламов и многие другие известные психологи и педагоги понимают сущность нравственной культуры как усвоение и принятие индивидуальных нравственных норм, принципов, категорий, идеалов, а также выражают ее определенное отношение к другим людям, к себе, к своему труду, к природе. Авторы также считают, что старший дошкольный возраст является сензитивным к развитию нравственной культуры. В.А. Сухомлинский считает, что неизменная основа нравственных установок возникает в детстве. Старшие дошкольники начинают осознанно понимать нравственные требования и правила, могут предвидеть последствия своих действий. В статье определены методики изучения нравственной культуры детей старшего дошкольного возраста и показатели уровней развития нравственных качеств, сделаны заключительные выводы по результатам исследования.

Ключевые слова: нравственность, нравственное воспитание, самовоспитание, сензитивный период, нравственные качества, нравственное сознание, нравственная культура, нравственная культура личности.

Zh.A. Karmanova, S.M. Abylaikhan, G.B. Beisenbekova, G.K. Belgibayeva, M.K. Yelshina

Formation of the moral culture of older preschool children

The article deals with the problem of forming the moral culture of older preschool children. Speaking about the fact that the issue of moral education is relevant to this day and has become one of the most common in research, it is one of the most important values that determine the social demands placed on the system of personal education, in which a moral culture has developed at the present stage of society development, and the need to introduce children to the system of moral values. The authors analyzed various definitions and approaches to understanding the concept of "moral culture" in various psychological and pedagogical literatures. V.A. Slastenin, I.F. Kharlamov, and other many well-known psychologists and educators understand the essence of moral culture as the assimilation and acceptance of individual moral norms, principles, categories, ideals, and also express its definite attitude to other people, to themselves, to their work, to nature. The authors also believe that the senior preschool age is sensitive to the development of moral culture. V.A. Sukhomlinsky believes that the immutable basis of moral attitudes arises in childhood. Older preschoolers begin to consciously understand the moral requirements and rules, can foresee the consequences of their actions. The article defines the methods of studying the moral culture of older preschool children and indicators of the levels of development of moral qualities, the final conclusions are made based on the results of the study.

Keywords: morality, moral education, self-education, sensitive period, moral qualities, moral consciousness, moral culture, moral culture of the individual.

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Features of teaching social humanitarian disciplines at the university for students studying in English

The article is devoted to the description of the research conducted within the framework of teaching the course "Political Science" at the Karaganda Medical University using CLIL (Content and Language Integrated Learning) technology. In the last decade, CLIL technology has become widely used. This is a dual educational approach in which an additional language is used to study and teach a general education subject, both its content and language. Authentic materials have a special role in this approach. They help to enrich students' learning experience, broaden their horizons and acquire knowledge not only about the subject, about the contextual interdisciplinary environment, but also about specific terms in the study of the subject and their use within authentic texts. The study involved 2nd-year students of the International Medical University of the educational program "General Medicine" studying in English. To conduct the study entrance and final tests were developed to assess the level of understanding of authentic texts, as well as five lessons with tasks using authentic texts. According to the results of the work the positive dynamics of the understanding of authentic texts was observed in all students to varying degrees. It should be noted that in the oral survey students repeatedly expressed interest in the prepared tasks with Indian content, which undoubtedly confirms the high motivation of students to the developed lessons with authentic material, and, consequently, to the subject and language being studied, which can serve as an incentive for further development and use of this experience.

Keywords: authentic materials, political science, CLIL, foreign students, foreign language, teaching methods, lexical skills, social science, research.

Introduction

The interest in the use of authentic materials in language learning in the late 20th and early 21st centuries make this problem relevant, especially with the use and popularity of CLIL technologies at the present time [1]. Although the overwhelming number of researchers consider it necessary and useful to use authentic materials in language learning however disputes about the selection criteria, the adequacy of texts to tasks, the quantity and quality of their use continue to this day [2, 3]. There is no consensus among linguists on this issue. The problem of authenticity re-emerged in the 1970s as a debate between Noam Chomsky (an American linguist) and Dell Himes (an American linguist), which led to the realization that communicative competence requires much more than knowledge of language structures [4, 5]. So contextualized communication began to prevail over form. This fact led to the invention of an approach that, at least in teaching English as a foreign language still prevails and is called the communicative way of learning. The pedagogical movement associated with CLIL has gained strength on a global scale over the past decade [6]. Curriculum document in other languages can enrich the learning experience of students expand their linguistic skills and knowledge base as well as provide interdisciplinary multilingual education that meets the goals for citizens of the 21st century [7]. Our research can become one of the opinions in the piggy bank of different points of view on this topic and can be used as a methodological guide for seminars for foreign students studying in English [8]. *The purpose of our research* was to study the effectiveness of using authentic texts of social and political topics in practical class of Political science for foreign students studying in English. *The objective of research* is the following:

1) to research and select modern social and political authentic materials on such topics: political power, political parties, political leadership, the state and political culture.

2) to plan the methodology of class conducting using authentic materials of social and political topics;

3) to formulate questionnaires on the effectiveness of using authentic materials for students of the International Medical Faculty;

4) to collect and analyze the data obtained with confirmation or refutation of the hypothesis.

Experimental

26 2nd-year students of MMF MUK took part in the experiment. The study was conducted long distance using the Google Forms cloud online service, designed to create feedback forms, online tests and surveys. Except this the Platonus automated information system used in universities and colleges for distance learning technology was applied. Distance classes were held on the Cisco Webex platform. It is a service for holding conferences and meetings online with audio, video communication and collaboration tools for working on documents. The articles of such online publications as The New Indian Express, The Indian Express, Hindustan Times and others were presented by the students. The experiment had three stages such as ascertaining, forming and control.

At this stage of the study students were given two input tests. They were offered in Google forms and were held with a break of several days. For the first ascertaining stage of research descriptive type of the students' verification input was chosen. Student answers the question in his own words describing the situation and answering the question posed. This has allowed him to use exactly the kind of vocabulary for public discourse. It also allowed us to identify the level of use of the appropriate vocabulary by students. The next type of research is matching which was used in the second input testing. This is a common type of assignment found in English textbooks and therefore understandable.

For the second stage of the experiment five basic topics were selected in the discipline "Political Science" and in the framework of this discipline five lessons with tasks were compiled. The next topics were chosen "Political power", "Political parties", "Political leadership", "State" and "Political culture". Such topics as "Political leadership" and "Political parties" were most liked by students because students are usually attracted to successful and world-famous politicians. This group of students was no exception. For them in the topic "Political Leadership" was used an article titled "200 Indian-origin people occupy leadership positions in 15 countries, 60 hold Cabinet ranks". Students from India are very proud of their successful compatriots in the country and abroad. They are extremely patriotic. For the topic "Political parties" we selected the article "AIMIM to begin political journey in Andhra with municipal elections". Indian students as a rule know the major political parties and movements with the program in their country. The final part of the research involved a control test consisting of 5 tasks where the participants had to read the text, highlight the main idea and write it down in one sentence. More than half of the respondents coped with the task of 19 students (73 %) and correctly conveyed the main idea of the text. They widely used a vocabulary determined the main facts. The 7 students (27 %) made mistakes in the formulation of thoughts and presentation of facts expressed by the insufficiency of social and political vocabulary.

Results and Discussion

Reading and analysis of authentic texts (newspapers, magazines, popular science texts, etc.) within the framework of seminars stimulate the process of automating the recognition, memorization and use of political vocabulary by foreign students studying in English, which will make the process of teaching political science the most effective.

According to the results of the first stage of the study, out of 26 students surveyed, 10 people (40 %) correctly identified the main idea of the text. Students used synonyms, paraphrased and correctly conveyed the main idea of the source text, accurately identified individual facts. These 10 people coped with the task. The rest of the students 16 (60 %) could not accurately convey the original idea of the text. Individual errors were made that disrupted communication. The sequence of the narration was broken and the limited vocabulary was noticed. Students have not been able to use vocabulary correctly to express their thoughts or do not have the necessary vocabulary.

The next stage of the input test involved comparing the original phrase of socio-political topics in English with paraphrased and similar phrases. Students were asked to choose from five options those that they consider similar in meaning. Of the 26 foreign students, 9 (35 %) chose the correct answers, 14 (54 %) chose partially correct answers; the remaining 3 (11 %) students did not choose any appropriate answer.

Based on the described results of the first stage of the experiment it can be concluded that the majority of respondents do not have the appropriate political terminology at the proper level for the full mastery of the discipline "Political Science". In addition, at the start of the study they have a low level of vocabulary in

general to express their position and understand the print media representing review and analytical articles on social and political topics.

According to the results of the second or formative stage of the experiment, all 5 themes of tasks can be conditionally represented as follows.

19 students (73 %) did well the task of compiling a sentence with the studied phrases, and 7 students (27 %) made obvious mistakes.

The second task was to fill in the missing places in the text with the studied phrases, 18 students (70 %) completed without errors. 2 students (7 %) made 1 mistake, 6 (23 %) made two or more mistakes.

The next task is to express an opinion about the read text using the studied phrases, 20 students (77 %) used the necessary concepts and made correct sentences reflecting their point of view. 6 students (23 %) did not use the suggested phrases and they were unable to clear formulate their own vision of the situation.

And the last task is to give a name to parts of the text, out of 26 respondents, 16 students (61 %) correctly reflected the idea written in the paragraph. 10 (39 %) students failed to accurately formulate the main idea of the text.

Thus, the most successful students coped with the task of expressing their point of view. The least successful students did the task with subheadings of paragraphs.

Finally, the final stage of the study involved a control test, consisting of 2 stages. In the first stage of the final test, more than half of the respondents completed the task, that is, 19 students (73 %) correctly conveyed the main idea of the text, used a wide vocabulary, and determined the main facts. 7 students (27 %) made mistakes in formulating thoughts and presenting facts, expressed by the insufficiency of social and political vocabulary (See Fig. 1 Diagram 1).

In the final test of the second stage, it was supposed to compare the original phrase of socio-political topics in English with paraphrased ones that have a similar meaning. Students were asked to choose from five options those that they consider similar in meaning. In the final test, 15 (58 %) chose the correct answers, 10 (38 %) chose part of the correct answers, 1 (4 %) student did not choose any suitable answer (See Fig. 1 Diagram 2).
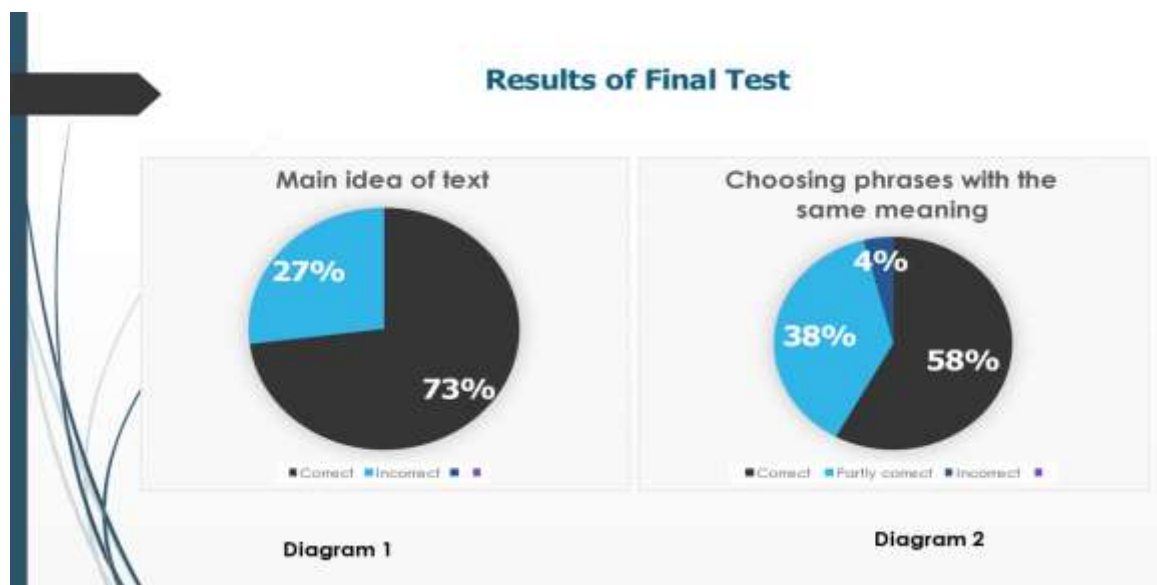
Figure 1 Results of Final Test.

In addition, we carried out a comparative analysis of the first (stating stage of the experiment and the final stages of the study). In comparison with the test of the initial level, the data of the first task of the final test will change in the following ratio: 10 (40 %) — 19 (73 %) did not make mistakes, 16 (60 %) — 7 (27 %) made mistakes (Fig. 2).
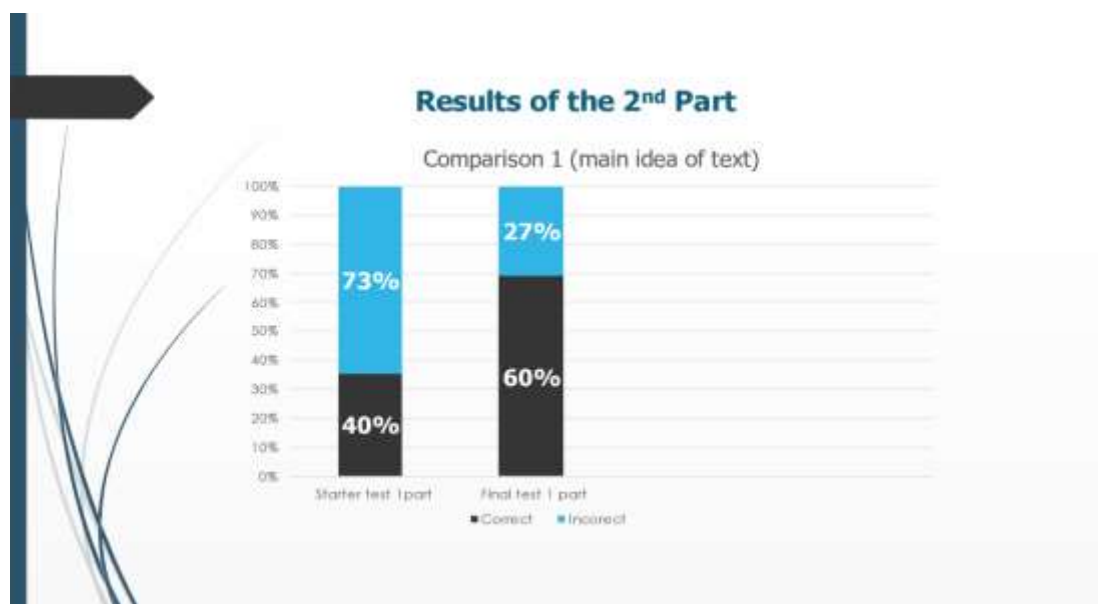
Figure 2 Results of the 2nd Part. Comparison 1.

In comparison with the test of the initial level, the data of the second task of the final test show changes in the following ratio: 9 (35 %) — 15 (58 %) chose the correct answers, 14 (54 %) — 10 (38 %) chose part of the correct answers, 3 (11 %) — 1 (4 %) students did not select any suitable answer. In general, we can note the positive dynamics that is observed from the beginning to the end of the pilot study (Fig. 3).
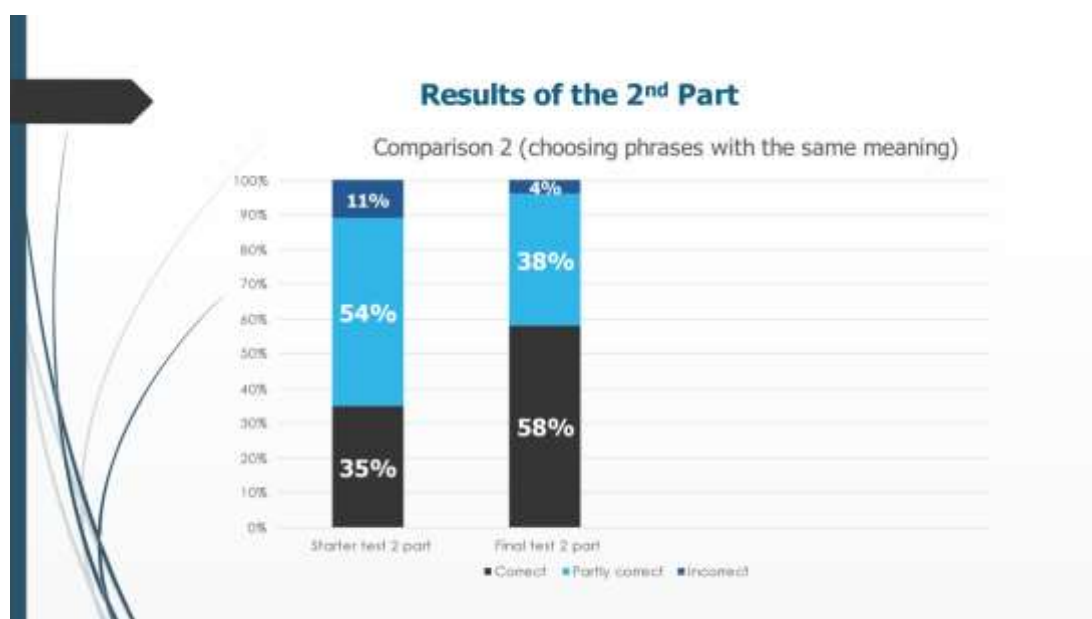
Figure 3 Results of the 2nd Part. Comparison 2.

Conclusions

Experimental work on the study of the development of lexical skills of socio-political topics based on authentic texts was carried out at Karaganda Medical University. The experiment involved 26 2nd year students of the foreign department of the specialty "General Medicine", in particular, foreign students from India studying in English.

For the experiment, tests of the initial and final levels were developed that assess the level of understanding of authentic texts, as well as five lessons with tasks using authentic texts.

As the study showed, the positive dynamics of understanding authentic texts was observed to varying degrees in all students. It should be noted that in the oral survey, students repeatedly expressed interest in

prepared tasks with Indian content, which undoubtedly confirms the high motivation of students for the developed lessons with authentic material, and, consequently, for the subject and language being studied, which can serve as an incentive for further development and use of this experience.

As a result of the experiment, the hypothesis put forward was confirmed: the authentic materials and concepts of socio-political topics in English that we selected allow students to effectively memorize the material received and apply the acquired knowledge in practice. Interest, being one of the types of motivational formations, contributes to the formation of externally organized motivation, therefore, it is the goal to which the use of the proposed means and teaching methods is subordinated [9].

In addition, student motivation is one of the important factors in learning, which, along with others, affects the result. In this regard, the use of authentic materials is of genuine interest to students, as they relate to their own country. Authentic materials make it possible to include the factor of emotionality in the educational process, can serve as a model, and be applied by other teachers in their work using CLIL technology [10].

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Ю.Г. Осинцева, О.А. Ковтун, Г.Г. Алиева, А.У. Каталбаш

Ағылшын тілінде оқитын жоғары оқу орындары студенттеріне әлеуметтік-гуманитарлық пәндерді оқытудың ерекшеліктері

Мақала CLIL технологиясын қолдана отырып, Қарағанды медицина университетіндегі «Саясаттану» курсын оқыту аясында жүргізілген зерттеулердің сипаттамасына арналған. Соңғы онжылдықта CLIL (Content and Language Integrated Learning) технологиясы кеңінен қолданыла бастады. Бұл жалпы білім беретін пәнді, оның мазмұнын да, тілін де үйрену және оқыту үшін қосымша тіл қолданылатын қос білім беру тәсілі. Бұл тәсілде түпнұсқа материалдар ерекше рөл атқарады. Материалдарды сабақта қолдану студенттердің оқу тәжірибесін байытуға, олардың ой-өрісін кеңейтуге және пән туралы, контекстік пәнаралық орта туралы ғана емес, сонымен қатар пәнді зерттеудегі нақты терминдер және оларды түпнұсқа мәтіндер ішінде пайдалану туралы білім қорын алуға көмектеседі. Зерттеуге Қарағанды медицина университеті халықаралық медицина факультетінің ағылшын тілінде оқитын «Жалпы

медицина» білім беру бағдарламасының 2-курс студенттері қатысты. Зерттеуді жүргізу үшін түпнұсқалық мәтіндерді түсіну деңгейін бағалауға арналған қабылдау және қорытынды тестілер әзірленді, сонымен катар бес сабақтан түпнұсқалы мәтін тапсырмалары қолданылды. Жұмыстың нәтижелері бойынша барлық студенттер арасында түпнұсқалық мәтіндерді түсінудің оң динамикасы әртүрлі дәрежеде байқалды. Айта кету керек, ауызша сауалнамада студенттер үнді контенті бойынша дайындалған тапсырмаларға бірнеше рет қызығушылық танытты, бұл студенттердің түпнұсқа материалмен әзірленген сабақтарға, яғни оқытылатын пәнге және тілге деген жоғары ынтасын растайды, бұл тәжірибені одан әрі дамытуға және пайдалануға ынталандыру бола алады.

Кілт сөздер: түпнұсқалық материалдар, саясаттану, CLIL, шетел студенттері, шет тілі, оқыту әдістері, лексикалық дағдылар, эксперимент, әлеуметтік ғылымдар.

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Особенности преподавания социально-гуманитарных дисциплин для студентов в университетах, обучающихся на английском языке

Статья посвящена описанию исследования, проведенного в рамках преподавания курса «Политология» в Медицинском университете Караганды с использованием CLIL технологии (Content and Language Integrated Learning). В последнее десятилетие стала широко применяться технология CLIL. Это двойной образовательный подход, при котором дополнительный язык используется для изучения и преподавания общеобразовательного предмета, как его содержания, так и языка. В этом подходе аутентичные материалы имеют особую роль. Они помогают обогатить учебный опыт студентов, расширить их кругозор и приобрести багаж знаний не только о предмете, о контекстном междисциплинарном окружении, но и о специфических терминах в изучении предмета и их использовании в рамках аутентичных текстов. В исследовании приняли участие студенты 2-го курса международного медицинского факультета указанного выше университета образовательной программы «Общая медицина», обучающиеся на английском языке. Для проведения исследования были разработаны входной и финальный тесты, оценивающие уровень понимания аутентичных текстов, а также пять уроков с заданиями с использованием аутентичных текстов. По итогам работы положительная динамика понимания аутентичных текстов в разной степени наблюдалась у всех учащихся. Следует отметить, что в устном опросе студенты неоднократно выражали интерес к подготовленным заданиям с индийским контентом, что, несомненно, является подтверждением высокой мотивации учащихся к разработанным урокам с аутентичным материалом, а, следовательно, и к изучаемому предмету и языку, что может служить стимулом для дальнейшей разработки и использования данного опыта.

Ключевые слова: аутентичные материалы, политология, CLIL, студенты-иностранцы, иностранный язык, методика преподавания, лексические навыки, эксперимент, социальные науки.

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Formation of future foreign language teachers' research competence in the conditions of a university

The article presents an experimental analysis of the formation of research competence of future foreign language teachers. The article discusses the importance of research competence and its formation among students of a pedagogical profile. Acquisition of research competence is the main engine of modernization of modern education in the twenty-first century; therefore, higher education should be oriented towards the formation of vital competencies of future competitive professionals. The article mentioned the strategy "Kazakhstan – 2050", where its goal is the development of competitive specialists with modern competencies, including research competence. This article reveals the components of research competence, which are a constituent in the formation of research competence of future foreign language teachers. The purpose of the research in this article is the development of future foreign teachers' research competence in the conditions of a university. The article describes the phased formation of research competence using various pedagogical methods in the conditions of a university. Criteria for evaluating the formation of future foreign language teachers' research competence in higher educational institutions were determined in the article.

Keywords: competence, research competence, motivational-personal component, motivation, theoretical-cognitive component, structural design component, pedagogical methods, formation of research competence.

Introduction

The strategy Kazakhstan – 2050 is focused on the development of competitive specialists who have a certain range of competencies such as communicative, professional, research, etc., which allows a young specialist to adapt to a new socio-economic environment. It should be noted that N.A. Nazarbayev's message to the people of Kazakhstan sets the main task "to become one of the 50 most competitive countries in the world" [1].

The acquisition of new competencies is the main engine of modernization of modern education in the twenty-first century; therefore, higher education should focus on the formation of vital competencies of future competitive professionals.

To achieve this goal in the conditions of modernization of education, it is necessary to implement new methods, technologies, models, etc. to develop the scientific potential of future teachers of a foreign language, who will be able to independently analyze, synthesize and compare information, choose acute problems in the field of education and find solutions to these problems, develop scientific thinking in themselves and the younger generation. To embody this goal, higher educational institutions are faced with the task of developing research competence among future teachers. The formation of research competence among future foreign language teachers is an urgent problem, since a foreign language specialist must be able to analyze and process foreign language information, take the experience of foreign researchers, participate in various international conferences that will increase the research potential of foreign language teachers. Information in English allows you to broaden your horizons and replenish your knowledge in any field. In the world of globalization, a foreign language occupies a special place in the process of exchanging knowledge and information, thus future teachers of a foreign language have more opportunities to engage in scientific activities using foreign sources in their research work.

Literature Review

At present, the development of research competence among teachers stands as a crucial issue in Europe, and concerted efforts are being made to enhance this aspect. The European Commission advocates for an interconnection between teachers' education and research, emphasizing the need for teachers to critically analyze scientific findings and apply acquired knowledge in practical settings [2].

In the 1960s, the renowned Finnish educator M. Koskenniemi articulated the concept of a teacher who engages in didactic thinking and reflection, highlighting the necessity for research competence in the execution of professional duties [3].

C.M. Clark and P.L. Peterson posit that research competence is rooted in the cognitive processes of teachers, shaping their scientific worldview [4].

According to American scholars S. Whiddett and S. Hollyforde, research competence constitutes an essential element of competency-based teacher education. It encompasses the knowledge, skills, and values that a teacher-researcher must proficiently demonstrate throughout the completion of a teacher education program [5].

In alignment with the perspective of Russian researcher O.E. Lebedev, research competence represents the amalgamation of guiding principles for delineating specific educational goals and processes, playing a pivotal role in summarizing educational outcomes [6].

A.L. Andreev asserted that the competence for research involves the ability to independently analyze, select, apply gathered data, and utilize them in diverse life situations [7].

A.V. Khutorskaia proposed that research competence entails the simultaneous acquisition of both research knowledge and skills in the process of cognition, a capacity that should be cultivated across all educational levels [8].

T.M. Talmanova viewed a teacher's research competence as the dynamic development of a personality, prepared for scientific, pedagogical, experimental, design, and practical activities within the professional sphere of life [9].

In Kazakhstan, Z.A. Isaeva, S.S. Kunanbayeva, and Sh.T. Taubaeva addressed the formation of teachers' research competence in their scholarly contributions.

S.S. Kunanbayeva perceived the development of teachers' competence as a catalyst for the modernization of education, asserting that higher education should instill essential competences (including research, communicative, professional, etc.) in future specialists [1; 124].

Z.A. Isaeva introduced the concept of progressive cultivation of a professional research mindset among aspiring educators within the higher education system. This concept emphasizes the acquisition of scientific research methodologies and the enhancement of creative and critical thinking [10].

Sh.T. Taubaeva delved into the idea of research culture, portraying it as an innovative and didactic undertaking for teachers within the comprehensive pedagogical framework of general education schools [11].

Examining the aforementioned definitions, it can be affirmed that a teacher's research competence encompasses the adeptness in research skills, including search activities, the capacity to analyze and synthesize information, address contemporary scientific issues in the field of education, possess both theoretical and practical knowledge and instill a passion for future generations' engagement with science.

Compiling the findings articulated in academic literature, we posit that research competence constitutes a valuable aspect of the pedagogical process, elucidating the teacher's inclination toward research in resolving educational challenges. The research competence of prospective foreign language teachers manifests through their theoretical and practical research knowledge and skills, wherein they assimilate foreign advanced experiences and creatively apply their expertise in professional endeavors. These factors underscore the significance of establishing favorable conditions for fostering research competence at the university level.

Methods and materials (Experimental)

In the course of the research, a diverse set of research methods was employed to gather comprehensive data. These methods encompassed both qualitative and quantitative approaches to ensure a holistic understanding of the research topic. Below is an overview of the research methods utilized:

- analysis of foreign and domestic literature: to establish a theoretical framework, identify gaps in existing knowledge about formation of research competence;

- interview: to gain firsthand perspectives, level of motivation, experiences and insights from participants related to conducting research;

- survey: to obtain statistical information and broader trends from a diverse sample of participants;

- discussion: to encourage collaborative idea generation, gather qualitative insights, and promote interactive engagement;

- conversation: to supplement formal data collection with spontaneous and candid participant perspectives;

- brainstorming: to foster innovative thinking, explore alternative perspectives, and identify potential avenues for research;

- project method: to encourage practical learning and activities, application of theoretical knowledge, formation of research skills and collaboration among participants;

- interactive method: to utilized interactive tools and activities in the forms of games to engage participants actively in research process;

- problem-based teaching method: to integrate research-oriented problem-solving into the learning process and promote critical thinking and research skills.

The combination of these diverse research methods aimed to triangulate data, ensuring a more robust and nuanced understanding of the research topic. This comprehensive approach facilitated the exploration of both qualitative and quantitative aspects, enriching the overall research findings.

Results and Discussion

Many scientists (S. Whiddett, S. Hollyforde, A.V. Khutorskaia, Z.A. Isaeva, etc.) determined numerous structural components of research competence, however we relied on the classification of T.M. Talmanova, who identified the following components:

1) motivational-personal component: understanding the value of research, the presence of internal and external motivation to solve research problems;

2) theoretical-cognitive component: acquisition of theoretical knowledge and collection of materials for the implementation of the practical part of the study;

3) structural design component: solving a specific research problem within the framework of practical activities and creating a new product using the collected materials [9; 45].

The choice of these components is determined by their interrelation and interdependence. The motivational component creates the basis for starting research work, the theoretical-cognitive component provides tools and the structural design component directs the student's actions to create a new product based on the knowledge gained. This integrated approach contributes to the effective development of research competence.

To create certain conditions at a university for the formation of research competence on the basis of its components, we have applied a student-centered approach. The student-centered approach is the most significant principle of psychological and pedagogical science, which provides the creation of an active educational environment, takes into account the physiological peculiarities of students and determines the position of the child in the educational process [12].

At the initial stage of the research, a survey method was used to determine the quality of the conditions created at the lessons for research activities. According to the results of the interview, it was found that the majority (85%) of the student respondents is not interested in research activities and any projects, educational-cases, debates, etc. were not conducted.

Having analyzed the state of teaching a foreign language, we consider the creation of conditions at the university using a student-centered approach for the development of research competence among language students. This can be achieved with the maximum optimization of the educational process by making certain changes in the organization of teaching. For obtaining these purposes, a system of didactic units was developed in language teaching.

In order to form the motivation of university students to be engaged in science, it is essential to use the motivational-personal component of research competence.

The motivational-personal component of research competence is the meaning of the researcher, which encourages him for further research. The motive of the researcher is the main driving force for the advancement of science; in order to induce this motive, it is necessary to develop motivation for research from school years [13].

Motivation is divided into two main types:

1. Internal motivation is characterized by an internal desire to explore the world, the surrounding reality and solve relevant issues of science on their own;

2. External motivation is outside factors that move the researcher to analyze and explore problems in the surrounding reality [14].

However, internal motivation develops through external factors (with the help of a teacher, a set of exercises, methods, etc.).

The third-year students of the specialty "Foreign language: two foreign languages" were given the topic "Main problems of education in the 21st century and ways of solving", where students had to discuss this topic,

generate ideas and find solutions. The number of 3rd year students was 35 people. Students identified the following problems of education in the 21st century:

1) The problem of motivation among students;
2) Pros and cons of online learning;
3) Working with hyperactive and passive students;
4) The problem of scarcity of teaching staff in educational institutions;
5) Non-distribution of students by language level, etc.

This task was combined using two methods: brainstorming and problem-based methods.

The problem-based teaching method develops not only critical thinking, but also the motivation of students to work with research. The teacher creates problem situations, where students should find their solutions.

The brainstorming method denotes generation of ideas that are given an issue [15]. This method develops critical thinking, creativity and activity of students.

Using aforementioned problems of education, the following topic of the debate was selected by students "The advantages and disadvantages of online learning".

Debate is one of the forms of intellectual games that have a clear and well-developed structure. Participants of the debate discuss relevant issues, exchange with opinions and experiences, etc. The purpose of the debate is to form a definite opinion among the participants in the problem.

It should be mentioned that students prepared for the debate well and provided positive feedback about it.

"I liked the debate very much, during the debate I was finally able to express my opinion about the form of education (online or offline)" — Zhaniya, 3rd year student.

"During the debate, we put forward our preferences, identified the pros and cons of online learning" — Salima, 3rd year student.

"I was able to talk about the main difficulties of online learning that we had in the 2nd year of study" — Zhandos, 3rd year student.

"The debate allowed me to discover new sides of me. I used to be very shy to express my opinion. During the debate, I finally got over my fear of speaking in front of an audience" — Akerke, 3rd year student.

Analyzing the above reviews, we can conclude that organization of a debate on a current educational issue helps students discover a new side of personality and motivate them to further explore relevant problems in the field of education.

The students chose the next topic of debate on their own, which is one of the important topics of teaching a foreign language: "The problem of motivation among students".

One of the most common methods for fulfilling the motivational-personal component of research competence in students is the use of role-playing games, where each participant of the game is given a specific role and tasks which they must cope.

A role-playing game was held among the 3rd year students of the specialty "Foreign Language: Two Foreign Languages", where the students were assigned the role of a school principal, a manager of scientific and educational work, a teacher, technical staffs, students, etc.

The task of each participant was to analyze the scientific and professional activities of the school staff and organize the educational process.

After conducting the role-playing game, the students were introduced to the basic activities and documents of the school staff. We organized the educational process and students realized the importance of each person in the school.

Conversation is a method of verbal discussion, which is the most common method in teaching. Its task is to update the knowledge of students with the help of purposeful and skillful posed questions and achieve assimilation of new knowledge through independent reflection and generalization of mental operations [16].

A conversation between university professors and students was conducted in the faculty of foreign languages of Karaganda Buketov University, where professors and doctors of science shared their scientific experience and discussed the following questions with students:

1) What is science? The purpose of science, the tasks of science;
2) What is a subject, object, research hypothesis?
3) Classification of sciences;
4) Requirements to the researcher and research, etc.

The discussion of above questions was conducted in a friendly atmosphere.

By creating external conditions for motivation, we encourage future foreign language teachers to develop an internal incentive to make research.

The theoretical-cognitive component of research competence is one of the important components for future research. In order to start any scientific research, it is essential to have basic or fundamental knowledge on the topic. At the beginning of the study, it is necessary to analyze the philosophical, psychological, pedagogical and methodological literature, study the scientific periodicals on the research topic, make a logical and methodological analysis of the basic concepts and systematize knowledge in theoretical literature [17]. Theoretical knowledge expands the cognitive effectiveness of a person and forms a scientific worldview. In other words, with the help of theoretical research, the researcher develops a scientific worldview and ideas for the practical implementation of the project.

At this stage of the formation of research competence, students are given various articles for analysis:

1) Determine the topic/problem of the article;

2) Read the text and determine whether the indicated questions are covered in it or not;

3) Find in the article the main argument in favor of the title;

4) Read two texts on the same topic, name the discrepancy in content;

5) Find the introduction, research methods, results and conclusion in the article;

6) Find paragraphs on the specified topic;

7) Find in the article the facts that the author refers to as positive / negative;

10) Plan the above articles;

11) Express your opinion about the content of the text.

12) Define article styles;

13) Determine the main idea of the text by choosing one of the options;

14) Choose from articles 3-4 sentences that convey the main events;

15) Find the main and secondary information in the text.

These tasks help the young researcher to do independent search work, compress information, find the features of the text and its style, analyze the text, read texts on research topics on their own, etc.

From the previous experience, students learned to independently select relevant topics of education and work with literature.

After determining the topic and scientific apparatus, young researchers should draw up a plan and according to the plan; collect theoretical research material using the following methods: theoretical analysis of psychological, pedagogical, linguodidactic literature on the research topic, theoretical generalization, study and analysis of pedagogical experience, collection empirical material on the problem under study, etc.

The structural design component allows predicting the results of scientific research or scientific research work of students, schoolchildren, researchers, etc. A teacher-researcher must determine the forms, methods, goals and objectives of research activities [18].

For the formation of research competence on the basis of the constructive design component, we applied the project method. The project method is a more independent activity that is organized with the help of a teacher or supervisor. This method allows students to go beyond the classroom and solve problems on their own. At the initial stage of the study, it is recommended to carry out group work, distributing the role of each project participant. Participants of the project must choose the problem of interest and find solutions themselves. The task of the supervisor is to explain the conceptual apparatus of future research and direct the scientific potential of research students in the right direction.

Creating special conditions at university on the basis of the components of research competence, basic, educational and research skills of students were formed.

The basic skills include analysis and synthesis of various scientific literatures, assessment of oneself and others, systematization of theoretical material, etc.

Educational skills consist of the ability to compare, interpret findings and results, analyze research methods, work done, etc.

Research skills are formulating a problem, a detailed analysis of the problem, formulating a hypothesis, finding ways to solve a problem, etc.

Thus, we can draw the following conclusions that the needs of society and education are directly related to the formation of the research competence of future foreign language teachers, which will guide the growing generation to a scientific direction. To assess the formation of the student's research competencies, we have created criteria (Table).

Gnostic criterion reflects the theoretical side of students' learning, which corresponds to the theoretical-cognitive component of research competence. The motivational-target criterion takes into account the motives for teaching students in the course of the educational process, which corresponds to the motivational-personal component of research competence. The activity criterion reveals the practical side of students' learning, which corresponds to each component of research competence.

T a b l e

Criteria for assessing the formation of students' research competence

Components of Research Competence	Methods	Criteria	Characteristics	Points
Motivational-personal component	survey	Gnostic criterion	Theoretical knowledge of the student, full assimilation of the material.	10
	conversation	Motivational-target criteria	Student's situational interest in research activities with a predominance of motives for external stimulation.	10
	brainstorming	Activity criterion	The level is characterized by the assimilation by the student of research skills.	10
Total:				30
Theoretical-cognitive component	analysis of literature	Gnostic criterion	Theoretical knowledge of the student is distinguished by awareness and generalization.	10
	interactive method	Motivational-target criterion	Personal attitudes and value orientations in the research field are stable, a conscious understanding of the need to develop own research skills.	10
	problem-based teaching	Activity criterion	A system of student research skills has been formed, which basically ensures the implementation of appropriate actions in fulfilling the established research goals and objectives.	10
Total:				30
Structural design component	analysis of literature	Gnostic criterion	Theoretical knowledge of a student is distinguished by awareness, generalization and breadth of transfer.	10
	discussion	Motivational-target criterion	High internal need, awareness and desire to carry out research activities.	10
	project method	Activity criterion	Research skills are steadily formed, the system includes defining the goals and objectives of the study, processing and analyzing the results of the experiment and presenting them in a scientific form	10
Total:				30

Using various components of research competence, we have identified the following results of students in the formation of research competence (Fig.).

The results of the formation of research competence based on its components

Gnostic criterion   Motivational-target criterion   Activity criterion
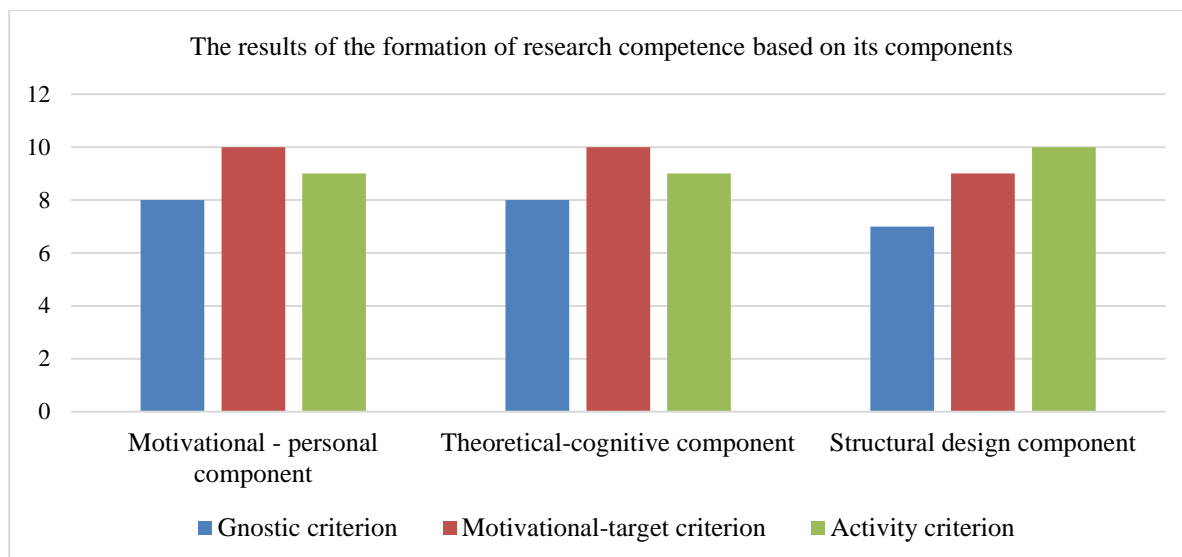
Figure. Diagram of the results of the formation of research competence based on its components

According to Figure 1, we can observe points of the formation of research competence which have increased on the basis of its components. The number of participants in the experiment was 35. Corresponding to the diagram, it can be seen that the motivational-target criteria is high in all components due to creating certain conditions at the university that were reached using various pedagogical methods. It should be noted that gnostic criteria in research competencies remained averagely static, this result can be approved due to the fact that the selection of the necessary material was complicated in the flow of information, however, thanks to increasing motivation, the students' activity reached a maximum point from 8 to 10 (Fig.).

Conclusions

The conducted analysis of the main trends in the development of research activities of university students made it possible to determine the integrity of the entire research problem and identified the main difficulties of students in the implementation of research activities because of the scarcity of conditions for organizing research activities at the university.

We can deduce that the solution of the indicated problems is possible in the following university conditions:

− individual approach to scientific interests and abilities of students;

− introduction into the educational process of various forms of organization of research activities at the lessons;

− selection and support of gifted students;

− creating opportunities for student publications in the near and far abroad;

− formation of student scientific and educational structures that unite teachers, specialists in the field of education, young scientists and students.

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М.М. Момбекова

Жоғары оқу орны жағдайында болашақ шетел тілі мұғалімдерінің зерттеу құзыреттілігін қалыптастыру

Мақалада болашақ шет тілі мұғалімдерінің зерттеушілік құзыреттілігін қалыптастырудың эксперименттік талдауы берілген. Автор зерттеушілік құзыреттіліктің маңыздылығы және оны педагогикалық бейіндегі студенттер арасында қалыптастыруды қарастырған. Ғылыми-зерттеу құзыреттілігін меңгеру — XXI ғасырдағы заманауи білім беруді жаңғыртудың негізгі шарты, сондықтан жоғары білім болашақ бәсекеге қабілетті мамандардың өмірлік маңызды құзыреттерін қалыптастыруға бағытталуы керек. Сонымен қатар «Қазақстан — 2050» стратегиясында көрсетілген мақсаттарға сәйкес, қазіргі кезде заманауи құзыреттерге, соның ішінде ғылыми-зерттеу құзыретіне ие бәсекеге қабілетті мамандарды дайындау маңызды екендігі айтылады. Болашақ шетел тілі мұғалімдерінің зерттеушілік құзыреттілігін қалыптастырудың негізі болып табылатын зерттеу құзыреттілігінің құрамдас бөліктері анықталған. Зерттеудің мақсаты: жоғары оқу орны жағдайында болашақ шет тілі мұғалімдерінің ғылыми-зерттеу құзыреттілігін қалыптастыруды дамыту. Мақалада университет жағдайында әртүрлі педагогикалық әдістерді қолдану арқылы зерттеу құзыреттілігін кезең–кезеңімен қалыптастыру жан–жақты сипатталған. Зерттеу барысында жоғары оқу орындарында болашақ шетел тілі мұғалімдерінің зерттеушілік құзыреттілігін қалыптастыруды бағалау критерийлері де анықталды.

Кілт сөздер: құзыреттілік, зерттеушілік құзыреттілік, мотивациялық-тұлғалық компонент, мотивация, теориялық-танымдық компонент, конструктивті-жобалық компонент, педагогикалық әдістер, зерттеушілік құзыреттілікті қалыптастыру.

М.М. Момбекова

Формирование исследовательской компетенции у будущих учителей иностранного языка в условиях вуза

В статье представлен экспериментальный анализ по формированию исследовательской компетенции у будущих учителей иностранного языка. Автором рассмотрена значимость исследовательской компетенции у студентов педагогического профиля. Приобретение исследовательской компетенции является основным двигателем модернизации современного образования в XXI веке, в связи с этим высшее образование должно ориентироваться на формирование жизненно важных компетенций будущих конкурентоспособных специалистов. Кроме того, была упомянута Стратегия «Казахстан–2050», где целью является развитие конкурентоспособных специалистов, имеющих современные компетенции, в том числе исследовательские компетенции. В работе охарактеризованы компоненты исследовательской компетенции, которые являются составляющей при формировании исследовательской компетенции у

будущих учителей иностранного языка. Цель исследования — формирование исследовательских компетенций у будущих учителей английского языка в условиях вуза. Подробно описано поэтапное формирование исследовательских компетенций с использованием различных педагогических методов в условиях университета. В ходе исследования были определены критерии оценивания формирования исследовательской компетенции у студентов языкового профиля обучения в высшем учебном заведении.

Ключевые слова: компетенция, исследовательская компетенция, мотивационно-личностный компонент, мотивация, теоретико-познавательный компонент, конструктивно-проектировочный компонент, педагогические методы, формирование исследовательской компетенции.

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Физиканы оқытуда толықтырылған шынайылылық арқылы интерактивті визуализацияны қолдану әдістемесі

Толықтырылған шынайылыққа (AR) негізделген оқу ортасы мұғалімдерге оқу материалдарын ұсынудың жаңа тәсілдерін ғана емес, сонымен қатар оқушыларға материалмен өздігінен жұмыс істеуге мүмкіндігін береді. Алдыңғы зерттеулер AR білім беруде көптеген артықшылықтарға ие екенін көрсетті; дегенмен, зерттеу ынтасындағы жайттарға, мысалы, AR-дың оқушылардың өзіндік тиімділігіне және оқу тұжырымдамасының әсеріне назар аударатындары аз. Бұл зерттеу AR технологиясының оқушылардың өзіндік тиімділігі мен физиканы оқу концепциясына әсерін зерттеу үшін AR негізіндегі термодинамиканы оқыту қолданбасы «GeoGebra AR» арқылы әзірленді. Зерттеудің мақсаты толықтырылған шынайылықтың қолдау көрсететін оқыту әрекеттерінің оқушылардың академиялық үлгерімі мен физиканы оқу ынтасына және олардың AR қолданбаларына деген көзқарасына әсерін зерттеу. Зерттеу орта мектеп физикасы курстарындағы «Термодинамика» бөліміне назар аударды және ішкі және сыртқы жарамдылығын бақылау үшін квазиэксперименттік зерттеу әдісі қолданылды. Зерттеуге екі мектептен 375 оқушы қатысты, оларда екі эксперименталды және екі бақылау тобы кездейсоқ түрде тағайындалды. Бірінші эксперименттік топ және бірінші бақылау топтарына алдын ала тестілеу және одан кейін бағалау жүргізілді; ал екінші эксперименттік топ және екінші бақылау топтары тек кейінгі сынақты тапсырды. Тоғыз апталық кезеңде эксперименттік топтар мобильді AR қосымшалары арқылы оқытылды, ал бақылау топтары оқу жоспарындағы жоспарланған әрекеттерді орындады. Деректерді жинау құралдарына «Физикадан үлгерім сынағы» және «Оқушылардың физиканы оқуға деген мотивациясы» шкаласы кірді. Зерттеудің жаңалығы дәстүрлі зертханалық оқыту орталарын толықтырылған шынайылық оқу орталарымен салыстыру және сабақтастыру. Зерттеу нәтижелері AR қолданбаларымен оқыту оқушылардың физиканы оқудағы академиялық жетістіктеріне айтарлықтай әсер еткенін көрсетті. Бұл AR қолданбаларымен оқыту 11-сынып оқушыларының физикадан білімін арттырудың тиімді білім беру тәсілі екенін көрсетеді. Толықтырылған шынайылық зертханалардың оқу тәжірибесін жақсартуға әлеуеті бар инновациялық технологиялар екеніне қарамастан, эксперименттік зерттеулер орта мектептегі физика сабақтарында оқушылардың сыни ойлау қабілеттерін дамытуда дәстүрлі зертханаларға қарағанда толықтырылған шынайылық тиімдірек екенін байқатады.

Кілт сөздер: білім беру, физика, толықтырылған шынайылық, зертханалық тәжірибе, оқу үлгерімі, оқу дағдысы, когнитивті жүктеме, оқытуды ұйымдастыру, оқыту формалары, білім беру үрдісі.

Кіріспе

Орта мектепте зертханалық тәжірибелер бірегей оқытуды қамтамасыз ететіні белгілі, бірақ оқытудың нәтижелері өздігінен әрқашан оң әсерін ғана беретініне ешкім кепілдік бере алмайды. Біздің байқағанымыздай, көп жағдайда оқушылар физиканың зертханалық тәжірибелеріндегі әрекеттерді оның теориялық тұжырымнамасымен байланыстыра алмай қиналады. Сәйкесінше, біздің зерттеу ұсынысымыз бойынша тәжірибе кезінде оқушыларға қолдау көрсету мақсатымен тәжірибені визуализациялап, дер кезінде көрсетілуді бақылау басты назарға алынды [1]. Бұдан басқа, зерттеу тәжірибесінің параметрлерін өзгертіп, оқушылар өз мезгілінде тәжірибенің өлшеу үрдісін жүзеге асыруды назарға ала отырып, бақылаудан бастап бастапқы құбылыстарды тыңғылықты зерттеді. Зертхананың өлшеуіш құралдары мен қондырғылары арқылы өлшеу жұмыстары жиілегендіктен, сәйкесінше деректердегі сыни бақылау барысында кідірістер көп орын алады. Сондықтан керекті жиналған деректер визуализациясы физикалық процестерді түсіндіру үшін қажетті тәжірибелік мақсаттарға бейімделуге және тұжырымдаманы дамытуға мүмкіндік береді. Тағы бір айта кетенін жағдай, зертханада қолданылатын технологиялық құрылғылардың көпшілігінің жасалынатын тәжірибеге мүлдем қатысы жоқ. Осы оқыту мақсатын орындауға арналған зертханалардың негізгі міндеті оқушыларға кемел білім беру болып

табылады [2]. Бұл мақалада біз орта мектептегі зертханалық жұмыстар арқылы жылу өткізгіштікті анықтау үшін физикалық зерттеу тәжірибесіне тоқталамыз (1-кесте).

<div align="right">1 - к е с т е</div>

Толықтырылған шынайылыққа қатысты негізгі компоненттер мен тұжырымдамалардың түсіндірмесі

№	Қолдану бойынша индикатор	Сипаттамасы
1	Нақты әлемдегі өзара әрекеттесу	AR пайдаланушының физикалық ортасына кескіндер, мәтіндер, бейнелер немесе 3D модельдер сияқты сандық элементтерді қосу арқылы нақты әлемді жақсартады. Бұл өзара әрекеттесу нақты уақытта орын алады және көбінесе смартфондар, планшеттер, AR көзілдіріктері немесе арнайы гарнитуралар сияқты құрылғылар арқылы жүзеге асады.
2	Компьютермен жасалған мазмұн	AR-дағы сандық мазмұн компьютерде жасалған және пайдаланушының айналасына контекстік тұрғыдан сәйкес болуы мүмкін. Бұл мазмұн әдетте физикалық нысандармен немесе өзара әрекеттесетін орындармен сәйкестендіріліп, нақты және виртуалды арасында біркелкі араласады.
3	Маркерге негізделген және маркерсіз AR	Маркерге негізделген AR сандық мазмұнды көрсетуді іске қосу үшін QR кодтары немесе кескінді тану сияқты алдын ала анықталған маркерлерге сүйенеді. Екінші жағынан, маркерсіз AR құрылғының сенсорларын (мысалы, GPS, акселерометр және камера) арнайы маркерлерсіз қоршаған ортаны анықтау және кеңейту үшін пайдаланады.
4	Барлық салалардағы қолданбалар	AR білім, денсаулық сақтау, өндіріс, бөлшек сауда, ойын және т.б. қоса алғанда, әртүрлі салаларда қолданбаларды табады. Оны білім беру мақсаттары, медициналық модельдеу, техникалық қызмет көрсету және жөндеу бойынша нұсқаулық, интерактивті жарнама және иммерсивті ойын тәжірибесі үшін пайдалануға болады
5	Иммерсивті тәжірибелер	AR пайдаланушыларға қоршаған ортаның физикалық және сандық аспектілерімен өзара әрекеттесуге мүмкіндік беру арқылы иммерсивті тәжірибелерді құруға бағытталған. Бұл интерактивтілік қарапайым ақпаратты қабаттасудан күрделі модельдеу мен ойындарға дейін болуы мүмкін.
6	Кеңістіктік есептеулер	AR жиі кеңістіктік есептеулермен байланысты, мұнда сандық мазмұн кеңістікте хабардар және пайдаланушының орны мен қозғалысына жауап береді. Бұл қатысу сезімін тудырады және табиғи және интуитивті өзара әрекеттесуге мүмкіндік береді.
7	Тағатын құрылғылар	AR көзілдіріктері немесе смарт дулығалар сияқты киілетін құрылғылар қолсыз AR тәжірибесін қамтамасыз етеді. Бұл құрылғылар пайдаланушыларға экранға қарамай-ақ ақпаратқа қол жеткізуге мүмкіндік береді, бұл сандық мазмұнды олардың көру өрісіне біркелкі біріктіруді ұсынады.
8	Даму платформалары	Әртүрлі әзірлеу платформалары мен бағдарламалық құралдар AR қосымшаларын жасауға мүмкіндік береді. Бұл құралдар көбінесе кескінді тану, 3D модельдеу, қозғалысты бақылау және кеңістіктік картаға түсіру мүмкіндіктерін қамтиды.

Дәстүрлі оқыту бойынша, оқушылар зерттеу үшін қыздырылған металл ядроны қолданып термиялық визуализация камерасы арқылы жылу температурасының өзгеруін бақылайды. Дегенмен, бұл өлшем құрылғысы тәжірибе барысында жылу деректерін дәл емес тек көзбен ғана бақылап, нақты деректер тек тәжірибе аяқталғаннан кейін ғана басқа оқу бөлмесінде талданады. Сонымен қатар, нақты деректер басқа компьютер экраны арқылы көрсетілсе де барлық алынған өлшемдері тәжірибелік жағдайдағы күйге сәйкес болуы шарт [3].

Сонымен қатар, уақытша сабақтастық қағидасы ақпаратты ұзақ уақыт бойы есте сақтау қажеттілігін тудырмау үшін осыған байланысты ақпаратты ұзақ уақыт бойы ұсынуды талап етеді. Демек, біз визуализация құралы ретінде толықтырылған шынайылық технологиясын пайдалана отырып, мазмұнға қатысты ақпараттың біріктірілген пішіміне қол жеткізу үшін өлшеу деректерін виртуалды элементтер ретінде ұсынуды және оларды нақты уақытқа сәйкес физикалық нысандардың жанында орналастыруын қадағаладық. Толықтырылған шынайылықты қолданудың негізгі идеясы сандық технологиялық құрылғылар арқылы виртуалды компоненттерді сәйкесінше нақты әлем ортасына енгізу арқылы оқушылардың оқу материалдарын меңгеруді жақсарту [4]. Біздің зертханалық жағдайда ұялы телефондағы толықтырылған шынайылық қолданбалы компьютерде жасалған графиктер, кестелер, анимациялар, бейнелер және де мәтіндер сияқты үш өлшемді бейнеленген нысандарының әртүрлі түрлерімен дәстүрлі оқу орталарында оқытуды жақсарту үшін толықтырылған шынайылықты қамтамасыз

ететін құрылғылар ретінде пайдаланылды. Ұялы телефонның мөлдір дисплейлерінің арқасында оқу-шылар деректерді бұрмаламай қабылдайды және виртуалды нысандарды 3D қабаттасуы ретінде бақы-лады [5]. Зерттеудің нәтижесінде оқушы мен мұғалім арасында көп бағытты өзара әрекеттер орын алды. Саралай келе, біз дәстүрлі оқыту тәсілмен физика пәнінен зертханалық тәжірибенің оқу сцена-рийіне қосылған толықтырылған шынайылық негізіндегі визуализациялар физикалық тәжірибемен байланысты ғылыми теорияны оқушылардың тұжырымдамалы білімін және сәйкес емес когнитивтік жүктемені шешу үшін қалай байланыстыра алатынын қарастырдық [6]. Бұл процесте біз оқушылардың мультимедиялық мазмұнды когнитивтік дағдыларының өңдеуін, сонымен қатар бір уақытта ұсыныл-ған бейнеленген формаларының білім беру өзектілігін әсерін қарастырдық (2-кесте).

<div align="right">2 - к е с т е</div>

Физиканы оқытуда AR қолданудың кейбір жолдары

№	Қолдану жолдары	Сипаттамасы
1	Физикалық процестерді визуализациялау	AR оқушыларға олардың санасында елестету қиын болуы мүмкін күрделі физикалық процестер мен құбылыстарды елестетуге мүмкіндік береді. Мысалы, олар үш өлшемді кеңістікте атом құрылымдарын, электрмагниттік өрістерді немесе толқындық құбы-лыстарды бақылай алады
2	Интерактивті эксперименттер	AR оқушылар виртуалды кеңістікте физика эксперименттерін жүргізе алатын вирту-алды зертханаларды құру үшін пайдаланылуы мүмкін. Бұл нақты әлемде қымбат не-месе қиын болуы мүмкін ресурстарға қауіпсіздік пен қол жеткізуді қамтамасыз етеді
3	Физикалық заңдарды оқыту	Интерактивті AR модельдері оқушыларға Ньютон заңдары немесе термодинамика заң-дары сияқты физикалық заңдарды жақсырақ түсінуге көмектеседі. Олар үлгілермен әрекеттесе алады және нәтижелерге әсерін көру үшін параметрлерді өзгерте алады
4	Қосымша оқу материалдары	Оқулықтар мен плакаттар сияқты оқу материалдарын AR арқылы интерактивті эле-менттермен жақсартуға болады. Оқушылар суреттерді сканерлеп, физика ұғымдарын қамтитын қосымша ақпаратты, анимацияларды немесе бейнелерді ала алады
5	Нақты уақыттағы жаттығулар	AR нақты уақыттағы оқытуды қолдай алады, мысалы, оқушыларға AR қолдайтын құ-рылғыларды пайдаланып, нақты уақытта болып жатқан физикалық жүйелердегі немесе процестердегі өзгерістерді байқауға мүмкіндік беру арқылы
6	Виртуалды турлар мен экспедиция-лар	Оқушылар әртүрлі орталардағы физикалық құбылыстарды зерттеу үшін виртуалды турларға немесе экспедицияларға бара алады. Мысалы, физиканы нөлдік гравитацияда немесе басқа планеталарда оқу
7	Жеке үлгілерді жасау	Оқушылар AR құралдарын физикалық нысандардың немесе құбылыстардың өздерінің виртуалды үлгілерін жасау үшін пайдалана алады, бұл тереңірек оқытуға ықпал етеді
8	Жарыстар мен сынақтар	AR оқушылар физикалық жұмбақтарды шешетін немесе виртуалды жарыстарға қатыса-тын интерактивті жарыстар мен тапсырмаларды құру арқылы оқытуға қосылуы мүмкін

Физиканы оқытуда AR қолдану шығармашылық, визуализация және оқушылардың оқу процесіне тереңірек қатысуына мүмкіндіктер жасайды. Сондай-ақ мұндай әдістер есептер шығару дағдыларын дамытуға және теориялық білімді практикада қолдануға ықпал ете алады.

Соңғы жылдары білім беру үрдісінде толықтырылған шынайылық технологиясының ғылыми зерттеу және әзірлеу бастамалары тез арада өсуде. Осы салада жүргізілген зерттеулер негізінен әртүрлі оқыту және білім беру параметрлеріндегі нақты және виртуалды элементтердің үйлесуі нәтижесінде туындайтын мүмкіндіктер мен қиындықтарды қарастырды [7]. Толықтырылған шынайылықты білім беру барысында қолданған кезде қол жеткізуге мүмкін келесі мақсаттар айқындалды:

а) кеңістік пен уақыт ұғымдарын бейнелеу;

ә) нақты және виртуалды объектілер арасындағы контекстік қатынастарды талдау;

б) интуитивті өзара әрекеттесуді қамтамасыз ету;

в) 3D форматында визуализациялау және өзара әрекеттесу;

г) өзара ынтымақтастықты жеңілдету.

Қазіргі кезде толықтырылған шынайылық технологиясының қабылдануының, пайдаланудың және қолжетімділігінің біртіндеп артуына байланысты бұл әрекетке бағытталған мақсаттар қазірдің өзінде көпшілікке қол жетімді.

Төрт шабангер деп аталатын төрт алпауыт компанияның, яғни Әпл, Гугл, Майкрософт, Мета (бұрынғы Фейсбук) компанияларының барлығында VR/AR дулығаларын шығарады және өз қызметкерлерін осы дулығаларды шығаруға қолданады (3-кесте).

3 - к е с т е

Физиканы оқытуда AR қолдануда алпауыт компаниялардан ұсынылған дулығалар тізімі

№	Компания атауы	Ағылшынша жазбаша түрі	Дулығаның аты	Шығарылған жылы	Бағасы (АҚШ доллары)
1	Әпл	Apple	Vision Pro	2024	3499
2	Гугл	Google	Google Glass	2013	1500
3	Майкрософт	Microsoft	MetaLens	2019	3500
4	Мета (Фейсбук)	Meta (Facebook)	Meta Quest	2015	499

Біз орта мектепте білім беру орындарында арнайы толықтырылған шынайылық енгізулеріне қатысты зерттеулерді қарастырдық және орта мектепте толықтырылған шынайылық артықшылықтары мен қиындықтарын зерттедік. Оқыту өнімділігі мен ынтаның жоғарылауы басқа зерттеулерге сәйкес келетін ең көп таралған нәтижелер ретінде аталды. Оқытудағы жетістіктерге қатысты зерттеулер арасындағы айтарлықтай өзгермелілікке назар аударылды. Толықтырылған шынайылық физика пәнінен білім беруге және оның оқыту әдістеріне, сондай-ақ толықтырылған шынайылық енгізілген әдістеріне аса назар аударылды [8]. Осылайша толықтырылған шынайылықтың физиканы оқытуда кеңінен қолданылуға болатынын атап өтуге болады. Дегенмен, олар нақты зертханалық жағдайларда сұрау әрекеттерін зерттейтін екі зерттеуді ғана хабарлады. Біріншісінде, тәжірибені орнату және өткізу жолын түсіндіретін қосымша виртуалды мазмұнмен дәстүрлі қағаз бен қалам негізіндегі зертханалық нұсқаулықтарды толықтыру үшін мобильді толықтырылған шынайылық қолданбасы енгізілді [9]. Нәтижесінде толықтырылған шынайылық нұсқаулығын пайдаланған оқушылар дәстүрлі жолды таңдаған оқушыларға қарағанда қорытынды тестен жоғары ұпайлар жинады (3-кесте). Екіншісінде динамикалық жүйелер концепциясын зерттеуге арналған дәстүрлі зертханалық моторлы сынақ алаңы жетілдірілді. Қатысушы оқушылар мобильді құрылғыны сынақ алаңына бағыттап, қосымша визуализацияларды ала алды. Сонымен қатар мобильді құрылғы арқылы сынақ құрылғысымен манипуляциялау әрекеттерін басқара алды. Алдын ала жүргізілген зертханалық тәжірибеге дайындық шаралары осы жақсартылған ортаны пайдаланатын оқушылар оқуда айтарлықтай жетістіктер көрсетті, алайда осы нақты тәжірибе үшін дәстүрлі жұмыс процесімен салыстыру болған жоқ [10].

Біз толықтырылған шынайылық жүйелері оқу процестерін ынталандыру және когнитивті жүктемені басқару үшін уақыт пен кеңістіктің сабақтастық қағидаларына сәйкес виртуалды және нақты объектілерді біріктіруіне мүмкіндік беретінін дәлелдедік. Сонымен қатар, когнитивті жүктемені шешу үшін толықтырылған шынайылықтың жалпы әлеуетін болжадық. Дегенмен, осы зерттеуге сәйкес әлі де нақты эмпирикалық дәлелдер жетіспейді. Осы зерттеу бұл аспектіні егжей-тегжейлі зерттеді, бірақ алынған біртекті нәтижелерді талдауға уақыт жетіспеді. Біз барынша зертханалық тәжірибеде оқушылардың негізгі электр тізбектері бойынша үйрену әрекеттерін зерттедік. Олар сәйкес электрлік компоненттердің жанында өлшеу деректерін ұсынатын толықтырылған шынайылық негізіндегі біріктірілген пішімді дәстүрлі біріктірілмеген пішіммен салыстырды [11]. Екі жағдайда салыстырмалы когнитивтік жүктемені алдық, бірақ тек толықтырылған шынайылық жағдайы ғана оқытудың айтарлықтай жетістіктерін көрсетті. Толықтырылған шынайылық жүйелерімен жұмыс істеудің күрделілігі әлі де негізгі шектеуші фактор болып табылады. Когнитивті жүктеме теориясы оқытуға жаңа ақпаратты өңдеу үшін оқушылардың жұмыс жадысына ресурстар қажет екенін айтады. Дегенмен, жұмыс жады бір уақытта өңделетін ақпарат көлеміне, сондай-ақ ақпаратты сақтауға болатын уақытқа қатысты оның сыйымдылығымен шектелген деп есептеледі. Бұл шектеулерден асып кету когнитивті шамадан тыс жүктеме жағдайларына әкеледі. Оқу тапсырмасын орындау үшін қажетті психикалық ресурстардың көлемін когнитивтік жүктемелерді ішкі, сыртқы және қазақша когнитивті жүктемелер деп үш категорияға бөлуге болады [12]. Ішкі танымдық жүктеме оқу тапсырмасының өзіне тән күрделілігін өңдеуге арналған барлық психикалық күш-жігерді білдіреді. Бұл оқу тапсырмасының ішкі құрылымына және оқушылардың тапсырмаға қатысты алдыңғы білімдеріне байланысты. Алдыңғы білім деңгейінің жоғары болуы оқушылардың бұрынғы әзірленген құрылымдарды жаңа ақпаратқа қолдана алатынын білдіреді, нәтижесінде когнитивтік жүктеме төмендейді. Сыртқы когнитивтік жүктеме оқу материалын беру тәсілін өңдеу үшін қажет ақыл-ой күш-жігерін білдіреді. Сондықтан ол негізгі оқытудың бөлігі емес. Жалпы

когнитивтік жүктеме жаңа білім құрылымдарын құру үшін ақпаратты негізгі өңдеуге жатады. Соңғы жылдары ол ішкі когнитивтік жүктеме және сыртқы когнитивтік жүктеме бойынша қайта бөлу функциясына ие және сондықтан жүктеменің тәуелсіз түрі болмайды деп болжанады. Дегенмен, жүктеме жеке оқу үрдістерінің көрсеткіші болып табылады. Бұл когнитивтік жүктемені екі факторлы ішкі когнитивтік жүктеме және сыртқы когнитивтік жүктеме үлгісіне қарай қайта жіктеуге әкеледі [13].

Зейіннің бөліну әсері оқушылар қосымша психикалық интеграциялық процестерді орындауы қажет болғанда пайда болады, өйткені байланысты артық емес оқыту компоненттері кеңістікте немесе уақытта бөлінеді. Демек, олар біртұтас психикалық модель құру үшін өз назарын жеке құрамдас бөліктерге бөлуі керек. Бұл сыртқы когнитивтік жүктемені арттырады және маңызды оқу үрдістері үшін енді қолжетімсіз болатын психикалық ресурстарды тұтынады. Мультимедиялық оқытудың когнитивті теориясы сонымен қатар осы сияқты шектеулі жұмыс жадысы бар оқушылардың когнитивті архитектурасын сипаттайды [14]. Одан әрі оқыту жұмыс жады екі бөлек арнада дауыстандырылған және көрнекі бейнелік ақпаратты өңдейді деп болжайды. Бұл екі арнаның мүмкіндігі шектеулі болғандықтан, оқыту нұсқауын маңызды оқыту үшін қол жетімді психикалық ресурстардың көлемін барынша арттыру мақсатында екеуін де қамтуы керек. Зерттеуге сәйкес, мультимедиялық нұсқаулар визуалды және есту ақпаратынан тұрады және керексіз өңдеуді азайтуға, маңызды өңдеуді басқаруға және өңдеуді ынталандыруға бағытталған. Мультимедиялық оқыту нұсқауларын белсенді өңдеу және үйлесімді психикалық бейнені құру үшін маңызды болып табылатын оқушылардың жұмыс жадында орын алатын іріктеу, ұйымдастыру және біріктіру деп аталатын үш негізгі процесс бар [15]. Мультимедиялық оқыту контексінде керексіз өңдеуді азайту және когнитивті шамадан тыс жүктеме жағдайларын болдырмау үшін бес оқыту әдістемесін қарастырдық. Осы зерттеуде біз зейіннің бөліну әсерін болдырмау арқылы керексіз когнитивтік жүктемені шешетін кеңістік пен уақыттың сабақтастық принциптеріне назар аударамыз. Кеңістіктік бөлуді шешу үшін тиісті ақпарат көздері арасындағы физикалық қашықтықты оларды жергілікті жақын жерде көрсету арқылы азайту керек. Әйтпесе, көрсетілім пішімі ішкі өңдеуге ықпал етпейтін, бірақ сыртқы когнитивтік жүктемені арттыратын визуалды іздеу процестерін тудырады [16]. Оның уақытша бөлінуі, яғни сәйкес ақпаратты қабылдау арасындағы уақытты қысқарту, маңызды интеграция процесі басталғанға дейін оқу компоненттерін психикалық көрініс ретінде сақтау арқылы тұтынылатын ресурстарды азайтады. Кеңістік пен уақыттың сабақтастықты үйренуге оң әсер ететін эмпирикалық дәлелдер зерттеу нәтижесі ретінде жинақталған. Бұл тұжырымдар біздің мультимедиялық нұсқаулық сценарийлерінде біріктірілген пішімдердің әсерін нақтылайды. Сан алуан сыртқы көріністер түсінігі графиктер, өрнектер, суреттер, диаграммалар сияқты белгілі бір ғылыми ұғымды білдіретін, көрсететін, бейнелейтін және хабарлайтын көптеген әртүрлі нысандарды білдіреді. Ғылыми оқудағы сан алуан сыртқы көріністердің маңызды рөлі жалпы физика пәні үшін және атап айтқанда физикалық зертханалар үшін әлі де болса жақсы зерттелінбеген. Олар физикалық тұжырымдамаларды түсінуде үлкен маңызға ие және физикалық құбылыстарды тереңірек түсінудің қажетті шарты ретінде талқыланды. Ол күрделі оқу үрдісі кезінде сан алуан сыртқы көріністер құрылымы мен қызметін сипаттауды қамтамасыз етті. Бернелер (функциялар) мен тапсырмалар таксономиясына сүйене отырып, сан алуан сыртқы көріністер оқу кезінде бір уақытта қолданылуы керек сыртқы көріністердің кез келген комбинациясын қамтиды. Бұл мультимедиялық мазмұнның жалпы идеяларын қамтиды, яғни мәтіндер мен суреттерді біріктіреді [17]. Біз оны таксономияның бір бөлігі ретінде қолдану үшін сан алуан сыртқы көріністер функцияларын ұсындық. AR негізіндегі оқыту ортасы жаңадан пайда болған идея болғанымен, оның көптеген ерекшеліктері білім берудің классикалық принциптері мен оқытудың психологиялық теорияларында терең тамыр жайған. Мысалы, классикалық бихевиоризм оқытуды ынталандыру-жауап байланыстыратын формула деп санайды, онда ынталандырулар аяқталған және ішкі меңгерілген оқытуға жауап береді. AR виртуалды оқыту ортасында оқушы алдымен қоршаған ортамен өзара әрекеттеседі, тез кері байланыс алады, содан кейін кері байланыс негізінде өзінің келесі қадамдарын шешеді, сондықтан әсер етуші ынталандырулар мен жауап арасында байланыс орнатады; AR виртуалды оқу ортасы құрастыруға арналған бай құралдар жинақтарын, орындау орындарының көптігін қамтиды және оқушының өзін-өзі бақылауына жақсырақ мән береді. Бұл Пиаженің «зертхананы сыныпқа жылжыту» көзқарасы мен тәжірибесіне сәйкес келеді және сонымен қатар Джонассеннің «Оқу — бұл оқу нақты әлемдік тәжірибе» конструктивті оқыту теориясы [18]. Сондықтан AR-ның классикалық білім беру салаларында және оны қолдануда жақсы орналасқан. Гарсон мен Акаведо оқушылардың өзіндік тиімділігі мен оқу концепциясына қатысты соңғы және өзекті зерттеулер білім беруде AR технологиясын қолдану білім беру тиімділігін айтарлықтай арттыра алатынын көрсетеді деп мәлімдеді. AR технологиясы сонымен қатар микроскопиялық әлемді елестете алады, Цайдың

тұжырымдауы бойынша: «Осылайша оқушылар әртүрлі заттардың құрамын жанды бақылай алады» [19], яғни ол тіпті оқушыларға нақты тарихи ақпаратты тиімдірек есте сақтауға көмектеседі деді. Визуализацияның артықшылықтарына сүйене отырып, AR жалпы академиялық тәжірибеде және оқытудың өзгертілген үлгілерінде де күшті. Мысалы, «AR технологиясы оқушылардың оқу мотивациясын, академиялық үлгерімін, зерттеу қабілетін арттырады және тұжырымдамалық қателерді болдырмауға көмектеседі» деп Янг Чианг және Хван өз еңбектерінде көрсетті. Құрбыларының өзара әрекеттестігі тұрғысынан AR технологиясы оқушылардың бірлескен ізденіс оқуын қолдайды және оқушыларға сұрау процесіне тереңірек енуге мүмкіндік беретінін Ван Дух анықтады [20]. AR білім беру технологиясындағы қуатты және дамып келе жатқан құрал екенін дәлелдеді, инерция және технология интеграциясы ретінде есептелетін барлық пәндердің сыныптары болып табылатын нәрсеге қарсы тұруда революциялық болуы мүмкін. Физика біліміндегі AR, атап айтқанда, ізашарлары жоқ емес, өйткені көптеген ғалымдар жалпы AR пайда болғаннан бері оның әсерін Ечевериа зерттеді. Бастапқыда — олар экспериментталды топты планшетте жұмыс істейтін AR ойынымен және стандартты компьютерлерде жұмыс істейтін «бірнеше тышқанды компьютерлік ойыны» бар бақылау тобымен қосымша «басқа орнатылған» дисплейлермен салыстырды. Нәтижелер екі технологияның да оқу өнімділігіне айтарлықтай әсер еткенін көрсетті, бірақ меңгеру бойынша топтар арасында статистикалық маңызды айырмашылық жоқ. Ал Ибанэз бен Вилариан 64 орта мектеп оқушыларымен мобильді AR қолданбасы немесе ұқсас веб-бағдарлама физика білімін меңгеруді қолдауда тиімдірек екенін тексеру үшін сыныпта эксперимент жүргізді [21]. Нәтижелер AR тобындағы оқушылар ағын тәжірибесінің жоғары деңгейлерін қабылдағанын және сонымен қатар айтарлықтай көбірек білім алғанын көрсетті. Ақчайр мен Пектас бакалавриат деңгейіндегі оқушылардың физикалық зертханалық дағдыларында AR қолданудың әсерін зерттеді және нәтиже AR технологиясы бакалавриат оқушыларының физиканың зертханалық дағдыларының дамуын айтарлықтай жақсартатынын көрсетті [22]. Жақында Фидан мен Тунсел AR интеграцияланған проблемалық оқыту оқушылардың оқу жетістіктерін арттыратынын және физика пәніне деген оң көзқарастарын арттыратынын анықтады, бұл оқушылардың физика материалдарын ұзақ уақыт есте сақтауына ықпал етті. Бұл орта және жоғары мектептердегі негізгі сынып ретінде физиканың осы салада назар аударып, AR негізіндегі физиканың қасиеттері туралы әдебиеттер құрастырылып жатқанын көрсетеді. Динтер мен Дочи зерттеуі оқушыларға практикалық тәжірибені қамтамасыз ететін позитивті бағдарланған оқу тәжірибесі өзін-өзі тиімді сезінуге әкелетінін көрсетеді [23]. Лию аз жүретін жолды таңдады және AR интеграцияланған теңізді үйренудің инновациялық бағдарламасын жасады және AR технологиясы оқушылардың оқу сенімін арттыра алады, сондықтан физиканы оқытудың өзіндік тиімділігіне кейбір әсер етуі мүмкін деген қорытындыға келді деп жариялады [24]. Цай мен Лию оның әсерін тексеру үшін планшет негізіндегі AR көмегімен ықтималдық және статистикалық сабақтар сериясын құрастыру және енгізу арқылы өзіндік тиімділіктің басқа қырын зерттеді. Олар мұны әр түрлі деңгейдегі өзіндік тиімділігі бар орта мектеп оқушыларының оқу тұжырымдамалары мен тәсілдерін салыстыру арқылы жасады және олар өзін-өзі тиімділігі жоғары оқушылар жоғары деңгейдегі тұжырымдамаларға көбірек көңіл бөлетінін және оқу кезінде неғұрлым озық стратегияларды қолданатынын анықтады [25]. AR-шабытталған сыныптағы ықтималдық пен статистика. AR негізіндегі физиканың өзіндік тиімділігіне қатысты көптеген зерттеулер жүргізілмесе де, AR және өзіндік тиімділік бағыт ретінде сараптамаларды бастады. Отандық ғалымдардан Арымбеков пен Мұратқызы ғана AR қолданып, мектептегі оқушылардың үлгерімі туралы зерттеулер жүргізді [26].

Зерттеу әдістері мен материалдары

Физика пәнінің зертханалық тәжірибесіндегі дәстүрлі тобының баптауын бақылау мен тәжірибе үрдісін толықтырылған шынайылық көмегімен бейімделумен салыстыру үшін тәжірибенің алдын ала алынған тестер мен одан кейінгі сынақ бақылау тестерін сараптадық. Оқытудың сыни зерттеуі 2022 жылдың екінші тоқсанынан 2023 жылдың үшінші тоқсанына дейінгі деректер жинаудың екі семестрінде орта мектепте өтті. Зерттеуге физика пәнін оқитын 10-сынып оқушылары қатысты. Олар зертханалық тәжірибе басталғанға дейін дәстүрлі және сынақ тобы деп екі топқа кездейсоқ тағайындалды. Барлық оқушылар зерттеу тәжірибесі алдында бірдей физика сабақтарына қатысқан (1-сурет).

1-сурет. Дәстүрлі әдістемемен зерттеу және де толықтырылған шынайылық қоданбасымен арқылы зерттеу схемасы

Тәжірибе орта мектептің 10-сынып оқушыларына арналған физикадан зертханалық жұмыс орта мектептің физика кабинетінде өтті. Сабақ термодинамика сияқты есептеуге негізделген тәжірибелік физика сабағының тақырыптарын үйретуге бағытталған. Он екі оқушыдан тұратын топтар төрт апта ішінде әр тәжірибеге елу минуттан қатысу барысында екі түрлі тәжірибе жүргізіп, талдады. Оқушылар алдын ала мәтінге негізделген зертханалық нұсқаулықты алды, онда теориялық мәліметтер, тәжірибе-лік қондырғының қысқаша сипаттамасы, тәжірибелік тапсырмалар және әрбір тәжірибе үшін дерек-терді талдауға арналған тапсырмалар берілген. Зерттеуде физика пәнінің барлық тәжірибелері жалпы үш кезеңнен тұрады. Біріншіден, оқушылар тәжірибені алдын ала өз бетінше дайындайды. Екіншіден, олар сабаққа қатысу уақытында зертханада тәжірибе тапсырмалар жинағын орындайды. Қажетті зер-тханалық құралдарды және схемалық иллюстрациялары бар мәтіндік нұсқаулықты қолдана отырып, оқушылар құрылғыларды орнатады және өлшеу процесін жүргізеді. Үшіншіден, олар бір топтың құра-мында тәжірибелік кезеңнен кейін өз деректеріне тереңірек талдау жасайды. Біздің араласуымыз екінші кезеңнен бастап орын алады және барлық зерттеу айнымалыларын өткізу кезеңіне дейін және одан кейін көп ұзамай жиналды, өйткені бірінші және үшінші кезең бақылаусыз болады. Екінші су-ретте әрбір қатысушы үшін дәстүрлі түрдегі зертханалық физика сабағының оқу барысы суретте тү-рінде берілген (2-сурет).

2-сурет. Толықтырылған шынайылық қолданбасы оқушыларға таныстырылуда

Осылайша, сынау шарттары әр топқа тән өлшеу құрылғыларының жазбаша сипаттамаларында ғана ерекшеленді, яғни дәстүрлі топ үшін қол камерасын қолданды. Ал зерттеу тобы үшін толықты-рылған шынайылық қамтамасыз ететін ұялы телефондағы толықтырылған шынайылық қолданбасы-мен біріктірілген стационарлық камера және толықтырылған шынайылық жабдығын өңдеу бойынша қысқаша жаттығу өткізілді (3-сурет). Жаттығу ретінде біз құрылғыны өндірушісі ұсынған стандартты калибрлеу процедурасын қолдандық, оның зертханалық тапсырмалардың мазмұнымен ешқандай бай-ланысы жоқ. Қажет болса жағдайда, жаттығуды қайталауға болады және жаттығу шамамен бес ми-нутты алады. Сонымен қатар, барлық оқушыларға жетекшілік ететін мұғалімдерден көмек сұрауға рұқ-сат етілді. Зерттелетін тәжірибе барысында оқушылар металдағы жылу өткізгіштігін зерттеді. Оқушы-ларға қойылған негізгі міндет алюминий мен мыс масақтарының сәйкесінше оқшауланған жағдайда және оқшауланбаған жағдайда жылу өткізгіштігін анықтау болып табылады. Оқушыларға таратылған барлық төрт шыбықтар бір жағында қыздыру қондырғысымен, ал екінші жағында салқындатқыш жел-деткішпен бекітілген.

3-сурет. Толықтырылған шынайылық қолданбасымен сынау барысы

Сабаққа қатысу уақытында оқушылар тәжірибені орнатып, әрбір қыздырылған таяқша бойындағы температураны дәйекті түрде зерттеді. Бір-екі минут қыздырудан кейін шыбық бойымен тұрақты температураның таралуына қол жеткізілді. Оны кейіннен меншікті жылу өткізгіштігін сипаттайтын шамаларды есептеу үшін талдауға болады. Өлшеу деректерін алу үшін оқушыларға белгілі бір уақытта инфрақызыл камераның көмегімен әр таяқша бойындағы температураның таралуын өлшеу тапсырылды. Өлшеудің оңтайлы уақытын тәжірибе барысында оқушылардың өздері анықтауға тура келді. Қосымша материал ретінде тәжірибелік жабдықтың егжей-тегжейлі сипаттамасы бар толықтырылған шынайылық қолданбасының жаңа нұсқасының бейнесі берілген ұялы телефондағы толықтырылған шынайылық қолданбасы арқылы қарауға рұқсат берілді.

Тәжірибенің дәстүрлі жұмыс барысында оқушылар тікелей алдын ала қарау ретінде өзекшенің жалған түсті кескінін көрсететін қолмен термобейнелеу камерасымен металл шыбықты бақылады. Оқушылар өздерінің қалаған уақытында температураның таралуының қозғалыссыз суреттерін түсірді. Кейін олар суреттегі температура деректерін сызықтық графикке түрлендірді. Сондай-ақ, дәстүрлі топ өзекшедегі температураның таралуын қолайлы уақытта өлшеу керек болды. Бұл жағдайда тепловизор камерасы штативке стационарлық күйде орнатылды. Нұсқау орнына толықтырылған шынайылық қолданбасын пайдалана отырып, деректерді нақты уақытта камерадан сымсыз қабылдады. Деректерді бір уақытта сандық мәндер, жалған түсті кескін және сызықтық график ретінде көрсетуге болады. Барлық осы бейнелер оптикалық маркерді тану арқылы нақты металл шыбықтарға іс жүзінде бекітілген. Сызықтық графикті және сандық мәндерді қосуға немесе өшіруге рұқсат етілмеген.

Өлшеу уақытын анықтау үшін оқушылар кез келген немесе барлық көріністерді бақылай алады. Ұялы телефондағы толықтырылған шынайылық қолданбасы ұсынған стандартталған қимылдар мен қарау нүктесінің бағыты арқылы басқарылды. Дербес мобильді есептеуіш құрылғы ретінде зерттеу барысында қосымша қуат көзі қажет болмады. Бұл оқушылардың нақты тәжірибелік жабдықпен өзара әрекеттесуіне мүмкіндік берді. Телефондағы бағдарламалық жасақтама қолданбасы Unity3D бағдарламасы мен маркерді тану үшін Vuforia бағдарламасын пайдаланып әзірленген. Сонымен қатар, зерттеу тобының әрбір мүшесі өзінің жеке бақылау құрылғысымен жабдықталған. Екі құрылғы да визуализация үшін бірдей деректер ағынымен қамтамасыз етілді, сондықтан оқушылар ортақ сеанста ешқандай сәйкессіздіктерсіз температураның таралуын бақылап, талқылай алды. Зерттеуден кейін оқушылардың алған тұжырымдама білімдерін тексердік (4-сурет).

4-сурет. Толықтырылған шынайылық дулығасын оқушылар физика пәнінде қодануы

Біз әзірлеген жылу және температура тұжырымдамасының тестері орта мектеп оқушыларының термодинамика туралы тұжырымдамалық түсінігін зерттеу үшін алдын ала және тәжірибеден кейінгі сынақтар кезінде тест ретінде пайдаланылды. Тәжірибені дұрыс жүргізу және талдау үшін оқушылар қыздыру және салқындату процестерін, сонымен қатар өлшенетін шама ретінде температураның рөлін және оның жылу мен энергияға қатынасын білуі керек. Тиісінше, сынақ жылу және температура, сал-қындату жылдамдығы, жылу беру жылдамдығы, меншікті жылу сыйымдылығы сияқты әртүрлі нақты ұғымдарды қамтиды. Демек, осы зерттеуде қолданылған бес шкаланың әрқайсысы жалпы қыздырыл-ған денелердің немесе материалдардың ерекше тапсырмаға қатысты аспектісіне және олардың уақыт бойынша сипаттамасына бағытталған. Біз нақты жылу сыйымдылығын зерттейтін мысал элементін көрсетеміз. Оқушылардың когнитивті жүктемесі кейінгі тестілеу кезінде когнитивті жүктеме шкала-сының бейімделген нұсқасы арқылы өлшенді. Бұл сыни тұрғыдан бағалау шкаласы тәжірибе жүргізу кезеңінде оқушылардың ішкі, сыртқы өңдеуін салыстыруға қабілетті болып саналады. Демек, біз ішкі когнитивтік жүктеме, сыртқы когнитивтік жүктеме өлшемдеріне сілтеме жасай отырып, когнитивтік жүктеменің факторлы интерпретациясын ұстандық. Оны әрі қарай басқа нұсқау сценарийлеріне қол-дануға болады. Біз шкаланы қазақ тіліне аударып, бастапқы элементтердің құрылымына сәйкес физика пәнінің зертханалық құрылғысының контексін он балдық шкаласы ретінде бейімдедік. Зертханалық жұмыстың қосымша аспектілерін қамту үшін тәжірибелік қондырғымен өлшеу процестерін жүргізілді. Қолдану аяқталғаннан кейін бейімделген құралдың ішкі құрылымын ашу үшін эксплоративті фактор-лық талдау жүргізілді. Оны зерттеу нәтижелерімен салыстыруға болады. Атап айтқанда, осы өлшем үшін барабар дерлік тамаша сенімділікке қол жеткізілді. Технологиялық жүйені өңдеу мен пайдалы-лыққа қатысты мәлімдемеден тұратын жүйенің ыңғайлылығы әзірленген шкаласы арқылы пайдалану мүмкіндігі зерттелді. Оқушылар осы мәлімдемелерді он балдық шкаласы бойынша бағалауы керек болды. Біз тәжірибеде сәйкес бағдарламалық құрал қолданбасы және тәжірибелік жабдық арасындағы өзара әрекеттесуді бақыладық. Біз сондай-ақ жинақталған тармақ ұпайларын бірден онға дейін мән диапазонына әкелетін стандартталған балл қою әдісін сипаттадық. Барлық сауалнамалар қағазға бас-тырылып оқушыларға таратылды және негізіндегі қағаз парағы сауалнама ретінде ұсынылды (4-кесте).

4 - к е с т е

Толықтырылған шынайылықтың оқушылардың оқу дағдыларына әсерлерін өлшеу

№	Айнымалылар	Дәстүрлі әдістеме нәтижесі (μ)	Толықтырылған шынайылық қолданған нәтижесі (μ)
1	Когнитивті жүктеме теориясы	0.01505	0.0002527
2	Тұжырымдама білім тексеру	0.04955	0.0002823
3	Ішкі когнитивтік жүктеме	0.0306	0.000259
4	Сыртқы когнитивтік жүктеме	0.01662	0.0002793
5	Сан алуан сыртқы көріністер	0.05403	0.0003086
6	Жүйенің қолайлылығы	0.03625	0.00030765
Ұпайлардың жалпы саны		0.03625	0.00030765

Нәтижелер мен талқылау

Бірінші кестеде көрсетілген құралдар мен стандартты ауытқуларға негізделе отырып, келесі бөлімдер тұжырымдамалық білімге, өздігінен есептелген когнитивтік жүктемеге және жүйенің қолайлылығына қатысты талдаулар сипатталды. Екінші кестеде интервенцияға дейін және одан кейінгі тұжырымдамалыны білім сынағы ұпайларының салыстырмалы топқа тәуелді құралдары мен стандартты ауытқуларға көрсеткіштері көрсетілген. Алдын ала және кейінгі тестілеу нәтижелері арасындағы қарапайым топ ішілік салыстыру тұжырымдамалық білімнің айтарлықтай артқанын көрсетті, бірақ бұл айнымалы мәнде айтарлықтай айырмашылық бар. Дегенмен, тәуелсіз үлгілер сынағы арқылы анықталған алдын ала тестілеу кезінде екі топ өздерінің тұжырымдамалық білімдерінде айтарлықтай айырмашылықты көрсетті. Бұл мәселені қарастыру үшін біз пәнаралық фактор ретінде топ және ковариат ретінде алдын ала тестілеу ұпайларымен кейінгі тесттің құралдары үшін ковариантты талдауды статистикалық саралау жүргізу арқылы ережелерді ұсындық. Алдын ала және кейінгі тестілеу ұпайлары арасындағы корреляция маңызды, бірақ статистикалық саралау тесттен кейінгі ұпайлардың топ арасындағы маңызды әсерін көрсетті. Қолдану алдында статистикалық саралау жүргізуге арналған болжамдардың орындалғаны, үлгілердің тәуелсіздігі, қалдықтардың қалыпты таралуы және қалдық дисперсияларының біртектілігі тексерілді. Жүктеменің әрбір түрі үшін маңызды топтық айырмашылықтарды анықтау үшін әрбір ішкі шкалаға тәуелсіз үлгілер сынағы қолданылды. Ішкі когнитивтік жүктеме бойынша оқушыларда айтарлықтай айырмашылықтар байқалды. Дегенмен, толықтырылған шынайылық жағдайы үшін айтарлықтай оқушыларда жоғарғы сыртқы когнитивтік жүктеме байқалды. Екінші кестеде балл қою процедурасына сәйкес қолайлылық шкаласы бойынша топқа тәуелді ұпайлар көрсетілген. Тәуелсіз үлгілер тесті екі топ арасындағы айырмашылықтың маңыздылығын анықтады. Уақытша сабақтастығына байланысты сан алуан сыртқы көріністер өңдеудің өзіне тән күрделілігі әлі қарастырылмады. Бұдан басқа, сан алуан сыртқы көріністер контекстік қабаттасуын артықшылық принциптерінен ажырату керек болды. Мультимедиялық зерттеулер көбінесе 2D визуализацияларына назар аударады, неғұрлым күрделі бейнелеу формаларын және жоғарырақ ретті визуалды дисплейлерді елемейді. Біздің нәтижелерімізден бұрынғы алынған нәтижелерді 3D мазмұнына жалпылауға болатыны анық. Мультимедиялық оқу материалдары ретінде 3D визуализациясының сипаттамалары қосымша зерттеулерді қажет етеді. Сонымен қатар, теориялық болжамдар жалпы нәтижеге емес, оқу процесінің егжей-тегжейлеріне көбірек назар аударуы керек. Әсіресе, ғылыми зертханалық тәжірибелер сияқты көп деңгейлі оқыту үдерісі жағдайында теорияға негізделген жобалау үрдісін неғұрлым егжей-тегжейлі пайдалану оқу өзгерістерінің әсерін дәлірек болжауға көмектеседі (5-кесте).

5 - к е с т е

Зерттеуден кейінгі сауалнама сұрақтарының нәтижесі

№	Сауалнама сұрағы	Дәстүрлі тобының нәтижесі	AR топтың нәтижесі
1	Зертханалық тәжірибеде қарастырылған тақырып өте күрделі болды	5	9
2	Зертханалық тәжірибеде қарастырылған тәжірибелік әрекеттер өте күрделі деп саналатын формулаларды қамтыды	3	8
3	Зертханалық тәжірибеде қарастырылған әрекеттер өте күрделі деп қабылдаған ұғымдар мен анықтамаларды қамтыды	4	9
4	Зертханалық тәжірибе барысында нұсқаулықтар мен түсініктемелер түсініксіздеу болды	5	9
5	Зертханалық тәжірибеде нұсқаулықтар мен түсініктемелер оқу тұрғысынан тиімсіз болды	6	9
6	Зертханалық тәжірибеде нұсқаулықтар мен түсініктемелер түсініксіз тілде жазылған болып шықты	5	7
7	Зертханалық тәжірибе менің өтілген тақырыпты түсінуімді шынымен жақсартты	4	9
8	Зертханалық тәжірибе менің статистика туралы білімім мен түсінігімді шыңдады	3	8
9	Зертханалық тәжірибедегі әрекет менің қарастырылған формулалар туралы түсінігімді шынымен жақсартты	3	9
10	Зертханалық тәжірибедегі іс-шара менің ұғымдар мен анықтамалар туралы түсінігімді шын мәнінде жақсартты	5	9
	Жалпы ұпай саны	43	86

Біздің толықтырылған шынайылыққа байланысты зерттеуімізді іске асыру үшін өлшеу деректерін ұялы телефондағы толықтырылған шынайылық қолданбасына жіберу үшін деректер ағыны блогын орнатуды қоспағанда, физика пәніндегі дәстүрлі әдіспен жасалатын тәжірибені айтарлықтай өзгерту қажет болды. Бұл өзгерісті орнату арқылы зертханалық жұмыстың жұмыс үрдісіне оңай біріктірілетін және ешбір зақымсыз және бір сағаттан астам уақытқа шыдайтын батареямен жұмыс уақытымен бірнеше оқу тоқсанына белсенді пайдалануға шыдайтын сенімді оқу сценарийі жасалды. Оқушылар бірдей виртуалды мазмұнды көре алды және орнатуды басқару немесе хаттамалары үшін жазбалар алып отырды. Сонымен қатар, оқушылар ұялы телефондағы толықтырылған шынайылық қолданбасының астына көрнекі құралдарды пайдаланды. Оқушылардың көру аймағына сәйкес келетіндей кеңірек болуы мүмкін ұялы телефондағы толықтырылған шынайылық қолданбасының көру ауқымы және толықтырылған шынайылық құрылғыларының жоғары сапалы бейне болу маңызды [27]. Тәжірибелік жобаға байланысты толық кездейсоқтыққа қол жеткізу мүмкін болды, ал іріктеу алдын ала сынақ ұпайларына қатысты теңгерімді болды. Нұсқау алдында және одан кейін тұжырымдамалық білімді тексеруде зерттеу тобы жоғары балл жинады. Әсіресе, алдын ала тестілеудің жоғары ұпайлары мен топтар арасындағы айырмашылық қолданбалы тест құралының тұжырымдамалық білімдегі шағын өзгерістерді өлшеуге сезімталдығын шектеген болуы мүмкін. Сонымен қатар, жалпы білім сынағы оқу үдерісіндегі егжей-тегжейлі оқушыларға әсер етуді анықтауға мүмкіндік берді. Орындау кезеңіне шектеу сынақ құралдарының ауқымынан ұзақ мерзімді оқыту әсерлерін алып тастауы мүмкін. Демек, бейімделген визуализациялардың өлшем деректерін түсіндіруге әсерін жоққа шығаруға болмайды. Біз оқушылардың сан алуан сыртқы көріністермен өзара әрекеттесуін егжей-тегжейлі бағаладық. Олар өкілдіктерді көрсете немесе жасыра алғандықтан, оларды декодтау мүмкін. Сондықтан оқушылардың оқуға әсері шектеулі болуы мүмкін. Осыған байланысты болашақ осындай жұмыстарды жалғастырып зерттеу керек [28]. Бүкіл бес апталық зертханалық тәжірибе барысында оқушылар оқу әсерлері ұсынылған нәтижелермен қалай әрекеттесуді анықтауда толықтырылған шынайылық көмегімен бір ғана тәжірибелік жұмыс жасады. Зерттеулерге сәйкес, мұндай жаңалық әсерлері ең жоғары әсер мөлшеріне ие болып саналады (5-сурет).
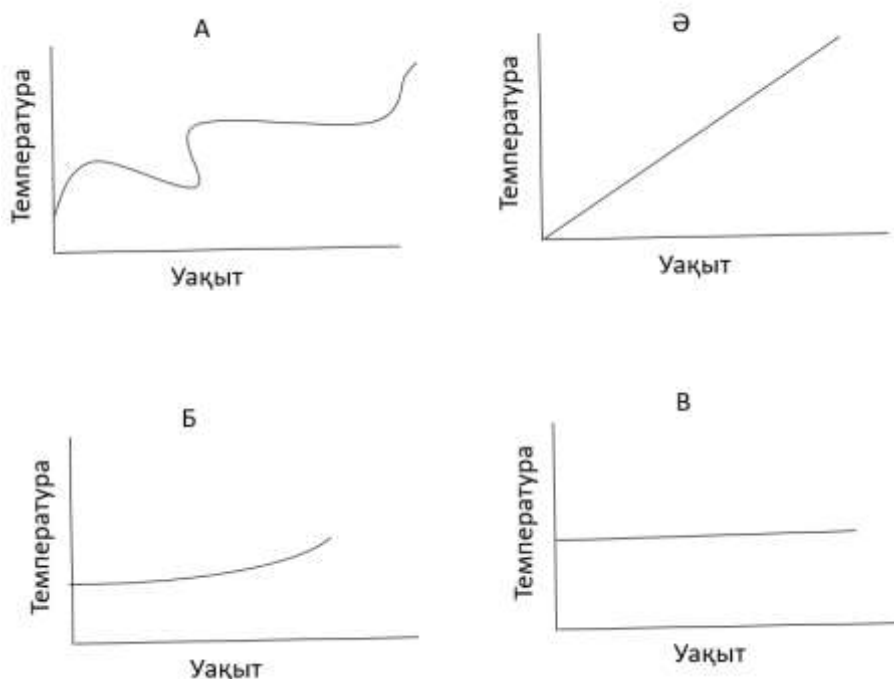
5-сурет. Оқушыларға тәжірибе барысында алынған білімдерін
тексеру барысында ұсынылған жылудың өзгеру барысы тестісі

Зерттеудің мақсаты оқушылардың оқу өнімділігі мен когнитивті жүктемесіне қатысты толықтырылған шынайылық көмегімен бейімделумен орта мектептегі зертханалық тәжірибенің жұмыс процесін дәстүрлі әдіспен салыстыру болды. Екі жағдайда да өлшем деректерінің бірдей бейнелеу

нысандары болды, бірақ дәстүрлі әдіс қолданған топ үшін олар сабақтастық принциптеріне және сан алуан сыртқы көріністерге қойылатын талаптарға сәйкес қайта реттелді. Екінші кестеде біздің алған эмпирикалық тұжырымдарды қорытындылайды. Оқушылардың бұрынғы білімін бақылаған соң, дәстүрлі әдіспен оқу тобына қарап шартпен салыстырғанда тұжырымдамалық білім бойынша айтарлықтай жоғары оқу табысы анықталды. Бұл тұжырымдар біздің гипотезамызға және алдын ала нәтижелерге, сондай-ақ толықтырылған шынайылық емес оқытуға қарағанда толықтырылған шынайылық оқытудың артықшылықтарын және кеңістіктік интеграцияланған дизайнның артықшылығын дәлелдеп, зерттеуге тура келді (6-сурет).
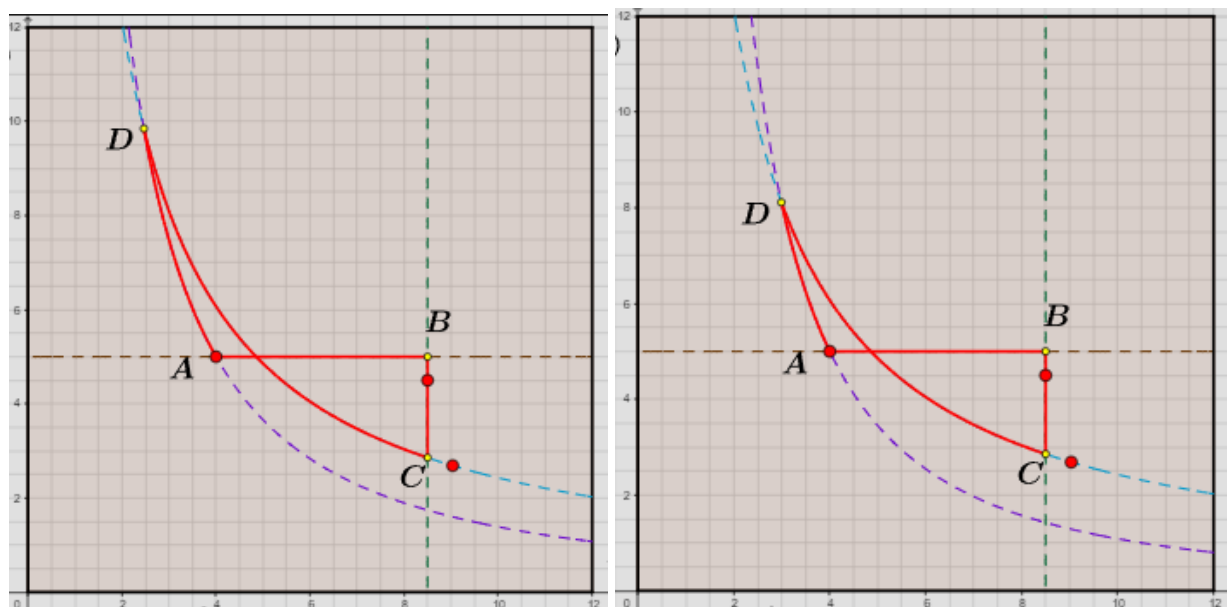
6-сурет. Оқушыларға тәжірибе барысында жасалған жылудың өзгеру барысы

Зерттеуді жүргізу кезеңінде екі топ үшін де елеулі топ ішілік табыстар оқушылардың жаңа білім құрылымдарын өлшеу деректерін терең талдағаннан кейін ғана игеретіндігінің белгісі болуы мүмкін. Олар визуализациялар ұсынылғанымен, ғылыми теориялық негіз бен интерпретация арасындағы өзара әрекеттестік талдаулар кезіндегі бақылаулар осы контексте тұжырымдамалы білімді меңгеру үшін шешуші нүкте болуы мүмкін. Бұған қоса, алдын ала тестілеу ұпайларындағы топтар арасындағы үлкен айырмашылық ұтыс ұпайларын түсіндіруді қиындатқанын есте ұстаған жөн. Ішкі когнитивтік жүктемеге қатысты топтарда айтарлықтай айырмашылықтар байқалды. Шындығында, екі жағдайда да оқушылар үш бейнелеу формасының күрделілігін бірдей ақыл-ой күшімен өңдей алды. Атап айтқанда, олардың толықтырылған шынайылықты сан алуан сыртқы көріністер ретінде пайдалану ұсынылған мазмұнның жоғары күрделілігіне әкелді. Субъективті рейтингке сүйене отырып, біз мұны визуализациялардың өзара тәуелділігін өңдеу үшін оқушылардың бұрынғы білімдерін тексеру үшін нақты тест тағайындай алдық. Әрбір өкілдік пішінді көрсету және жасыру мүмкіндігі оқушыларды шамадан тыс жүктеме жағдайларын болдырмау үшін жүктемені азайтатын, өзін-өзі басқаратын сегменттеу процедураларына тартуы мүмкін. Субъективті жүктеме рейтингінің нәтижелері бойынша толықтырылған шынайылық жағдайы үшін сыртқы өңдеу айтарлықтай төмендеді. Зерттеулерге сәйкес, ішкі когнитивтік жүктемелердегі айтарлықтай өзгерістер екі топтың оқуға тән талапқа қатысты салыстырмалы болып қалатынын көрсетеді, бұл субъективті жүктеме рейтингтері контексінде сыртқы когнитивтік жүктеме үшін әртүрлі нәтижелерді салыстырудың қажетті шарты болып табылады. Сонымен қатар, тәжірибенің қолайлылығы үшін тең рейтинг технологияны өңдеуге байланысты қандай да бір топқа тән проблемаларды көрсетпейді. Демек, біздің қорытындыларымызға жұмыс процесіндегі бейімделулер немесе сан алуан сыртқы көріністер ретінде сәйкес визуализациялар арасындағы өзара тәуелділікке байланысты ықтимал қосымша ішкі когнитивтік жүктеме әсер еткен жоқ. Екі топтың да зертхана қолайлылығын үздік деп сипаттауға болады, бұл рейтинг деңгейінің ең жақсы классификациясы. Бұл тең рейтингтер хабарланғандай, екі топ арасындағы қолайлылық айырмашылықтарын қарастырады. Атап айтқанда, біздің нәтижелеріміз әзірлеген толықтырылған шынайылық жағдайының рейтингтеріне ұқсас және нәтижелерінен жоғары болды. Екеуі де толықтырылған шынайылық оқыту ортасы туралы

кері байланыс алу үшін бірдей қолайлылық шкаласын қолданды, бірақ зертханалық оқыту сценарий-лері кезінде оқушылар әртүрлі физика пәнінің тақырыптарын өздігінен зерттеді. Біздің зерттеуіміздің нәтижелері орта мектептегі контексінде біріктірілген нұсқаулықты жобалау принциптерін эмпирика-лық зерттеуге ықпал етеді. Орындалған бейнелеу нысандары бірдей өлшенетін шаманы визуалды түрде көрсетті, бірақ әртүрлі функцияларды қарастырады. Біріншіден, графикте температураның таралуы және тәжірибенің ағымдағы жағдайы туралы толық ақпарат бар және кейінгі талдаулар үшін негіз болды. Күрделілігіне байланысты ол қиын декодтау процестерін талап еткен болуы мүмкін. Екіншіден, жалған түсті кескіндерді пайдалану мақсатты сандағы өзгерістерді жылдам және қарапайым сапалы бақылауға мүмкіндік берді және орнату калибрлеуі үшін қолдау көрсетілетін ақауларды жою процес-тері тез орындалды. Үшіншіден, сандық мәндер, барлық қол жетімді деректер нүктелерінің арнайы таңдауы ретінде, температура мәндерінің максималды диапазонын көрсету арқылы бұл бақылау про-цесін толықтырды (7-сурет).
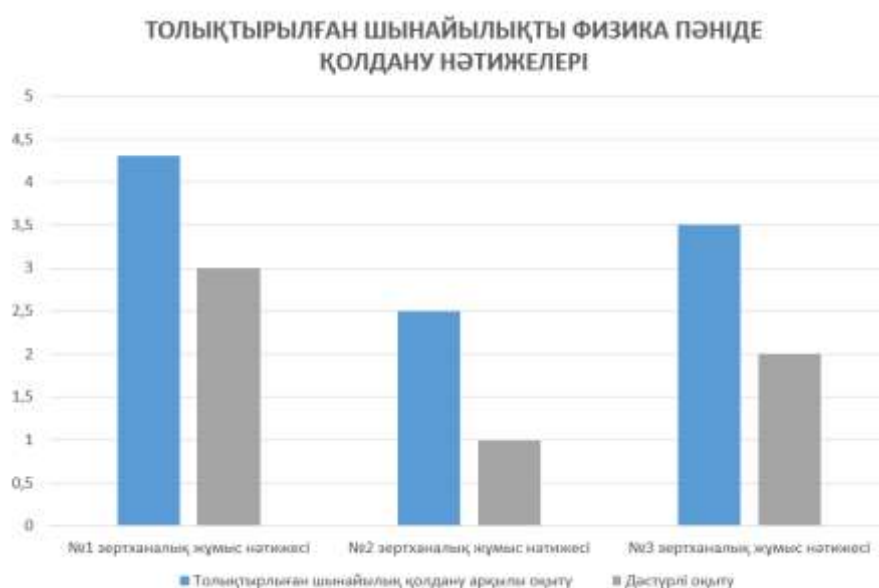
7-сурет. Оқушыларға тәжірибе барысында жасалған жылудың өзгеру барысы

Демек, бұл сан алуан сыртқы көріністер оқыту таксономиясының функцияларын толықтыратын тәсілдер ұсына отырып, әртүрлі дәлдік деңгейлерін қамтамасыз ету және ғылыми жүргізудің әртүрлі аспектілерін қарастырып, сапалы бақылау мен сандық визуализацияны салыстыру мүмкіндігін беру арқылы ресми түрде орындады. Сонымен қатар, уақытша сабақтастық принципі мен сан алуан сыртқы көріністердің талаптары өзара байланысты болатыны байқалды. Ақпарат көздеріне сәйкес бір уақытта тәжірибе барысында оқушыларға ұсыну олардың өзара тәуелділіктерін тануға және өңдеуге мүмкіндік берді (8-сурет).

8-сурет. Оқушылардың тәжірибе барысында алынған білімдерін тексеру нәтижелері

Қазақстан толықтырылған шынайылық технологиясы бар мектеп оқулықтарын шығарудан артта қалып қоюда. Тіпті көрші Ресейде де физика пәнінен толықтырылған шынайылық технологиясы кіріс-тірілген физика оқулықтары бар болып шықты. Бүкіл жүргізілген әдістемелер https://www.geogebra.org/u/beckemn парақшасында тегін қолжетімді. Парақшада барлық зертханалық жұмыстар толықтырылған шынайылықпен жүргізіледі (9-сурет).
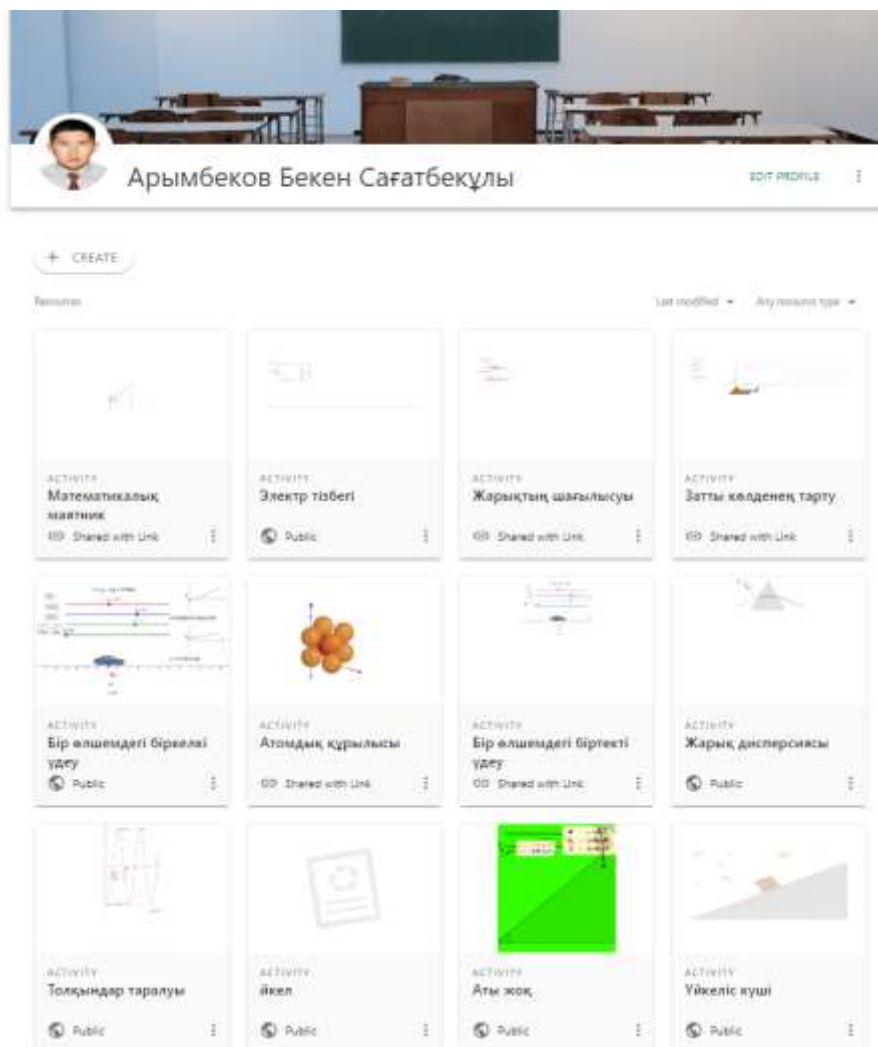
9-сурет. Авторлардың тәжірибе барысында жасаған әдістемелерінің сұлбасы

Қорытынды

Қорытындылай келе, жылу өткізгіштік тәжірибесін жүргізу мен нақты температуралық режимді бақылау екі бөлек бөлмеде болғандықтан арасында уақыт кідірісі пайда болады. Сондай-ақ, деректерді визуализациялау мен зертхана тәжірибесі екі бөлмеде орын алуына байланысты оқушылар өте ыңғай-сыз жағдайға тап келді. Біз бұл арақашықтық пен уақыт бойынша алшақтықты толықтырылған шынай-лық көмегімен жоюға болатынын тексереміз. Зертханалық жұмысты кеңістіктік пен уақытқа сәйкес өлшейтін жылу деректерін ұсыну бойынша зертханалық тәжірибені өткізу қағидаларын анықтаймыз. Бұл анықталған зертхана қағидалары оқыту компоненттерін тәжірибе барысында көрсету арқылы жаңа білімді түсіну үшін біріктірілген. Кеңістіктегі іргелестік қағидасына байланысты тәжірибенің барлық құрамдас бөліктері кеңістікте бірге ұсынылуын талап ете отырып, оқушылардың зейінін іздену про-цестеріне бағыттау үшін бір-бірінің қасында мағыналы оқуға өзара ықпал етеді.

Телефон қосымшасындағы қолданба негізіндегі толықтырылған шынайылық жүйесін қолдана отырып, біз дәстүрлі әдіспен зертханадағы білім беру тәсілінде біріктірілген презентация бейнесін ви-зуализациялау арқылы дер кезінде көрсетуді бір уақытта іске асырдық. Толықтырылған шынайылық жүйелер артықшылықтары мектептегі физика сабағындағы зертханалық білім беру тәсіліне қатысты

әртүрлі зерттеулерде көрсетілгендей оқу әсерін күшейтетіндігі толығымен расталды. Біз зертхана барысында уақыт үнемдеуден үлкен жетістікке қол жеткіздік. Жалпы айтқанда, толықтырылған шынайылықты қолдану оқу процестерінің ең маңызды сәттерінде пайдалы екенін түсіндік. Біздің зерттеу барысында алған нәтижелерімізді нақтылау үшін осындай зертханалық жұмыстарды басқа да зерттеушілер көптеп орындағаны жөн болар еді. Физиканың барлық тақырыптарын оқу жағдайларына байланысты орта мектептегі білім беру үрдісі толығымен зерттелді. Бұл үдерісте біз тұжырымдаманы толықтыру үшін дәстүрлі тәсіл арқылы тәжірибе алды тестімен білім сынағын алдық. Зерттеу топтар арасында жоғары сезімталдық деңгейінің айырмашылықтарын көрсетті. Оны ары қарай зерттеп тың ақпарат алуға қол жеткізу үшін осы тәжірибелерді жалғастыруды көздеп отырмыз. Оқушылардың өзара әрекеттесуін зерттеу үшін мобильді телефон арқылы көзқарасты бақылауды қосуға болар еді. Көбірек зерттеу нәтижелерін алу мақсатында толықтырылған шынайылық қолдану барысында оқушылардың ынта әсерлерін қосымша тексеру үшін көзқарашығын бақылағыш құрылғысын қолданса да болар еді. Демек, біз оқушылардың ынта сияқты әсерлі айнымалыларын қарастырып, білім берудегі когнитивті әсер теориясының болжамдар зерттеуінде сынадық. Сонымен қатар, оқушылар арасындағы ынтымақтастық ортақ зерттеуде сеанстарға қосылған оқушылар әсер етуі мүмкін айнымалыны әлі де болса көбірек егжей-тегжейлі зерттеу жұмыстарын қажет етеді.

Бұл зерттеу теориялық мазмұнды қамтитын зертхана нұсқаулығын, тапсырма сипаттамасын, деректер парақшаларын, өлшеу құралдарынан арнайы қауіпсіздік ережелерін қолданды. Зерттеу барысында оқушыларға белгі беруді немесе әдейі кенеттен шақыруды бақылау оқушылардың қалауы бойынша оқушылар әрекеттерін немесе белгілі бір күйді танумен оқушылардың назарын негізгі білім нүктелеріне аудару тәжірибе арқылы бақыланды. Осы зерттеу әдістерінің бұрынғы зерттеулерден айырмашылығы білім беруде қоршаған ортаның әсерлерін біріктірілген түрде қарастырады. Бұл сайып келгенде, қатысушылардың жалпы кеңістіктік қабілеттерін, сондай-ақ олардың 3D визуализациясын қабылдауы мен когнитивті өңдеуін ескере отырып зерттеуге әкеледі. Бірнеше бейнелеу формаларын оқу үрдісінің қолжетімділігін арттыру үшін оқуға арналған әмбебап идеяларын біріктіруге болатынын анықтадық. Біз пайдаланған ұялы телефондағы толықтырылған шынайылық қолданбасы қолжетімді дауыспен басқару арқылы қолданды. Визуализацияның жетіспеушілігі және оқушылардың жеке қажеттіліктерін құрметтеу сияқты көрнекі мәселелерді шешу үшін оқушыларға тестілеу схемасын өзгертуге мүмкіндік беретін ашылмалы мәзірді біріктіруді қарастырдық.

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Б.С. Арымбеков, К.М. Туреханова, К. Федус

Методика использования интерактивной визуализации через дополненную реальность в обучении физике

Среда обучения, основанная на дополненной реальности (AR), не только дает преподавателям новые способы представления учебных материалов, но и позволяет учащимся самостоятельно взаимодействовать с материалом. Предыдущие исследования показали, что AR имеет много преимуществ в образовании, однако мало кто уделял внимание механизмам исследовательской мотивации, таким как влияние AR на самоэффективность студентов и концепции обучения. В рамках этого исследования было разработано приложение для обучения термодинамике на основе AR «GeoGebra AR» для изучения влияния технологии AR на самоэффективность учащихся и концепцию обучения физике. Цель исследования состояла в том, чтобы изучить влияние учебной деятельности с поддержкой дополненной реальности на академическую успеваемость и мотивацию студентов к изучению физики, а также их отношение к приложениям AR. Исследование было сосредоточено на разделе «Термодинамика» школьных курсов физики и использовало квазиэкспериментальный метод исследования для контроля внутренней и внешней достоверности. В исследовании приняли участие 375 учащихся двух разных школ, случайным образом были сформированы две экспериментальные и две контрольные группы. Первая экспериментальная группа и первая контрольная группа завершили предварительный тест и посттестовую оценку, тогда как вторая экспериментальная группа и вторая контрольная группа завершили только посттест. В течение девяти недель экспериментальные группы обучались с использованием мобильных AR-приложений, а контрольные группы выполняли запланированные действия в учебной программе. Инструменты сбора данных включали шкалу «Тест успеваемости по физике» и шкалу «Мотивация студентов к изучению физики». Новизна исследования заключается в сравнении и сопоставлении виртуальной лабораторной среды обучения со средой обучения дополненной реальности. Результаты исследования показали, что обучение с использованием AR-приложений оказало значительное влияние на академические достижения учащихся в изучении физики. Это показывает, что обучение с использованием AR-приложений является эффективным образовательным подходом для повышения знаний по физике учащихся 11 классов. Хотя дополненная реальность и виртуальные лаборатории являются инновационными технологиями, которые могут улучшить качество обучения, экспериментальные исследования показывают, что дополненная реальность более эффективна, чем виртуальные лаборатории, в развитии навыков критического мышления учащихся на уроках физики в средней школе.

Ключевые слова: образование, физика, дополненная реальность, лабораторный опыт, успеваемость, навык обучения, познавательная нагрузка, организация обучения, формы обучения, образовательный процесс.

B.S. Arymbekov, K.M. Turekhanova, K. Fedus

Methodology of using interactive visualization through augmented reality in teaching physics

A learning environment based on augmented reality (AR) not only gives teachers new ways to present learning materials, but also allows students to interact with the material on their own. Previous studies have shown that AR has many benefits in education; however, few have focused on the mechanisms behind research motivation, such as the effects of AR on students' self-efficacy and learning concepts. This study developed an AR-based thermodynamics teaching application "GeoGebra AR" to investigate the effect of AR technology on students' self-efficacy and physics learning concept. The aim of the study was to investigate the effects of augmented reality-supported learning activities on students' academic performance and motivation to learn physics and their attitudes toward AR applications. The study focused on the "Thermodynamics" section of high school physics courses and used a quasi-experimental research method to control for internal and external validity. 375 students from two different schools participated in the study, two experimental and two control groups were randomly assigned. The first experimental group and the first control group completed the pre-test and the post-test assessment, while the second experimental group and the second control group completed only the post-test. During a nine-week period, the experimental groups were trained using mobile AR applications, while the control groups performed the planned activities in the curriculum. The data collection tools included the "Physics Achievement Test" and the "Students' Motivation to Study Physics" scale. The novelty of the study is to compare and contrast virtual laboratory learning environments with augmented reality learning environments. The results of the study showed that teaching with AR applications had a significant effect on students' academic achievement in learning physics. This shows that teaching with AR applications is an effective educational approach to increase the physics knowledge of 11th grade students. Although augmented reality and virtual labs are innovative technologies that have the potential to enhance the learning experience, experimental research shows that augmented reality is more effective than virtual labs in developing students' critical thinking skills in high school physics classes.

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Formation of university teaching staff's readiness towards smart technologies usage

Effective overcoming of difficulties with updating hardware and increasing the readiness of teachers to use smart-technologies in educational activities, related to the rapid development of computer technologies, possibility of introducing an auxiliary author's software product, which would provide planning, systematization, and structuring of teachers' activities on the use of smart-technologies in the educational process in the conditions of blended learning. The main purpose of this study is to develop and test the effectiveness of the software product "SMART Assistant", which would contribute to the formation of readiness of teaching staff to effectively use smart technologies in educational activities. The author's software product "SMART Assistant", which organizes the personal educational environment of a teacher in accordance with the identified stages of professional activity of a teacher — design, implementation, analysis, optimizing the interaction of participants of the educational process and systematizing the existing range of Smart-services and tools, was used as a tool to form the readiness of teaching staff to use Smart-technologies. The novelty of this study is to identify the impact of the author's software product "SMART Assistant", introduced in the educational process at the Faculty of Foreign Language of E.A. Buketov Karaganda University, on the level of readiness of teaching staff to the effective use of smart technologies. The results of experimental work on the implementation of the software product "SMART Assistant" confirmed the hypothesis of the study, indicating that its application in the educational process leads to an increase in the level of teachers' readiness for educational activities with the use of smart technologies in the aspect of the identified components of readiness: motivational, cognitive, activity.

Key words: smart technologies, digital technologies, smart education, online services, blended learning, teacher readiness, software product "SMART Assistant", personal digital educational environment of a teacher.

Introduction

The modern era of information requires the adoption and integration of smart technologies in education as an important educational trend. However, successful implementation of smart technologies requires modern ICT tools, adequate funding, and a cultural shift in attitudes towards learning with the latest digital and smart technologies [1]. Moreover, the use of smart technologies should be implemented in a way that takes into account the unique cognitive characteristics and skills of learners. The use of smart technology learning can solve this problem by adapting to learners' learning factors and strategies, thereby enhancing learning efficiency and achieving the benefits of e-learning such as interaction, flexibility, and experience [2].

The application of smart technologies should be based on didactically sound educational methodologies aimed at providing a customizable and pedagogically sound learning experience. Smart technologies in learning are evidence of an evolving educational environment where these technologies play a key role in shaping the ways in which knowledge is transmitted and acquired. The success of these classrooms depends on thoughtful integration of technologies that meet the diverse needs and learning styles of learners.

Smart technologies in educational environment are increasingly integrating to improve the quality of learning and address various pedagogical challenges. The implementation of these technologies varies depending on the context and the goals pursued by educational institutions. When talking about the introduction of smart technologies into the educational process, we are talking not only about modern digital services and tools, but also about the creation of entire complexes of smart classes and smart educational environments. In higher education, Smart Educational Environments use a number of tools and procedures to improve learning efficiency, although they often lack mechanisms for analyzing students' knowledge and cognitive characteristics [3].

Besides, "smart" classes, as a kind of smart educational environment, provide an opportunity for students to use modern mobile and digital technologies in order to transform learning activities towards greater adaptability and flexibility of individual educational trajectories with the possibility of learning in the format of "self-paced" (individual pace of passing the curriculum or its parts), as well as to provide greater access to sources of educational information, including through Internet connection [4]. In underserved regions, the sustainable integration of technologies in smart classrooms is influenced by teachers' perceptions of

technology integration, their efforts in the field of educational practices, and the observed positive changes among students [4].

Indeed, we can observe that the implementation of smart technologies in educational environments is multifaceted and aims to create more engaging, effective, and personalized learning experiences. The success of these implementations depends on the thoughtful integration of smart technologies, consideration of the needs of learners and teachers, and the adaptability of educational practices for the effective use of these technologies [4–7].

Smart technologies are currently associated with the latest generation of digital technologies and digital learning equipment with elements of "smart" control. It is important to note that smart technologies are not only smart equipment, such as interactive panels, interactive whiteboards, and modern digital information transfer devices, including through sound and remote control. Smart-technologies are also such information resources, tools and services, which, based on automated processes or artificial intelligence, are developed or can be used to work in the digital educational environment: services to ensure communication and information interaction, organization of joint work in the electronic environment, feedback, development of digital educational content, including educational video lectures, video clips, websites, web-pages, interactive assignments, exercises, etc. Smart technologies also provide the opportunity to use them in the digital educational environment. Smart technologies allow expanding the scope of educational space and updating its content by including them in the design of digital educational environment for both teachers and students. Smart technologies have special characteristics (integration, multiple functions, dynamism), various components (interactive whiteboard, document camera, knowledge control system, 3D visualization, cloud software and game task templates) and important functions (creating an innovative model of the educational process, developing learning skills with different information sources, optimizing learning, expanding the educational environment).

To effectively overcome the difficulties with hardware upgrades and professional development of teachers associated with the rapid development of computer technologies, using operational training of teachers in new knowledge and skills in the use of smart technologies for educational purposes is possible. This training can be conducted through various forms of additional professional education, such as online and offline training, distributed or concentrated training.

The analysis of scientific literature has shown that until now, several issues related to the realization of pedagogical opportunities of smart technologies have not been sufficiently studied. In particular, the issues of training teachers to use digital educational resources, interactive whiteboard and other modern smart technologies in the learning process have not been investigated. However, these issues play an important role in the work of a modern teacher. Due to the insufficient development of didactic conditions for the effective use of smart technologies in the learning process, teachers face difficulties in their application at the stages of planning, implementation, and evaluation of learning outcomes. As a result, pedagogical readiness to use and fully realize the didactic possibilities of smart technologies in the learning process remains insufficient. We are not talking about the development of teachers' readiness to use smart technologies "from zero" positions, but rather about the development and enrichment of already existing experience, which is a good basis for adapting to new requirements. We mean that teachers already have certain knowledge and skills in the field of digital technologies, acquired as part of professional or additional education. This experience is the basis on which to develop teachers' readiness to use smart technologies, considering the new requirements.

In the scientific literature we can identify different interpretations of the concept of "readiness" of a teacher. Thus, according to A.B. Orlov, "readiness for activity acts as a combination of ability and aspiration for independent mastering of knowledge" [8]; V.A. Slastenin [9], V.V. Serikov [10] put forward the position of "readiness" of the teacher [8]; V.A. Slastenin [9], V.V. Serikov [10] put forward the position that "theoretical and practical readiness of a teacher to carry out pedagogical activities also determine his professional competence. The ability to perform independent activity includes the content (basic knowledge) and technical (methods of activity) sides of independence, and the desire for independent activity reflects the motivational side".

In the context of the present study, we define a teacher's readiness to implement smart technologies as an integrative quality of his personality. This readiness is manifested in the constant motivation to apply smart technologies in the educational process, in the possession of knowledge about what they consist of, how they are organized and how they function, as well as in the ability and skill to use these technologies to achieve educational and developmental goals. The development of motivational, cognitive and activity components of

readiness is reflected in the corresponding criteria for the formation of this property: motivational, cognitive (or knowledge) and operational (or activity).

The main purpose of this study is to develop and test the effectiveness of a software product that would contribute to the formation of readiness of pedagogical staff to the effective use of smart technologies in educational activities.

The object of this study is the readiness of teaching staff educators to the effective use of smart technologies in educational activities, and the subject is the impact of the software product "SMART Assistant" on the level of formation of readiness of teaching staff to the effective use of smart technologies.

As a hypothesis of the study, we put forward the position that the effective formation of teachers' readiness for the effective use of smart technologies in educational activities is possible with the introduction of an auxiliary software product that would provide planning, systematization, and structuring of teachers' activities on the use of smart technologies in the educational process in the conditions of blended learning. This product is the author's development "SMART Assistant", introduced in the educational process at the Faculty of Foreign Languages of Karaganda Buketov University.

Methods and materials

As an experimental group of teachers there were 38 teachers of the Faculty of Foreign Languages of Karaganda Buketov University who participated in the approbation of the software product "SMART Assistant" during the fall semester of the 2023 academic year. The use of the product was carried out in a blended learning format, including the work of students with the use of remote access to learning materials.

The authorized software product "SMART Assistant" was a tool to form the readiness of teaching staff to effectively use smart technologies in educational activities in the university environment. The purpose of the implementation of this software product is the organization of personal educational environment of a teacher in accordance with the identified stages of professional activity of a teacher — design, implementation, analysis, allowing to optimize the interaction of participants of the educational process, to structure and diversify the learning and cognitive activities of students through the implementation of the author's software product "SMART-Assistant" in the professional activity of the teacher and the specification and systematization of the essence of the "SMART-Assistant".

The authorized software product "SMART Assistant" is intended for wide use in the digital educational environment of higher education institution and acts as a structuring component of information and technical support for the design of personal digital environment of the teacher, optimizing his activity on the organization of learning and cognitive activity and learning interaction between the subjects of the educational environment, storage and transfer of digital educational content, diagnostics, correction, evaluation and control of students' learning achievements in the conditions of the educational process.

"SMART Assistant" is a website — an interactive constructor and organizer of educational content for the teacher. It is a tool that integrates ready-made solutions and existing online services for the most effective organization of educational content.

The software product "SMART Assistant" is built according to the stages of the teacher's activity:

- at the projecting stage of the teacher's activity the organization, storage, and transfer of educational content is provided considering the set learning objectives through the SMART Assistant Content Lab section.

- at the implementation stage the organization of independent work of students is carried out through the SMART Trainer Assistant section.

- at the analytical stage of teacher's activity, diagnostics and evaluation are carried out through the section SMART Tester Assistant.

Thus, "SMART Assistant" contains the following sections:

Smart Assistant Content Lab — the construction of thematic sections, which performs the role of an organizer of educational materials and thematic sections on the discipline (Fig. 1).
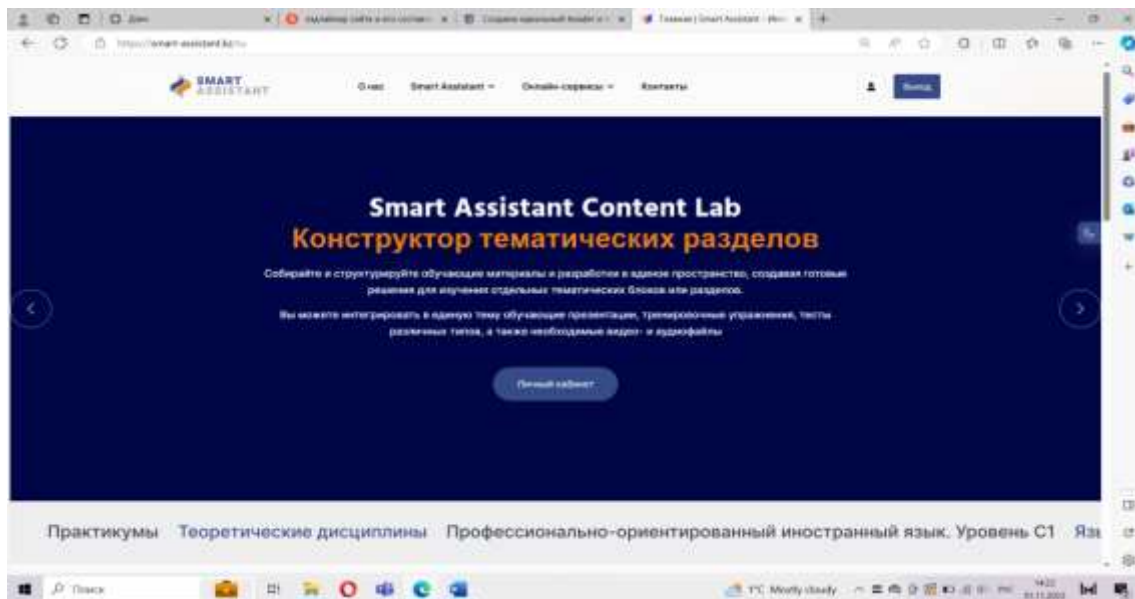
Figure 1. Interface of the Smart Assistant Content Lab designer

To create a topic, click the "Create Topic" command in the Smart Assistant Content Lab section. Then enter the topic name, select the appropriate category for the topic, and attach a photo and tags (optional).

After creating a topic, you can add existing learning materials from the Smart Trainer Assistant sections, tests from the Smart Tester Assistant section, as well as additional materials from your PC, such as presentations, documents, audio and video files, and links to external resources (via the "Add link" option). The builder allows you to collect and structure learning materials and developments into a single space, creating ready-made solutions for studying separate thematic blocks or sections. Using Smart Assistant Content Lab, a teacher can integrate educational presentations, training exercises, tests of various types, as well as necessary video and audio files into a single topic (Fig. 2).
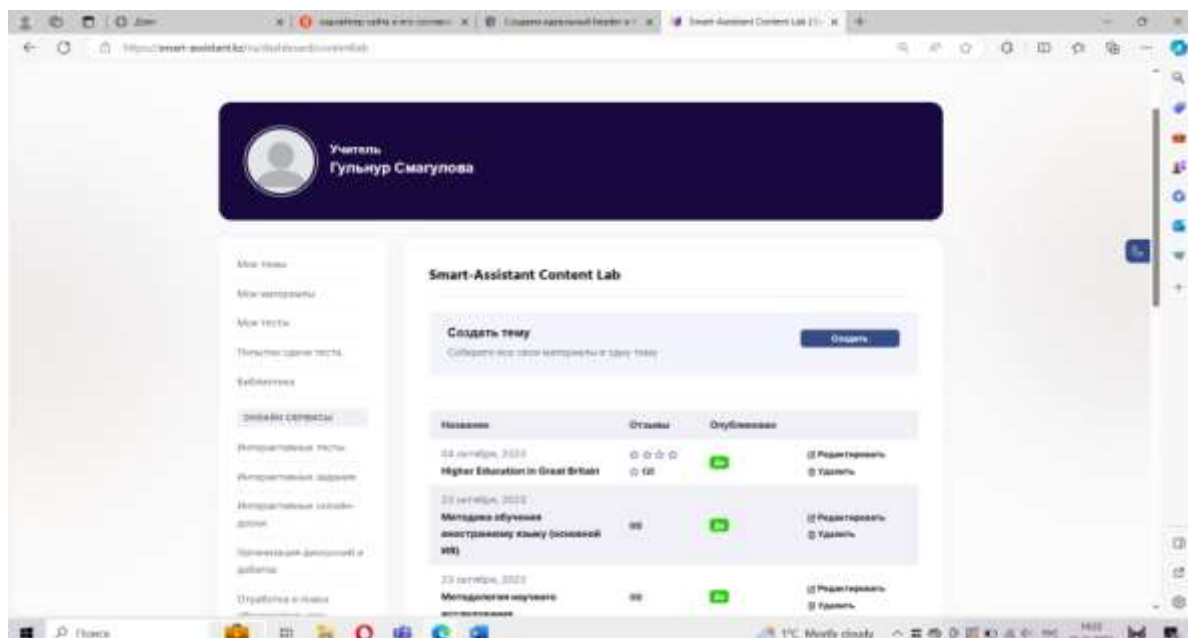
Figure 2. Adding a topic section in the Smart Assistant Content Lab designer.

Smart Trainer Assistant acts as a constructor of supporting and training learning materials and includes the content of "My Materials" sections in the personal cabinet. This section offers templates of ready-made presentations (slides) and templates of handout tasks. Templates are universal; to fill them with author's

content, you need to download the template to your PC, fill it with appropriate material and attach the ready-made development to the Smart Trainer Assistant section. The author's development will be automatically saved in the "My Materials" section. Author's presentations and exercises based on the proposed universal templates of slides and handouts can be added to the topic of your choice, thus creating a unique training thematic block (Fig. 3).
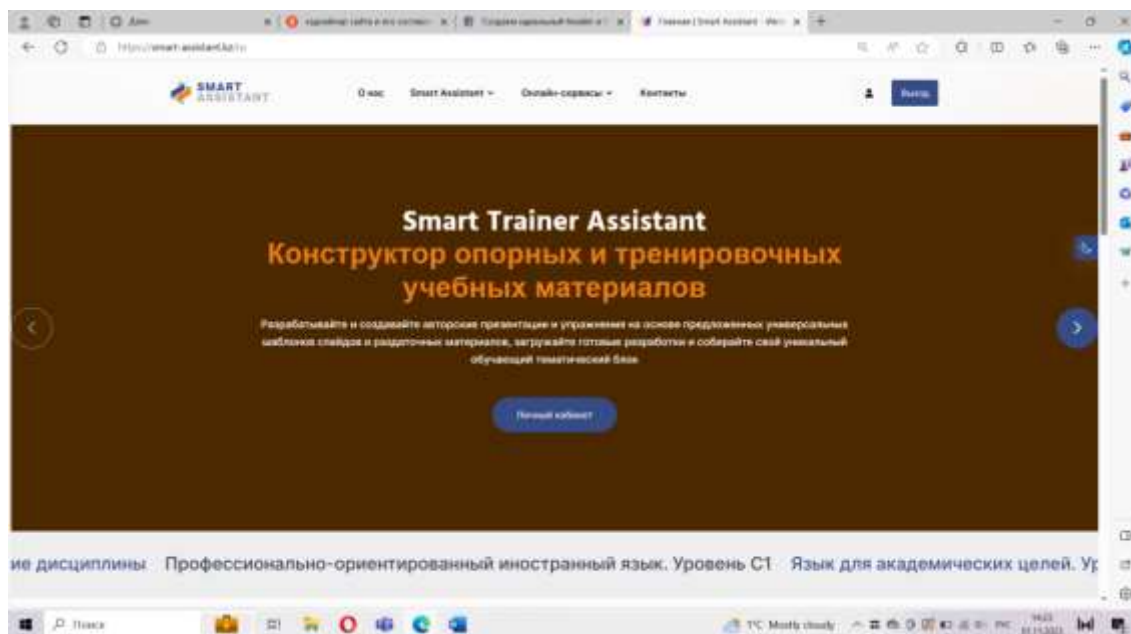
Figure 3. Interface of the Smart Trainer Assistant Designer

Smart Trainer Assistant allows the teacher to develop and create author's presentations and exercises based on the proposed universal templates of slides and handouts, download ready-made developments and assemble their own unique training thematic unit (Fig. 4).
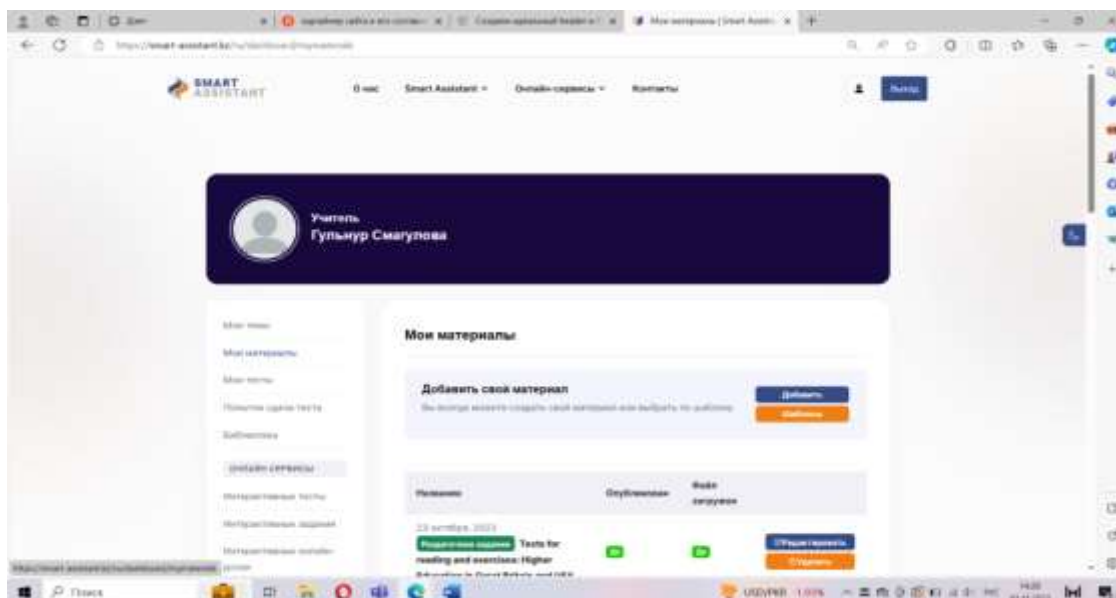
Figure 4. Adding Materials in the Smart Trainer Assistant Designer

Smart Tester Assistant is a constructor in which you can create up to 10 types of test tasks to form your own bank of assessment tasks using the suggested formats (Fig. 5).
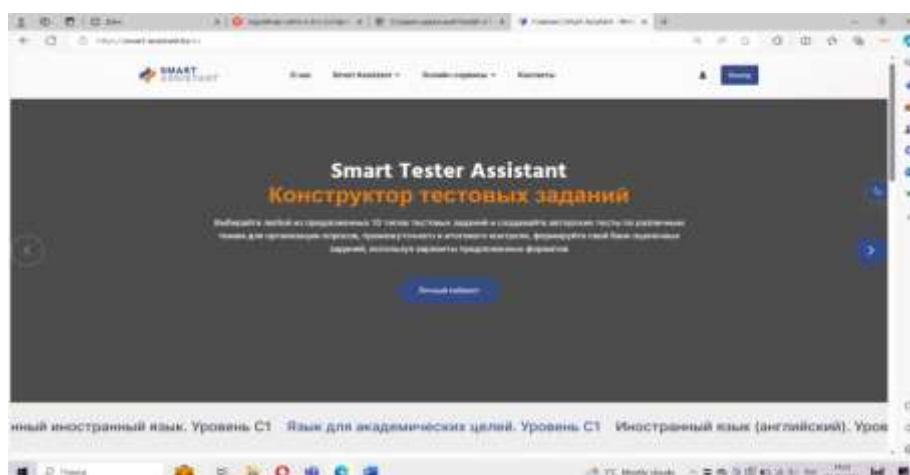
Figure 5. Interface of the Smart Tester Assistant Designer

Tests are automatically saved in the "My Tests" section and are available for adding to selected topics. Tests are interactive: students can take the test and familiarize themselves with the test results. The instructor will be notified when a student takes the test and receives the results (Fig. 6).
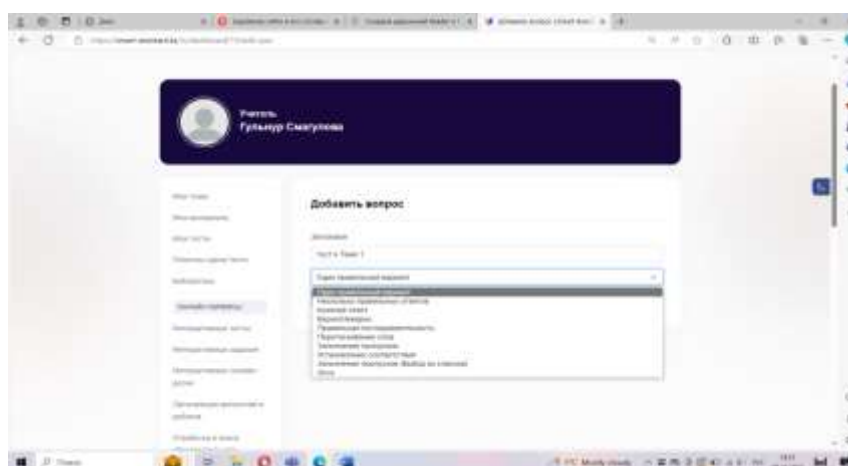
Figure 6. Adding tests in the Smart Tester Assistant designer

The builder offers the following types of test tasks: closed-type test with one correct answer choice; closed-type test with several correct answer choices; open-type test with one short answer choice; true/false test task; correct sequence task; open-type test task for filling in gaps; drag-and-drop words; matching; closed-type test task for filling in gaps by selecting an answer from a drop-down list; written test; and closed-type test task for filling in gaps by selecting an answer from a drop-down list. Smart Tester Assistant allows you to create test tasks and conduct surveys, midterm and final control, and form your own bank of assessment tasks using variants of the suggested formats.

The software product "SMART Assistant" combines the possibilities of using existing online educational tools and services and the developed interactive system "SMART-Assistant", which provides optimization of the teacher's activity on the organization of learning activities, support for interaction between the subjects of the educational environment by placing links to relevant online services according to the functionality at each stage of the teacher's activity. This solution allows the teacher to choose the appropriate tool from the available list to solve his didactic tasks without the cost of searching for the appropriate tool.

The digital tools integrated into the software product include the following links to online services and reflect the system of Smart services, including:

1) Tools for organizing educational interaction, as well as for searching and working out educational content: interactive whiteboards, services for organizing online discussions and debates, services for working out and searching educational content, services for creating presentations, and systems for organizing educational information interaction.

2) Systems for creating interactive tasks.

3) Systems for testing and diagnostics.

The ability to move from the website "SMART-Assistant" to external resources through links integrated into the system provides an opportunity for teachers to expand their didactic materials and interactive tasks and exercises to deepen and expand the knowledge of students. The "Online Services" subsection redirects the user to the tab with the name of categories of links to the existing online tools for organizing learning interaction and creating learning materials (Fig. 7):
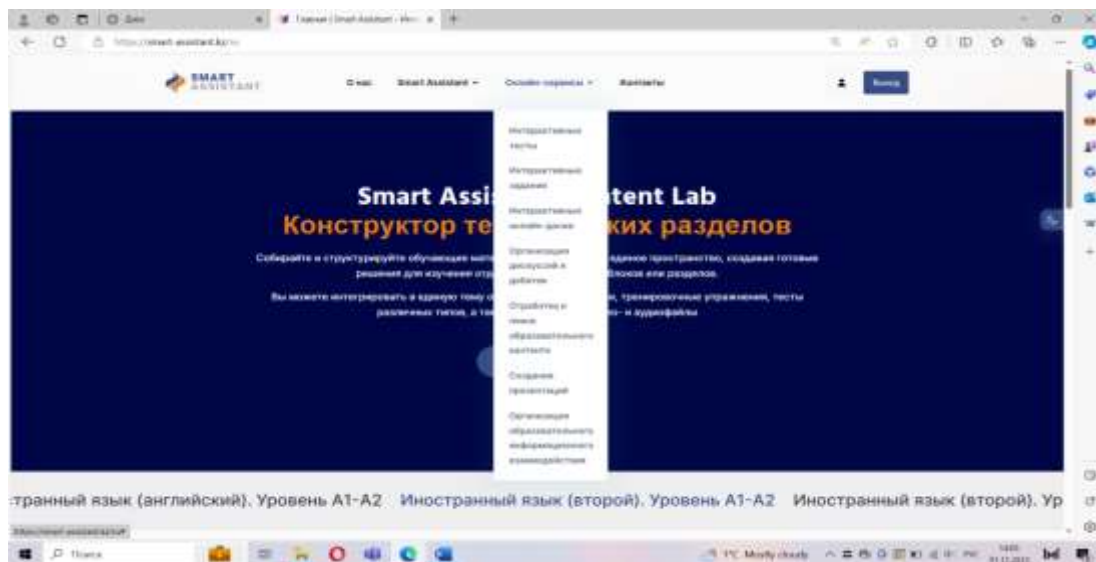
Figure 7. Online Services subsection of the SMART-Assistant software product

The work on the website is organized through the user account —personal cabinet. It organizes management, structures, and reflects the content of developed materials, and provides access to their creation, correction, and distribution. To effectively use smart technologies, a teacher must have several design skills in the field of designing and developing digital multimedia educational content (educational video lectures, videos, websites, web pages, interactive presentations, interactive tasks, exercises, tests, etc.).

To identify the level of readiness of teachers to apply smart technologies in educational activities, the following criteria were defined:

1) motivational;

2) cognitive (or knowledge);

3) operational (or activity).

According to each criterion, the corresponding indicators were identified (Table 1).

T a b l e 1

Description of teachers' readiness criteria for the use of smart technologies

№	Component	Criteria	Indicators (characteristics)
1	Motivational component of readiness	Motivational criterion	Focus and persistent interest in mastering smart technologies, awareness of the significance and prospects of smart technologies application in personal, social, and professional aspects.
2	Cognitive component of readiness	Cognitive (knowledge) criterion	The formed system of knowledge about the essence and possibilities of smart technologies, about the features, methods, and principles of their implementation in the educational process, their importance for the development of their professional activity and optimization of the educational process as a whole; knowledge of the basics of working with services and programs for creating author's digital content and the principles of their selection.
3	Activity component of readiness	Operational (activity) criterion	Practical skills and abilities to apply and integrate smart technologies in the educational process, select and search for appropriate digital tools to solve a particular didactic task, develop digital educational products.

At the initial stage of the work, we determined the level indicators that allowed us to assess the degree of readiness of pedagogical staff to use smart technologies in the educational process. The following levels of teachers' readiness to use smart technologies were identified: very low (less than 50%), low (50%–69%), medium (70%–89%), high (90% and above).

At the same time, the implementation of the author's software product provided a number of components that ensure the comprehensive development of teachers' readiness to use smart technologies: the methodological component of readiness involves mastering the principles and methods of creating digital educational products and resources and is realized through instructions for using the product, intuitive interface, as well as the sequence of stages of its application from planning to evaluation of students' results; the content component includes the software product toolkit itself and its capabilities, as well as integrated through links to digital tools and online services for the development of digital educational content; the procedural component involves the process of using the "SMART-Assistant" website, as well as the use of these services to develop author's content and integrate it into the educational process; the reflexive component allows you to assess the level of readiness to implement smart technologies in your profession.

Results and discussion

The external reflection of the forming readiness of teaching staff to the implementation of smart technologies in the educational process as a result of using the software product "SMART-Assistant" is a number of professionally important competencies of the teacher, which are reflected in Table 2.

T a b l e 2

A set of professionally important competences of a teacher in the context of their application of smart technologies

№	Competence	Description
1	Knowledge of pedagogical and methodological regularities and principles of using modern digital and smart technologies in education	Understanding the methodological principles of using digital educational products and online services to ensure information and communication interaction of participants of the educational process, organization of their joint learning and search activities, inclusion of digital multimedia educational materials in the learning process. Understanding the methodological, didactic principles and technical aspects of creating interactive presentations, exercises and test tasks. Understanding the methodological validity and use of these products in a specific pedagogical situation to solve the set didactic goals.
2	Development of interactive digital educational content	Searching and selecting software technical tools for teaching practices and digital content creation; Possession of practical skills of working with digital educational resources; Mastery of skills of pedagogical design and development of digital educational through online services (to develop interactive presentations, assignments and tests) or specially object-oriented programs.
3	Applying smart technologies for learning	The critical selection of appropriate smart technologies for use in the learning process. Building personalized learning trajectories based on information about the progress and characteristics of each student in a blended learning environment. Applying a critical approach to finding relevant information in the digital environment and integrating online services and smart technologies into the learning process.

A modified questionnaire according to the method of O.A. Surova [11] containing 18 questions divided into three parts (six questions each) according to the identified criteria: motivational, cognitive, and operational. Surova [11], containing 18 questions, which are divided into three parts (six questions each) in accordance with the identified criteria: motivational, cognitive, and operational. The questionnaire was conducted twice, before and after the teachers used the software product "SMART Assistant". The questionnaire data are presented in the corresponding Tables 3–5 below.

<div align="right">T a b l e 3</div>

Results of the dynamics of levels of motivational component of teachers' readiness to use smart technologies before and after using the software product "SMART Assistant", in %

The levels of formation of the motivational component of readiness	1 level (very low)		2 level (low)		3 level (average)		4 level (high)	
The number of participants	On the diagnostic stage	At the control stage of the experiment	At the diagnostic stage of the experiment	At the control stage of the experiment	At the diagnostic stage of the experiment	At the control stage of the experiment	At the diagnostic stage of the experiment	At the control stage of the experiment
(38 participants)	0	0	63,5 %	38 %,	27 %	46%	9,5%	16%

The study of the data presented in Table 3 allows us to draw the following conclusions. At the beginning of the experiment, most teachers had a low level of learning motivation (63.5%), while 36.5% of participants were at the medium and high levels of motivation. More specifically, 27% of the trainees were at the third level of motivation and 9.5% were at the high level. However, by the end of the experiment, the percentage of teachers with low motivation decreased to 38%, while 62% of the trainees were at medium and high levels of motivation. In particular, 46% of teachers reached the third level of motivation, and 16% — the fourth level. It is important to note that the pedagogical effect (the difference between the percentage of participants with a low level of formation of the motivational component at the diagnostic (initial) and control (final) stages of the experiment is equal to 25.5% and is due to the increase in the number of participants with the third level of formation of learning motivation: from 27% to 46% as a result of using the software product "SMART Assistant".

According to the presented data, the use of the software product "SMART Assistant" positively affects the development of teachers' motivation to work with smart technologies.

<div align="right">T a b l e 4</div>

Results of the dynamics of cognitive component of teachers' readiness to use smart technologies before and after using the software product "SMART Assistant", in %

Levels of formation of the cognitive component of readiness	1 level (very low)		2 level (low)		3 level (average)		4 level (high)	
The number of participants	On the diagnostic stage	At the control stage of the experiment	At the diagnostic stage of the experiment	At the control stage of the experiment	At the diagnostic stage of the experiment	At the control stage of the experiment	At the diagnostic stage of the experiment	At the control stage of the experiment
(38 participants)	0 %	0 %	56 %	19 %	34 %	64 %	10 %	17 %

According to the data of Table 4, we can establish a significant increase in the average level of formation of the cognitive component of teachers' readiness (from 34% to 64%) and a decrease in the number of participants with a low level (from 56% to 19%). According to the results of using the software product "SMART Assistant", the percentage of participants with a high level of the cognitive component of readiness increased by 7%. The data indicate that the formation of the cognitive component of readiness to use smart technologies is formed more effectively than the motivational component, where the pedagogical effect is noticeably lower.

Dynamics of formation levels of the activity component of teachers' readiness before and after using the software product "SMART Assistant", in %

Formation levels of the activity component of readiness	1 level (very low)		2 level (low)		3 level (average)		4 level (high)	
The number of participants	On the diagnostic stage	At the control stage of the experiment	At the diagnostic stage of the experiment	At the control stage of the experiment	On the diagnostic stage of the experiment	At the control stage of the experiment	At the diagnostic stage of the experiment	At the control stage of the experiment
(38 participants)	0 %	0 %	63 %	24%	25 %	58 %	12 %	28 %

The analysis of Table 5 shows that the initial level of teachers' skills to create digital content was 63%, and the average and high level was 37%. By the end of the experiment, the proportion of teachers with a low level of skills decreased to 24%, and with an average and high level was 86% (58% at the third level and 28% at the fourth level). The pedagogical effect reached the value of 39%.

According to the data, the level of development of digital content creation skills of the trainees — the activity component — grows faster compared to the motivational component. This is explained by the fact that before the beginning of the experimental implementation of the software product, teachers already had a certain experience in the use of smart technologies, and had relevant knowledge and skills; in addition, in the framework of using the software product "SMART Assistant" the main attention is paid to the development of practical skills.

Conclusion

Overall, it was established that the issue of using smart technologies to create educational content arouses great interest among teachers. Most teachers (82%) actively use the software product "SMART Assistant" to develop educational content. 53% of teachers regularly use links to external resources to create interactive educational content, and 19% use these links once or up to three times. Most teachers (89%) use the collection of presentation templates, assignments, and tests available on the SMART Assistant website to develop author's digital educational content for students. In addition, 96% emphasize the functionality and usefulness of the built-in designers of the authoring product "SMART Assistant" the designer of educational sessions Smart Assistant Content Lab and the designer of test assignments Smart Tester Assistant (69%).

The data obtained because of the experimental work, to a certain extent, correlate with previous studies undertaken by foreign authors to study the impact of software products and tools on the productivity of the learning process and pedagogical activities when using digital and smart technologies. Thus, in the study by J. Petty on the results of 2022, it was noted the effectiveness and positive impact on the training of medical personnel when teachers use elements of virtual reality and immersive technologies [1]. In another study conducted by P. Davar, G. Nishantha [5] also reveals the successful implementation of a model of distance learning using modern digital and smart technologies, the integration of which largely contributed to solving the problems of distance learning and inclusion of students in various professionally related activities. Nevertheless, these studies were conducted within the framework of studying the assessment of students' learning achievements, rather than pedagogical readiness to carry out professional activities with the use of the mentioned smart tools, the use of which itself determines the readiness of teachers to implement them. A number of such studies confirm not only the effectiveness of using modern smart technologies in educational activities, but also the urgent need and demand for improving the readiness of teaching staff to use them.

Thus, the results of experimental work on the implementation of the software product "SMART Assistant", confirmed the hypothesis of the study, indicating that the use of this auxiliary software product that provides planning, systematization, and structuring of teachers' activities on the use of smart technologies in the educational process in the conditions of blended learning leads to an increase in the level of their readiness for educational activities with the use of smart technologies.

Prospects for further research in this direction may include the development of organizational and didactic mechanisms for the implementation of smart technologies in the educational process, the possibility of using smart technologies for inclusive education, as well as the study of the problems of formation of teachers' readiness for the implementation of smart technologies at different levels of education.

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Г.Ж. Смагулова, С.С. Касымов

Жоғары оқу орындарында профессорлық-оқытушылық құрамының смарт-технологияларды пайдалануға дайындығын қалыптастыру

Аппараттық құралдарды жаңартудағы қиындықтарды тиімді жеңу және мұғалімдердің компьютерлік технологиялардың жылдам дамуымен байланысты білім беру қызметінде смарт-технологияларды қолдануға дайындығын арттыру, аралас оқыту жағдайында оқу процесінде смарт-технологияларды пайдалану бойынша мұғалімдердің қызметін жоспарлауды, жүйелеуді және құрылымдауды қамтамасыз ететін қосалқы авторлық бағдарламалық өнімді енгізуге болады. Зерттеудің негізгі мақсаты білім беру қызметінде смарт-технологияларды тиімді пайдалануға педагог кадрлардың дайындығын қалыптастыруға ықпал ететін «SMART Assistant» бағдарламалық өнімінің тиімділігін әзірлеу және тексеру. Педагог кадрлардың смарт-технологияларды пайдалануға дайындығын қалыптастыру құралы ретінде «SMART Assistant» авторлық бағдарламалық өнімі болды, яғни ол сайт мұғалім үшін интерактивті конструктор және білім беру мазмұнын ұйымдастырушы. Бұл білім беру мазмұнын тиімді ұйымдастыру үшін дайын шешімдер мен қолданыстағы онлайн қызметтерді біріктіретін құрал. Осы зерттеудің жаңалығы академик Е.А. Бөкетов атындағы Қарағанды университеті шет тілдері факультетінде оқу процесіне енгізілген «SMART Assistant» авторлық бағдарламалық өнімді педагог кадрлардың смарт-технологияларды тиімді қолдануға дайындығының қалыптасу деңгейіне әсерін анықтау. «SMART Assistant» бағдарламалық өнімін енгізу бойынша тәжірибелік-эксперименттік жұмыстың нәтижелері зерттеу гипотезасын растап, оны оқу процесінде пайдаланудың компоненттері, яғни мотивациялық, когнитивтік, белсенділік аспектісінде смарт-технологияларды қолдана отырып, оқытушылардың білім беру қызметіне дайындық деңгейінің өсуіне әкелетінін көрсетті.

Кілт сөздер: смарт–технологиялар, цифрлық технологиялар, смарт білім беру, онлайн сервистер, аралас оқыту, оқытушының дайындығы, «SMART Assistant» бағдарламалық құралы, оқытушының жеке цифрлық білім беру ортасы.

Г.Ж. Смагулова, С.С. Касымов

Формирование готовности педагогических кадров вуза к использованию смарт-технологий

Эффективное преодоление трудностей с обновлением аппаратного обеспечения и повышением готовности педагогов к использованию смарт-технологий в образовательной деятельности, связанных с быстрым развитием компьютерных технологий, возможно при внедрении вспомогательного авторского программного продукта, который бы обеспечивал планирование, систематизацию и структуризацию деятельности педагогов по использованию смарт-технологий в учебном процессе в условиях смешанного обучения. Основная цель данного исследования заключается в разработке и проверке эффективности программного продукта «SMART Assistant», который способствовал бы формированию готовности педагогических кадров к эффективному использованию смарт-технологий в образовательной деятельности. В качестве инструмента формирования готовности педагогических кадров к использованию смарт-технологий выступил авторский программный продукт «SMART Assistant», который представляет собой сайт — интерактивный конструктор и органайзер образовательного контента для педагога. Это инструмент, интегрирующий готовые решения и существующие онлайн-сервисы для наиболее эффективной организации образовательного контента. Новизна настоящего исследования заключается в выявлении влияния авторского программного продукта «SMART Assistant», внедрённого в учебный процесс на факультете иностранного языка Карагандинского университета имени академика Е.А. Букетова, на уровень сформированности готовности педагогических кадров к эффективному применению смарт-технологий. Результаты опытно-экспериментальной работы по внедрению программного продукта «SMART Assistant» подтвердили гипотезу исследования, указывая на то, что его использование в учебном процессе приводит к росту уровня готовности педагогов к образовательной деятельности с применением смарт-технологий в аспекте выделенных компонентов готовности: мотивационного, когнитивного, деятельностного.

Ключевые слова: смарт-технологии, цифровые технологии, смарт-образование, онлайн-сервисы, смешанное обучение, готовность педагога, программный продукт «SMART Assistant», персональная цифровая образовательная среда педагога.

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Opportunities for development of information competence of students in universities

Modern pedagogical education is aimed at improving future specialists' professional competence, competitiveness, self-realization and most importantly, at providing them opportunities to do research and develop their knowledge. In this case, one of the main tasks of the educational institution is to train the future specialist to learn and study, to be able to navigate in the constantly changing flow of information, to think critically and creatively. In the rapidly developing information society, information competence is undoubtedly one of the most necessary capabilities. This is because informational competence has an important role in forming the individuality of the future specialist, in their personal experience when fulfilling professional requirements and in improving their professional qualifications. The article considers the opportunities of developing the information competence of future teacher-psychologists in universities. That is the possibilities and the role of the content of elective subjects, student centers, educational institution's newspaper and official social networks as means of mass media in developing future specialists' information competence. Domestic and foreign scientific works within the scope of the topic were studied, data were compared and systematized. Based on the analysis of the results of the student survey method, conclusions were made regarding the development of information competence of students in higher education institutions, and recommendations for the development of information competence of future teacher-psychologists were given.

Keywords: competence, information competence, mass media, media education process, Internet, official social network, student centers, the university newspaper.

Introduction

Modern globalization and the development of new technologies have changed society and set new challenges for higher education. The use of mass media products, especially the Internet, television, and new technologies, is becoming more and more important. Also, they are widely used in science and educational activities, in other spheres of public life, introducing social changes and providing new qualities and dimensions of personality development.

The use of modern methods of teaching takes an important place in the educational process of the university and allows to increase the efficiency of education, to form the professional competence of students and to gain experience and develop creative potential. Considering the trends of the global integrity of the information process, media education can be said to be a complex educational field aimed at mastering information competence of students.

The process of media education contributes to the formation of skills that constitute information competence and forms intellectual skills responsible for the ability to work with incoming information, to analyze, systematize, and generalize it. While working with information of different content, students learn to communicate with a group of people, to conduct a competent dialogue, to defend their views with information obtained from reliable sources of information.

The profession of the future teacher-psychologist has a wide scope of work and a great contribution to the society. As a professionally trained specialist they can work in various types of educational institutions, i.e. preschool education and training system; comprehensive secondary school; professional and specialized schools: gymnasiums, lyceums; as a teacher-psychologist — in colleges; as a specialist — in boarding schools and orphanages, administrative bodies (Ministry of Education of the Republic of Kazakhstan, Ministry of Science and Higher Education of the Republic of Kazakhstan, regional, in districts, akimats), and in other institutions that need a teacher-psychologist. Thus, it is important not only to become qualified specialists, but also to develop informational competencies in the age of information technologies. The development of information

competence in the process of media education is the only real way to expand the scope of professional training of future specialists and increase its quality.

According to Nizameeva A.M., *the student's information competence includes:*

a) Necessary and sufficient informational level of computer literacy, desire to begin self-education and self-improvement;

b) Creative ability within the framework of using telecommunication tools and information technologies and the skill level achieved by the student in the process of professional formation;

c) The humanitarian component of information opportunities and the decisive role of socio-cultural experience;

d) Ability to use modern computer technologies and professional services to find solutions in critical situations.

Information competence influences the development of adaptability, mobility, constructiveness, integrativeness, the expansion of professional and humanitarian activities, the self-determination, self-education, development of cultural creativity, as well as social and professional activity [1]. And competence can be called as a list of available capabilities, actions, processes, and responses to effectively fulfill various job requirements [2]. Also, it can be regarded as the measure of knowledge, skills and abilities that can be clearly defined, the actions that a person can perform in a certain professional context, and the resources that they can master [3].

Today, information needs and ways to search for information have become an important part of a student's life. It is well known that the last two decades have seen rapid social changes all over the world due to information overload. The very rapid emergence and obsolescence of information creates the necessary continuous process of updating information [4].

In recent years, foreign scientists as L. Masterman, R. Kubey, K. Tyner, A.V. Fedorov, I.V. Zhilavskaya, I.V. Chelysheva, E.A. Stolbnikova, N.V. Zmanovskaya and others contributed to the development of media education. Among domestic scientists, P.B. Seiitkazy, L.S. Akhmetova, E.Zh. Masanov, A.A. Tashetov, A.K. Abdirkenova, G.S. Tazhenova, N.B. Serikbaeva greatly contributed to the research and development of media literacy, media culture, media competence, the role of mass media in the educational process. We see that the scope of the concept of media education in the works of scientists is focused on helping students to adapt to the world, learn media culture, media language and analyze media information.

The works of M. Pinto, N.P. Tabachuk, E.F. Morkovina, M.V. Romanova, F.Kh. Khabibullin, F.K. Tubeeva, and from domestic researchers, G.I. Muratova, S.N. Isabaeva, A.D. Maimataeva and others can be used in determination of the meaning and content of the concept of information competence of the student, to analyze it based on various theoretical conclusions. Their studies define the importance of continuous professional development in forming students' information competence, as they, including education, skills, values are crucial in managing real life situations and fulfilling professional search.

However, analyzing the researched works within the topic, it is noticed that although there are individual research works on the formation of media education, media competence and media culture, as well as on the information competence of students, there is a lack of scientific works aimed at the development of information competence of students in the process of media education. This leads to the fact that there are contradictions between the growth of society's requirements for the level of training of professionals and the level of information competence of graduates in the process of media education, and it is necessary to pay special attention to the development of information competence of future teacher-psychologists and determine the opportunities that exist.

Experimental

The problem of the need for professionally competent, competitive modern specialists is reflected in several important legal documents and state programs in the country, and the rules and recommendations for increasing the information competencies of future specialists, their professional activities and self-development opportunities, and revitalizing work in this direction are defined.

In the document "State mandatory standards of higher and post-higher education" approved by order No. 2 of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 formation of worldview, civic and moral positions of a competitive future specialist based on mastering information and communication technologies, self-improvement, orientation to professional success, development of information literacy, self-development and formation of lifelong learning skills are discussed. A student who has mastered a course evaluates properly all situations occurring in the social and industrial spheres, demonstrates personal and professional competitiveness, synthesizes new knowledge, uses various types of information and

communication technologies in their personal activities as internet resources, information search, storage, processing; it is shown that they can use cloud and mobile services for protection and distribution, have the skills of quantitative and qualitative analysis of social phenomena, processes and problems [5].

Head of State K-Zh.K. Tokaev in his address to the people of Kazakhstan on September 1, 2022 "A fair state. One nation. Prosperous society" said: "A hardworking person, a professional specialist should be the most honored person in our country. Such citizens develop our country. It is better for young people to try to master the ins and outs of a specific profession. There is always a demand for a master of one's field. The younger generation should be able to compete not only in Kazakhstan, but also in other countries". He openly stated the importance of education, hard work, professional competence, and competitiveness [6].

In the 5th task of the national project "Quality education "Educated nation" for 2021–2025, it was considered "Increasing the international image and competitiveness of Kazakh higher education institutions". Especially, the development of the contribution of higher educational institutions implementing international education programs and academic exchanges with foreign colleagues is put forward. The main goal of this proposed project is to improve the quality of education and competitiveness of students at all levels of education in the country [7].

It is known that the development of information competence of students in universities is implemented based on mastering the best practices of the world education. In this regard, educational programs in higher education institutions are adjusted to international requirements, and state standards of education are brought into a new system to meet the requirements of the labor market currently.

The importance of the content of the development of information competence in the process of media education of future teachers is closely related to the term's media literacy, media culture, media competence.

Media education is a set of knowledge that enables one to work competently with mass media, critically perceive information, and create one's own media message [8]. By increasing the level of media competence, it is possible to improve a person's cognitive, emotional, aesthetic, and ethical perception, interpretation and analysis of media information throughout one's life [9].

Media culture includes a set of behavioral rules for the future specialist in the information society, norms, and ways of interacting with the mental system, methods of using telematics, global and local information system tools [10].

Thus, in the process of media education, the following features of the organization of education for the development of information competence of students are considered:

➢ The concept of media education should be in the structure of the training course;
➢ Effective use of media education components during independent work of students;
➢ The ability to use media education components interchangeably depending on the course and lesson content;
➢ Taking into account the individual characteristics and abilities of each student during the lesson as well as when assigning tasks to the student's own work;
➢ Ensuring that students' knowledge about modern technical tools and mass media products is relevant and up-to-date;
➢ Considering the organization of measures for the development of the level of information competence of students in their extracurricular time in university.

Competencies and learning outcomes of students are shown in the passport of the educational program at the educational institution. That is, informational and analytical competencies include: research, systematic description, explanation, mastery of current issues of modern education; the ability to process new knowledge, make predictions, make rational decisions by analyzing the received information, and systematically analyze information; the ability to see the psychological and pedagogical components of the problems arising during professional activity, to carry out quantitative and qualitative analysis. Informational and communicative competencies include: self-searching, sorting, organizing, presenting, modeling and designing of information, implementation of activities in the field of professional activities by mastering information and communication tools; can be attributed to the ability to freely and qualitatively express one's judgments.

According to the data of the Ministry of Science and Higher Education of the Republic of Kazakhstan in the 2022-2023 academic year, there are 120 universities in the country [11]. We found out that 38 of them train specialists on the 5B01103 "Pedagogy and Psychology" educational program. According to the content of the educational program and the catalog of elective subjects presented by the websites of the universities and univision.kz, the opportunities for developing information competence of students in the process of media education were reflected in several subjects.

The subject "Information and communication technologies" is a mandatory educational component in accordance with the "State mandatory standard of higher and post-graduate education". And we found out that "Innovative technologies in education" represents 24% in the program, "Digital technologies in education" — 42 %, "Technologies of distance education" — 32 %. And it was known that the subject "Media pedagogy" makes up 21% of the training course.

In the age of information and technology, we see that educational institutions prioritize future specialists' mastery of information and communication technologies, digital literacy, use of innovative technologies, and opportunities to develop their professional and informational competencies. However, we noticed that the subject "Media pedagogy" is not included in the development of information competence of future teacher-psychologists in the process of media education. "Media pedagogy" is a subject that teaches the meaning, scientific-theoretical bases and practical importance, possibilities of the concepts of media, media education, competence, media culture, media competence, information security, information competence.

One way to make citizens media literate is to introduce comprehensive, systematic, and permanent media education programs for all young people [12].

The tool of our research work is the process of media education. Within the framework of the research, we consider mass media products, that is, television, radio, newspapers and magazines, information on the Internet as the main means of information competence development. And, we consider computers, tablets, mobile phones, multimedia as technical tools for the development of information competence.

Today's informatization, the process of computerization of society, is aimed at overcoming the conflict between the increase in the amount of information and the ability of people to perceive it and requires a high level of information competence of students. It is important for the development of industry, science, and the availability of professionally qualified specialists, as well as for the formation of students' skills in the competent use of information outside of the classroom.

In the process of clarifying the essence of the question of what opportunities are provided for the development of information competence of students in the process of media education in domestic universities, we considered the opportunities provided to students in newspapers and magazines in educational institutions and official social networks.

The main purpose of the university newspaper is to provide information on important events and news in education, science, sports, creative achievements, and cultural places, as well as information of social, political, educational importance. At the same time, creating an opportunity for students to increase their creative and professional skills, and develop their informational competencies.

The following list of university newspapers provides a floor for students to share their creative ideas, for faculty members — to share their expertise and knowledge: "Eurasia Universiteti" (ENU after L.N. Gumilyov), "Zhasurpaq" (EHI named after A.K. Kussayinov), "QazaqUniversiteti" (KazNU named after Al-Farabi), "Abay university" (KazNPU named after Abay), "Universitet" (Atyrau State University named after Kh. Dosmukhamedov), "Shakarimshaniragy" (Semey Shakarim University), "Zhastaralemi" (Academician E.A. Buketov University of Karaganda), "Parasat" (North Kazakhstan University named after M. Kozybayev), "Universitettynysy" (M.Kh. DulatiTaraz Regional University), "Yassawi Universiteti" (International Kazakh-Turkish University named after K.A. Yassawi), "SyrTulegi" (Kyzylorda State University named after Korkyt Ata). Special sections for students, notable achievements in science and education, sports, public works are published in such newspapers. The role of the university newspaper is exceptional in the formation of a person who is a professional, who has developed the ability to use the information obtained from the mass media in his life and professional career.

Information competence is a complex quality of a person that allows creative use in social and cultural activities. The problems of the area require design solutions, as well as overcoming destructive tendencies in the development of *information free time* of modern youth. There is a certain level of information competence (optimal, permissible, critical, and unacceptable) and criteria for the formation of changes in personal motivation, cognition, and spheres of activity. Forming the basis of information competence of students in their free time is a pedagogical process, which considers the levels, criteria and three stages of the process, such as the stage of design, constructive, and effective stages [13].

Life at the university is not only about education and experience, but is also about self-development as an individual, about scientific research, intellectual, creative, spiritual, and cultural development, development of artistic and sports abilities, about formation of a person with a patriotic and civic attitude.

In domestic universities, educational and recreational centers, student self-management centers, youth policy centers, student parliament and other centers are functioning to develop the creative potential of student youth,

to form their leadership skills, to provide opportunities for self-realization, to identify new bright talents and to develop their creative abilities and professional competence. Student clubs branch out into the following fields: language, song, dance, sports games, health, oratorical art, etc., and are open for young people who want to spend their extracurricular time effectively at their educational institution and to grow spiritually and culturally.

Having distinguished the goals and objectives of general student centers in educational institutions with "Pedagogy and Psychology" educational programs, we have systematized the following objectives:

➤ To develop social activity of students in the process of training highly qualified specialists with an active citizenship position, ensuring interaction with political institutions;

➤ To develop proposals for improving the quality of the educational process of a university;

➤ To work on promotion of a healthy lifestyle;

➤ To support the implementation of socially important initiatives of students;

➤ To organize contests, competitions, festivals for students;

➤ To provide civic-patriotic education to students, develop legal culture, influence the formation of moral values;

➤ To develop intellectual and creative potential, helping self-improvement of students in education, scientific and artistic activities;

➤ To organize and make students take part in republican, university cultural and holiday events;

➤ To collect information according to the interests and requests of students in their free time and promotion of effective use;

➤ To help students to improve their personal and professional qualities;

➤ To support young people with leadership, organizational skills, initiative and talented students;

➤ To contribute to the formation of competitive, professionally competent specialist in the labor market;

➤ To form students' work motivation, active business involvement, flexibility to successfully learn effective skills and basic principles required in their professional fields, etc.

With the widespread use of the Internet through modern technical means, a social network is reflected as another opportunity to develop students' information competence.

According to the 2022 data of the global online statistics service www.statista.com, the average consumer in Kazakhstan spends 5 hours and 38 minutes every day using various mass media products. According to the data, the largest share of time is spent on the Internet — 59% and television — 32%. According to the specialist of www.statista.com J's statistical forecast, the number of Internet users in Kazakhstan will steadily increase between 2022 and 2028, and the total number will be 2.2 million users (+13.15%). He states that the number of Internet users is constantly increasing. Consequently, social network users increased by 4.8 million (+35.53%), mobile Internet by 2.8 million users (+17.8%). The statistical data covers 150 countries and regions of the world, and the indicators are obtained from international and national statistics management, trade associations and industry press data [14].

According to the MMI (Media Marketing Index) social research data of the leading research company Kantar (JSC "TNS Central Asia") in the domestic market, Internet penetration has increased by 5.1% over the last 4 years. And the picture of the Internet audience is as follows: men — 46% and women — 54%; 15–34 years — 48.6%, 35–44 years — 23.1%, 45–54 years — 16.7%, 55–64 years — 11.7%. According to the coverage of "TOP-20 mobile applications", WhatsApp messenger constitutes 75.6%, YouTube Video hosting — 73.4%, Instagram social network — 62.9%, Telegram — 65.1%, Facebook — 41.3%, TikTok — 37.9%, VKontakte — 35.9% [15].

After reviewing the data on the websites of universities, we realized that they use social networks as a source of additional information (Fig. 1).
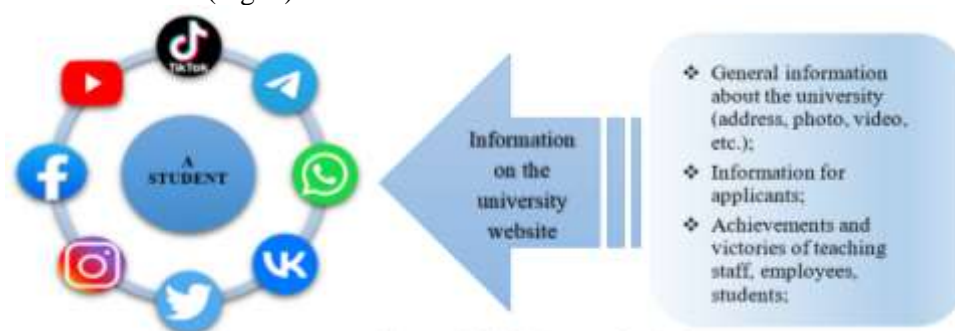
Figure 1. Social networks in the development of information competence of the student

On the official YouTube channels of universities: information about the educational institution and EP (educational program) for entrants, full versions of videos of educational activities, of teaching staff, achievements and victories of employees and students, etc. can be seen. Currently, social networks and messengers such as Instagram, Facebook, Telegram, VKontakte, Twitter, TikTok, and WhatsApp can be mentioned as a source of easy and quick information among young people. Also, by registering, they could always be informed about the news of university life.

Considering the official social networks of universities as an opportunity to develop students' information competence, we noticed that some educational institutions should improve them. It is clear that social media is a quick source of information for the student community.

Results and Discussion

We conducted a survey among students studying in the educational program 6B01101 — "Pedagogy and Psychology" to determine the opportunities and factors that caused difficulties in developing students' information competence at universities. The survey "Students' level of information competence" was created and a total of 63 students participated from Eurasian National University named after L.N. Gumilyov and Astana International University.

In the content of the questionnaire, we took into consideration the availability level of computers, mobile devices and the Internet, the experience of working with information sources and the ability to assess the authenticity of information, to determine how often they use information sources, and so on (Table).

T a b l e

The results of the student survey

№	List of questions	Levels		
		High	Average	Low
1	Level of availability of computers, mobile devices and the Internet (A)	76.9 %	17.7 %	5.4 %
2	A student's personal approach to training as a specialist fully meeting the requirements of the information society (B)	58.6 %	31.2 %	10.2 %
3	Level of experience working with information sources (educational literature, scientific literature, reference literature, dictionaries, Internet, mass media) (C)	64.7 %	31.1 %	4.2 %
4	The assessment of the degree of reliability and authenticity of the information source (D)	43.6 %	50.3 %	6.1 %
5	Sufficient level of knowledge, skills, and abilities necessary for critical perception of mass media products (E)	39.5 %	51.9 %	8.6 %
6	The level of satisfaction and need for information on the official social network of the educational institution (F)	65.8 %	29.1 %	5.1 %
7	The level of content of the educational course with subjects for the development of media competence and information competence (G)	69.1 %	21.7 %	9.2 %
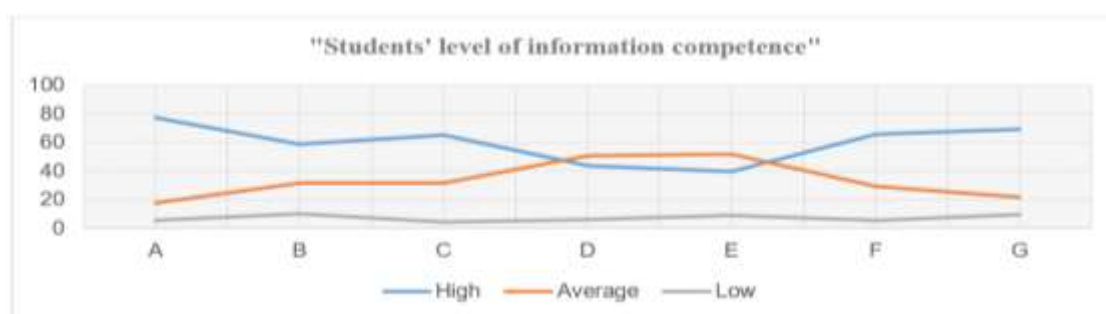
Figure 2. Diagram of the results of the survey

As a result of the analysis of the answers received from the respondents related to the level of information competence of students: students are not fully equipped with personal computer tools due to social conditions; there is a need for subjects for the development of knowledge, competence, and skills in critically perceiving mass media products; despite students have experience working with information sources, there are difficulties in determining the degree of reliability and authenticity of information; that the information on the official social network of universities arouses the interest of students (Fig. 2).

We believe that these and other difficulties identified as the results of the survey are of a temporary nature. If in the process of media education complex activities aimed at developing students' information competence are effectively organized and implemented, the results will show high indicators (Fig. 3).
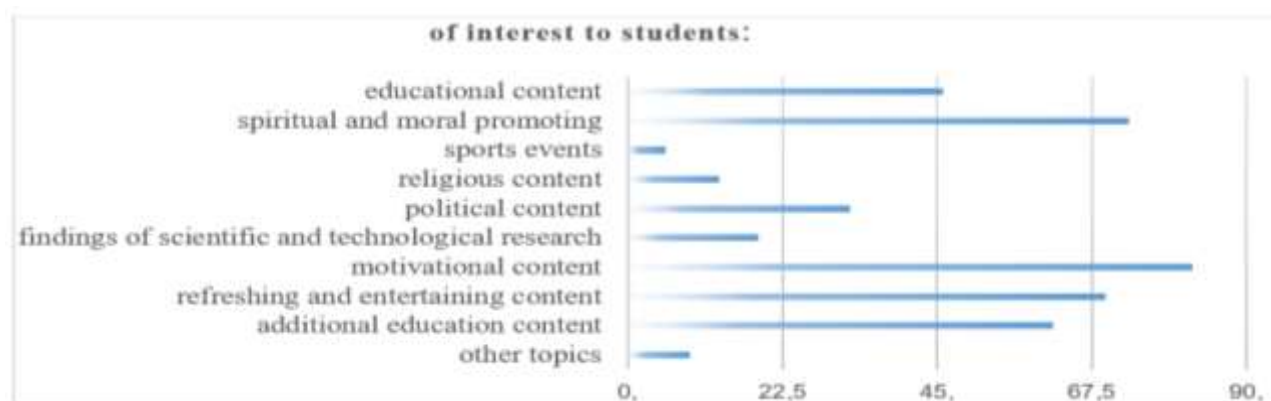
Figure 3. Diagram of the results of the survey

And, in the use of mass media products, students are more interested in: motivational content (82.1 %), spiritual and moral promoting (72.9 %), refreshing and entertaining content (69.5 %), providing additional education (61.9 %) and educational content (45.8 %). The conclusion to be drawn from this is that students show high desire to self-study and learn.

Conclusions

It is necessary to develop students' information competence in the process of media education as they are the future of the country.

In conclusion, we offer the following opportunities for developing the information competence of future teacher-psychologists:

➢ The need to include the subject "Mediapedagogy" among the elective subjects of 5B010300 "Pedagogy and Psychology" educational program that is aimed at developing information competence of students;

➢ To make sure the content of the University newspaperis updated in order to increase the interest of students in the future profession, university life as it is important in the process of developing students' information competencies;

➢ Support of student centers and student clubs, which have their own place in the professional, personal and creative development of students;

➢ In order to contribute to the professional and creative development of students, to provide full coverage of the content on the university website and official social networks of the educational institution;

➢ The development of information competence of future teacher-psychologists in the process of media education is distinguished by the ability to effectively search for information from mass media products, competently sort, form ideas and apply the acquired knowledge and information in practice.

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П.Б. Сейітқазы, Н.А. Ырымбаева, Г.Ж. Жұмағалиева

Студенттердің ақпараттық құзыреттілігін жоғары оқу орындарында дамытудың мүмкіндіктері

Қазіргі заманғы педагогикалық білім — кәсіби құзыреттіліктің, бәсекеге қабілеттіліктің, өзін-өзі жүзеге асыру мен ең бастысы болашақ маманның өз бетімен ізденіп, білімін дамытуға бағытталған. Бұл жағдайда оқу орнының негізгі міндеттерінің бірі — болашақ маманды оқу мен тәрбиеге, үнемі өзгеріп отыратын ақпарат ағымында бағдарлана білуге, сыни және шығармашылық тұрғыдан ойлауға үйрету. Қарқынды дамып келе жатқан ақпараттық қоғамда ақпараттық құзыреттілік ең қажетті мүмкіндіктердің бірі екені сөзсіз. Себебі болашақ маманның даралығы, кәсіби талаптарды орындаудағы жеке тәжірибесі мен біліктілігін арттырудағы ақпараттық құзыреттілік үлкен мәнге ие. Мақалада болашақ педагог-психологтардың ақпараттық құзыреттілігін жоғары оқу орындарында дамытудың мүмкіндіктері қарастырылған. Яғни, элективті пәндер мазмұны, студенттік орталықтар, масс-медиа құралдары ретінде оқу орнының газет басылымы мен ресми әлеуметтік желілердің ақпараттық құзыреттілікті дамытудағы мүмкіндіктері мен рөлі. Тақырып аясындағы отандық және шетелдік ғылыми еңбектер зерделеніп, мәліметтер салыстырыла жүйеленді. Студенттерге жүргізілген сауалнама әдісінің нәтижелерін талдау негізінде, жоғары оқу орындарында студенттердің ақпараттық құзыреттілігін дамытуға қатысты қорытындылар жасалып, болашақ педагог-психологтардың ақпараттық құзыреттілігін дамытуға арналған ұсыныстар берілді.

П.Б. Сейтказы, Н.А. Ырымбаева, Г.Ж. Жумагалиева

Возможности развития информационных компетенций студентов в вузе

Современное педагогическое образование ориентировано на развитие профессиональных компетенций, конкурентоспособности, самореализации и, самое главное, знаний будущего специалиста. В этом случае одна из основных задач учебного заведения — научить будущего специалиста учиться и воспитывать, ориентироваться в постоянно меняющемся потоке информации, мыслить критически и творчески. В быстро развивающемся информационном обществе информационная компетентность, несомненно, является одной из самых необходимых возможностей. Потому что большое значение имеет индивидуальность будущего специалиста, личный опыт в выполнении профессиональных требований и информационная компетентность в повышении квалификации. В статье рассмотрены возможности развития информационных компетенций будущих педагогов-психологов в вузе, то есть таких как содержание элективных дисциплин, студенческих центров, средств масс-медиа, возможности и роль учебного заведения в развитии информационных компетенций газетного издания и официальных социальных сетей. Были изучены отечественные и зарубежные научные труды по теме, систематизированы сопоставления данных. На основе анализа результатов проведенного метода анкетирования студентов были сделаны выводы по развитию информационной компетентности студентов в вузе, даны рекомендации по развитию информационной компетентности будущих педагогов-психологов.

Ключевые слова: компетентность, информационная компетентность, масс-медиа, процесс медиаобразования, Интернет, официальная социальная сеть, студенческие центры, университетская газета.

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Prospects of information-computer technologies in teaching biology

The article deals with the problems of information support of biology lessons as plans for the implementation of a didactic approach to the development of the content of their technological composition of education, as it makes it possible to use computer videos, multimedia presentations in the lesson, which allows students to activate motivation and increase the effectiveness of learning. Today, the use of modern information technologies in the educational process makes it possible to improve the quality of the presentation of educational material and increase the effectiveness of training. The relevance of the study is related to updating the content of education, setting the tasks of the methodological organization of information and computer technologies in teaching biology. And a competent teacher is an important participant in the educational process, and he cannot but take into account such an intensive improvement of information and computer technologies in his work. The use of information and computer technologies makes it possible to significantly expand and diversify the content of teaching in the assimilation of biological material by schoolchildren. Information culture (literacy and competence) is the key to success.

Studies have shown that the practice of a biology teacher today includes active teaching methods using information and computer technologies, which opens up new opportunities for developing students' cognitive interest in the subject being taught.

The authors of the article consider the possibility and even the strategic necessity of using information and computer technologies (ICT) in teaching biology, which allows solving the problems of computerization of education from an organizational point of view and increasing the effectiveness of teaching.

Keywords: information and computer technologies (ICT), control and evaluation functions of the lesson, integrative form of assessment, developed creative potential, information technologies of education, school educational practice.

Introduction

In the current socio-educational conditions, information and computer learning technologies should take a leading position. Particularly relevant is the question of definitions that pedagogically ensure the high quality of the use of computer technology as an effective means of teaching schoolchildren on the basis of a subject-oriented environment. A complex of areas of activity, which include information and computer technologies, create new means and methods of managing technical means in the classroom, biologists and students freely transfer and disseminate information.

Foreign scientists-practitioners in this direction talk about the impact on the process of including computer technologies in the educational process of the world education system [1].

The computer is used at all stages of learning, they confirm this fact: when explaining, confirming, repeating new material, monitoring the progress of the lesson, giving it a playful character, which allows reaching a higher level of assimilation of the material, contributing to the educational and cognitive activation of students [1].

Of particular importance is the analysis of modern practice of using computers to solve various educational problems. Modern society sets a number of technological tasks for the teacher of biology: analysis, systematization of information to solve the task [2].

Of particular importance is the analysis of modern experience in the use of information and computer technologies for resolving ambiguous subject-educational problems. The modern educational system sets a

number of technological tasks for a biology teacher to create a comfortable learning process: to analyze the content of the subject as information, to systematize it to solve practical tasks [2].

The innovative introduction of ICT in biology lessons opens up the main target areas for the teacher, requiring certain competencies to solve them. The most needed opportunity is to look for modern information and computer technologies (ICT) to improve the quality of education. In this regard, a comprehensive renewal of the general education school system defines new strategic directions for the teacher.

The most needed search capability is modern information and computer technology (ICT) to improve the quality of education. In this regard, a comprehensive renewal of the general education school system defines new strategic directions for the teacher.

Firstly, it is not only academic knowledge of the subject of biology, but also the formation of a competitive personality. At each lesson, learning situations should be created that develop creative thinking, initiative in the student's independent work [3].

The use of computers to ensure the individualization of the educational process allows the teacher to control the learning activities of schoolchildren and more clearly observe the personal tempo of learning, as well as the acquisition by schoolchildren, within the framework of student-centered learning, of the skills to solve technical problems in the classroom. The gaming nature of computer technologies creates a comfortable emotional environment in the learning space and increases the level of assimilation of scientific material in biology, stimulates the process of critical reflection on electronic publications [4].

Experimental

The use of information computer technologies in biology lessons makes it possible to organize independent group work in the lesson with the benefit of each member of the group and typologize the learning process depending on the direction of the lesson topics [5].

Unlike conventional technical teaching aids, ICT with didactic support make it possible to fill in the volume of ready-made, correctly selected practical tasks with the activation of students' actions in the lesson.

The objectives of the study include generalization and systematization of the applied methods of information and computer technologies, methodological guidance of a biology teacher in organizing a lesson and creating a lesson plan [6].

In the educational practice of the school, information and computer technologies can be used as follows:

- ICT as a means of teaching and controlling knowledge, skills and abilities;
- adjustment of the results of educational activities by means of computer design and organization of educational activities;
- multimedia learning technologies are able to visually present educational material as a visual aid in learning new ones.

Information support for biology lessons gives the teacher the opportunity to implement a fundamentally new didactic approach to teaching, which greatly simplifies the work of the teacher and increases the satisfaction of students' needs for the subject.

Without expanding the use of modern technical means in education, the future of education is impossible, and the subject of biology in the school curriculum should have its own organizational, methodological and content features, respectively, the "moment of introduction" of information and computer technologies [7].

This includes the reflective abilities of students in educational and cognitive activities. Each of the selected criteria is characterized by a number of indicators (Table 1).

T a b l e 1

Criteria and indicators of IR biology

Criteria	Indicator
Cognitive	Possession of knowledge in preparation for the subject of biology. Knowledge of heuristic and logical methods for solving problems in biology of a research nature in the learning process. Knowledge of the implementation of research activities of schoolchildren in the process of studying biology.
Praxeological	Possession of the skills that make up the content of biology training. Acquisition of knowledge in solving biological problems. Experience in solving biological problems Possession of the experience of research activities by students in the process of teaching biology.

Axiological	Attitude towards oneself as a subject of research activities. Interest in the subject area "Biology". The importance of self-assessment of the results of solving biological problems. Self-development of activity based on reflection.

Thus, the hypothesis of the experiment was confirmed that the development of the activity of students in the senior classes contributes to the complex formation of the structure of cognitive, communicative and organizational competencies in the use of information computer technology (ICT) [8].

Diagnostics of these skills was carried out by analyzing the effectiveness of its use.

Subject results are expressed in the following qualities:

- the ability to use the means of information computer technology (hereinafter referred to as ICT) in solving cognitive, communicative and organizational skills and abilities.

The process of studying information and computer technologies should be designed in such a way that each student is ready to build a set of competencies in time, design the most complete training program at a certain level. Learning tasks are an integral part of learning, since it can be said that they develop the logic of thinking and communicative activity. Sometimes they act as a means of maintaining the cognitive, communicative and organizational skills of students in the study of the subject of biology [5].

In our study, we propose to consider the main results of the use of information and computer technologies (ICT) in order to expand the range of abilities and interests of students in the biology lesson. In the online survey methodology, there is no direct contact with students, which contributes to a completely new communicative form of communication, which often reduces psychological discomfort and increases the level of truthfulness of answers [9].

The main directions of the online survey help to achieve a real collection of information about the content of the process being studied [10].

When compiling an online questionnaire, attention was paid to the types of questions, their order, the form of presentation of meaning, the choice of the content of words. The most appropriate questions showed signs of simplicity of wording, and the questions reflected direct, unambiguous content. And to start online, the questionnaire was pre-tested on a small sample of respondents. We posed more complex questions at the end of the questionnaire so that students would not emotionally react to the rest of the answers. Finally, the questions had a pattern of logic and consistency.

As an example, let us describe the reproductive level of IC-1 (Table 2).

T a b l e 2

Reproductive level of formation of IC-1 students in biology

Formation criterion	Formation indicators	Reproductive level
cognitive	Assimilation of knowledge constituting the content of the discipline of biology.	Demonstrates possession of a fragmented knowledge of the subject (may be unsystematic).
	Knowledge of heuristic and logical methods for solving biological research problems.	Knows some scientific methods of cognition, heuristic and logical methods for solving the essence of biological research.
praxeological	The skills that make up the content of biology.	Solves typical mathematical problems with research elements.

The identified criteria and indicators make it possible to comprehensively assess the formation of the IC components of students in biology. To assess the level of formation of IC in biology students, we used such integrative technologies as: brainstorming (brainstorm), round tables (discussion, debate), case-study (analysis of specific situations, situational analysis), master classes, business and role-playing games.

The main tool in the process of measuring and evaluating the IC of worldview knowledge was the tasks focused on competence, which we developed specifically for the high didactic potential of competence control.

On the one hand, they allow the subject of biology in the educational and cognitive activity of students to create tasks in the form of research. On the other hand, they allow you to simulate situations related to biological tasks in the lesson.

The methodological basis for creating such biological tasks was developed by A.A. Verbitsky theory of contextual learning [11, 12].

In accordance with this concept, competence-oriented tasks should be classified into two types: subject-based research and educational-cognitive. The complex of the designated integrative technologies allows for an objective, complete measurement and evaluation of the level of formation of the IC of worldview knowledge in biology students.

It should be noted that the proposed approach to the assessment of research competencies, in our opinion, can be used as the basis for the technology for assessing the competencies of school graduates in the format of modern SES.

Criteria-based assessment technology is designed to develop the research competencies of the worldview knowledge of senior students in teaching biology, their creative and research potential, creating the necessary conditions for educational independence and orientation in the flow of scientific information. All this is achieved by involving students in systematic reflection, determining the meaning of their actions.

Thus, the criteria-based assessment of worldview knowledge in biology is a system for assessing the educational achievements of students, which consists in comparing the educational achievements of a teacher with students according to clear criteria that are known in advance to all participants in the educational process. The criteria correspond to the purpose and content of education, contribute to the development of research activity of students [13].

The use of criteria-based assessment of worldview knowledge in biology also allows the biology teacher to clearly understand the strategic goals and tactical tasks of education, and also helps students understand the basic rules for using integrative technologies and learning objectives.

It is very important to understand the introduction of this integrative technology into the educational process in order to avoid misunderstanding and erroneous reaction of students in the control of knowledge.

An important principle of integrative technological forms of education is the presence of criteria-based assessment as a process of knowledge control by students who could not only see and know the criteria for controlling their learning activities, but also directly participate with the teacher in the discussion of the assessment of research tasks. To implement such interaction with students, the teacher may need the following action plan:

- the topic, goals and objectives of the lesson are announced;
- all students are encouraged to try to create conditions for assessing their debating skills.

This stage of the formation of research competencies can be done using the "Basket of Ideas" technique, because all students in a certain sense "throw" research ideas into a common piggy bank. Further, all ideas are analyzed by all students together with the teacher and priority learning tasks (criteria) are selected that should be included in the topic. Each criterion is divided into levels of success.

The final step is to discuss the grading scale and translate the scores into a final grade.

The technology of integrative forms of education as a form of assessment according to certain criteria takes time to be used in practice. When using these forms of teaching assessment, the teacher must comply with the following general requirements:

- the work being assessed and the procedure for assessing it should allow the teacher and student to jointly identify strengths and weaknesses, as well as to understand what the student can do to reduce their failures;
- evaluation is carried out in accordance with the general evaluation criteria for a specific subject group, achievements for each of the criteria are identified separately;
- students know the assessment criteria that must be met before starting an assignment, and, if possible, participate in descriptors and discussions for assessing assignments;
- students are given the opportunity to analyze their learning using assessment criteria and identify issues that require special attention and improvement;
- interaction of teachers is organized to assess the work of schoolchildren in order to develop common approaches to this process of research activity;
- evaluation of the work is carried out as objectively as possible, regardless of personal preferences and dislikes, which is achieved by creating detailed topics consisting of criteria and descriptors for each of the criteria.

Using the technology of integrative forms of teaching and assessment, the teacher changes the attitude of students to the subject. When creating descriptors, each educational task is evaluated by a certain number of points, which the student summarizes when completing tasks. As a result, the usual assessment is filled with real meaning and content for the student.

Thus, by analyzing the assessment of a certain aspect of the student's activity with a certain number of points, the teacher motivates the necessary aspect of the student's work. Of course, the effectiveness of this assessment system depends on the teacher's willingness to organize and manage the educational process.

Monitoring and evaluation should motivate students to show interest in the subject of biology and strive for students to improve their results. In this regard, when evaluating progress, the teacher should pay more attention to the pace of student development, increase his desire for self-improvement and deepen his knowledge in the field of education. The teacher must ensure that each student has equal access to the foundations of their subject, based on broad and flexible biology teaching methods and tools for developing students at different levels of biology education.

Pedagogical control serves as a tool for students to acquire new knowledge and master general educational activities, the formation of adequate self-esteem and the need to motivate the individual to self-improvement.

Taking into account all the above rules, the practical application of the technology of integrative forms of education as a system for monitoring and evaluating worldview knowledge in the subject of biology creates fundamentally new conditions for teaching students, which in turn affects the formation of motivation, self-esteem and personal qualities. emotional condition. At the same time, the growing role of reflexive factors and self-control creates the basis for reorientation to internal motives.

A system aimed at interaction with the teacher and classmates may change the system of priorities and values in the learning process, and may not affect the overall motivational relationships and create a favorable emotional atmosphere in the classroom.

Results and Discussion

The experience of applying the methodology of integrative technological forms of education allows us to draw conclusions about the culture of control and evaluation of students' knowledge in the way that this process develops the skills of observation and self-control in older students; stimulates the implementation of educational and cognitive activities; makes control "open" and understandable for all participants in the educational process (students, parents, teachers).

This system of open control allows the teacher to focus on the student's progress, identify areas for growth, highlight what can be learned, and all this makes the process humanized and focuses on the development of the student, who is independent and responsible for their results.

Today in Kazakhstan, the modernization of the education system and its content is in full swing. This process is accompanied by fundamental changes in pedagogical theory and practice [14].

Qualitative changes in any sphere of our life, and even more so in education, are impossible without the formation of a new look at the place and role of the teacher in the educational process.

Without these problems, new goals and objectives may not be achieved, given the competence-oriented, student-oriented, activity-based and differentiated approaches to teaching, with updated content and methods in teaching, as well as new forms of assessment. Therefore, a modern teacher of secondary education has essentially "updated" the content and methods of state educational standards, in order to accept changes, software and didactic support of the educational process, teachers need to change the goals and methods of training [15].

Particular importance in the updated program is given to the concept of integrative forms of education as a form of control over the assessment of worldview knowledge. Much attention is paid to the study of the assessment system by teachers in order to achieve the expected results. If the traditional school curriculum uses a five-point grading system and the teacher has the right to decide for himself whether it will be four or five, then the system of criteria-based assessment under the control of worldview knowledge in biology requires a very open assessment, which is formative (without assessment) during the entire academic year, but with feedback, and summative, which involves the final grade for studying the section and for the quarter.

Assessment should be for students, parents and teachers. Now it is important for the teacher to teach the child and his parents feedback. That is, in a student's notebook, the teacher writes down what to look for. This will help parents understand the situation of the child's educational process. The teacher, in turn, has an excellent opportunity to accurately assess the progress of the student, because any task will be evaluated formatively. These evaluation criteria are defined, and the students know these criteria, and then there is no question why one received praise and the other did not.

Schoolchildren's learning outcomes require teachers to provide a comprehensive and objective assessment of each child's achievement in achieving expected learning outcomes, his or her attitude towards learning, and the dynamics of overall personality development.

The application of biological problems causes an invariable response from students. Often schoolchildren are instructed to select such examples themselves when studying various branches of biology. For example, when studying mammals, students can name representatives that live around them, a similar situation for other representatives of the animal world. One of the methods of stimulation is the comparison of scientific and everyday interpretations of individual natural phenomena in the study of the discipline "Biology". For example, how does the duration of daylight hours affect the inhabitants of our planet. What happens to the flora and fauna with the advent of spring or autumn? On the one hand, these are simple questions, but for students these are full-fledged tasks that motivate them to get an answer [14].

To achieve the planned result, we used biological tasks. There are different types of biological tasks:
- "quiz" questions and tasks;
- tasks "for observation";
- tasks like "guess who";
- tasks "to establish connections";
- tasks "for enumeration";
- tasks "about functions";
- tasks "about ways to solve";
- tasks "on the connection of the structure with the way of life";
- tasks "for comparison";
- tasks "for global communications";
- integrated tasks.

Speaking about the types of biological tasks with technical innovations, it is worth using interactive whiteboards, the main function of which is the demonstration and active work with all types of graphic and text files and videos, the creation of an electronic lesson protocol. There are several types of interactive whiteboards (Fig. 1):
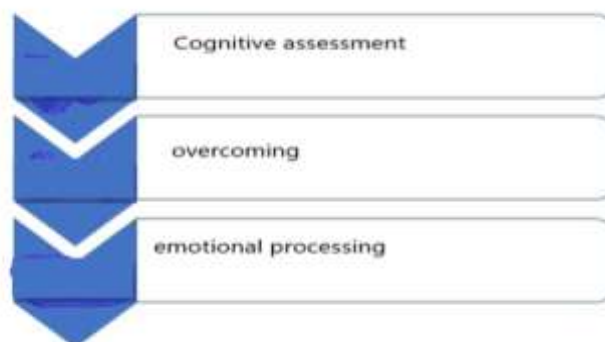
Figure 1. A variety of interactive whiteboards

• **Active whiteboard** — connects to a power source and to a computer. Working with files is carried out using a special stylus.

• **Electromagnetic interactive whiteboard** — works on the principle of passive electromagnetic technology, which allows the use of special markers.

• **Interactive whiteboard based on infrared scanning technology** — a large display equipped with infrared sensors, which can be operated either with a special stylus or just with your fingers.

To work with interactive whiteboards, special software is used, with which the teacher can add notes on top of any image on the screen, focus students' attention on important details, use ready-made templates for documents and lessons for teaching, import and modify various graphic objects.

It is assumed that in the process of assessment using these criteria-based technologies, the student will gradually build up his own competence + potential and achieve the expected results at the level of "I am sure that he can do it".

Thus, in accordance with the competency-based approach, the development of the curriculum is assessed through specific results that indicate the achievement of learning goals according to measurable and observable criteria for monitoring and evaluation.

Biological tasks are an integral part of learning, as they develop logic, thinking, and creative activity. The biological task is aimed at developing the logical thinking of students, and also helps to consolidate the studied

material. In some cases, biological tasks act as tools for expanding the knowledge and research interests of students, especially if their solution is assigned to homework [16].

Results and discussion

Let's consider the main results of the study, in which 23 students of the 10th grade took part.

As a result of the survey aimed at assessing the level of research interests as forms of initial research competencies in the discipline "Biology", at the ascertaining stage, the results presented in Table 3 were obtained. In the process of conducting the study, some students found it difficult to determine answers, which took them time (Table 3).

T a b l e 3

The level of research interests in the discipline "Biology" at the ascertaining stage (%)

Level	High %	Medium %	Low %
Number of students	18	40	43

The answers of the students showed the predominance of an average and low level of development of research interests as forms of initial research competencies in the discipline "Biology", a high level, unfortunately, is represented by a low percentage (Fig. 2).
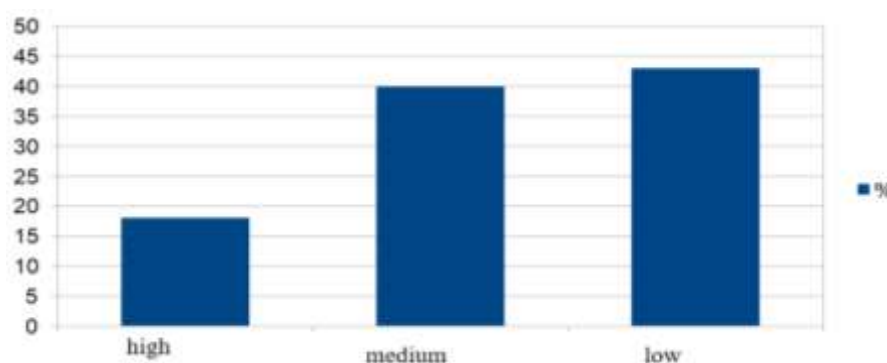
Figure 2. The level of research interest in the discipline "Biology" at the ascertaining stage (%)

Thus, at the ascertaining stage, the need to intensify the use of knowledge, skills and abilities and the use of information computer technologies (ICT) was identified (Table 2).

As part of the work carried out at the control stage, we carried out a re-diagnosis of the level of development of cognitive, communicative and organizational skills and abilities in the application of information computer technologies (ICT) in the biology lesson (Fig. 3).
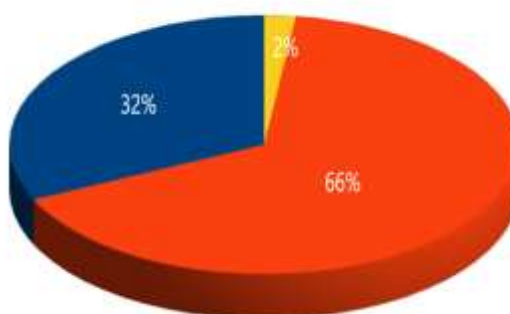
Figure 3. The level of research interest in the discipline "Biology" at the control stage (%)

The number of students with a high level of development of knowledge and their application in the biology lesson was 31%. 64% of students showed an average level and 3% showed a low level.

Conducting a comparative analysis of the results of the development of knowledge in biology and their application of information computer technologies (ICT) to the educational environment at the ascertaining and control stages made it possible to establish that the number of students with a low level of this indicator had a

negative trend of 42%, which is probably due to the transition of these students to a higher level of control and evaluation of their own knowledge of biology using information computer technologies (ICT) (Table 4).

T a b l e 4

Comparative results of level diagnostics of research interests, ascertaining and control stages (%)

Level	High	Medium	Low
number of students	%	%	%
ascertaining stage	18	40	43
control stage	32	66	2

Thus, the results obtained by us prove the effectiveness of the completed set of tasks on the use of information and computer technologies (ICT), aimed at increasing the level of students' use of ICT in biology lessons and increasing their level of knowledge, skills and abilities in the use of ICT.

So, based on the results of the study, the following conclusions can be drawn:

- the use of information and computer technologies (ICT) in a secondary school is an effective means of developing motivational activity in the use of ICT and systematizing students' knowledge of the subject of biology.

- the use of various forms of ICT and their inclusion in the system of biology lessons contributes to the deepening of students' knowledge, since the studied material is considered in the context of a broader issue. This, in turn, creates optimal conditions for obtaining knowledge in the system of interdisciplinary connections. Work on these technologies not only preserves the structure of the general education cycle, fully meets the requirements of the mandatory minimum content of education, but also:

- helps to increase cognitive interest in the subject;
- contributes to the growth of student achievement in the subject;
- allows students to express themselves in a new role;
- forms the skills of independent productive activity;
- contributes to the creation of a situation of success for each student.

ICT works for a particular student, and he takes as much as he can learn, works at a pace and with those loads that are optimal for him. Undoubtedly, ICTs are developing technologies and should be more widely integrated into the learning process.

T a b l e 5

Requirements for the mandatory minimum content of training

№	Temp loads	Learning content
1.	Use of electronic methodological materials in school practice	saving time in class
		immersion depth in the material
		increased learning motivation
		integrative approach to learning
		the possibility of simultaneous use of audio, video, multimedia materials
2.	The use of ICT in the classroom helps both the teacher and students in learning activities	value-semantic definition of students in the study of subjects of biology
		new goals of education are being implemented
		organization of productive activities
		formation of information literacy and competence
		process customization

The effectiveness of educational and cognitive activity of students is increased by expanding access to educational information and improving organizational forms and methods of teaching and visualizing the information provided. Using ICT, the teacher is freed from reloading in time for teaching students and keeps the increase in students' interest in studying the subject and doing homework, in the form of presentations on a given topic.

Conclusion

The methods of using information and computer technologies (ICT) that we have chosen are by far one of the most effective and necessary teaching aids, giving both the teacher and the student more freedom in choosing methodological ways to fulfill the requirements of the curriculum. It follows from this that it is

necessary to continue work in this direction, to achieve high results, to improve the quality of student education.

The productivity of the practice is aimed at a system of work that will allow organizing a potential space for interaction and cooperation between the teacher and students and conducting mutual control and self-control.

Further, to draw conclusions affecting the activation of the cognitive activity of the individual make it possible to create prospects for the process of globalization of integrated learning in the process of studying biology and ICT into a single pedagogical process.

The use of information and computer support in biology lessons allows you to expand the possibilities of teaching biology, organize the optimal combination of motivational and visual parameters of educational material, and make the learning itself more individualized in general.

At the end of the study, we made final conclusions about the degree of impact of information computer technologies on the system of general secondary education, since education acts, on the one hand, as a consumer of information.

However, computer technologies have already proven their effectiveness in school education, in combination with interactivity, offering various expressive means of displaying educational information, the computer provides a qualitatively new level of education.

The use of information computer programs in biology lessons contributes to the formation of students' learning activities in the lesson, as these technologies expand the possibilities for individual development in teaching ICT, allow students to expand students' interest in the subject of biology, and teachers to understand the methods and conditions for organizing interdisciplinary integration of biology and computer science.

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С.Е. Шажанбаева, Н.В. Малиновская, Р.Х. Курманбаев, С.Ж. Ибадуллаева, А.Б. Карабалаева

Оқыту үрдісі жағдайында интегративті технологиялар мен оқыту формалары арқылы оқушылардың дүниетанымдық білімдерін қалыптастыру

Мақалада биология сабақтарын ақпараттық қамтамасыз ету мәселелері оқытудың технологиялық құрамының мазмұнын әзірлеуге дидактикалық тәсілді іске асыру жоспары ретінде қарастырылған, өйткені бұл сабақта компьютерлік видеоларды, мультимедиялық презентацияларды пайдалануға болады, яғни бұл оқушылардың мотивациясын белсендіруге және оқытудың тиімділігін арттыруға мүмкіндік береді. Бүгінгі таңда білім беру процесінде заманауи ақпараттық технологияларды қолдану оқу материалын беру сапасын жақсартуға және оқытудың тиімділігін жақсартуға мүмкіндік жасайды. Зерттеудің өзектілігі білім беру мазмұнын жаңартумен, биологияны оқытуда ақпараттық және компьютерлік технологияларды әдістемелік ұйымдастырудың міндеттерін қоюмен байланысты. Ал сауатты педагог білім беру процесінің маңызды қатысушысы болып табылады және ол өз жұмысында ақпараттық және компьютерлік технологиялардың осындай қарқынды жетілдірілуін есепке алмау мүмкін емес. Ақпараттық және компьютерлік технологияларды қолдану оқушылардың биологиялық материалды игеру бойынша оқу мазмұнын едәуір кеңейтуге және әртараптандыруға мүмкіндік береді. Ақпараттық мәдениет (сауаттылық пен құзыреттілік) табысқа жетудің кепілі. Зерттеулер көрсеткендей, бүгінгі таңда биология мұғалімінің тәжірибесі ақпараттық және компьютерлік технологияларды қолдана отырып оқытудың белсенді әдістерін қамтиды, бұл оқушылардың оқытылатын пәнге танымдық қызығушылығын дамытуға жаңа мүмкіндіктер ашады. Мақала авторлары биологияны оқытуда ақпараттық-компьютерлік технологияларды (АКТ) қолданудың мүмкіндігі мен тіпті стратегиялық қажеттілігін қарастырған, бұл білім беруді компьютерлендіру мәселелерін ұйымдастырушылық тұрғыдан шешуге және оқытудың тиімділігін арттыруға мүмкіндік береді.

Кілт сөздер: ақпараттық-компьютерлік технологиялар (АКТ), сабақтың бақылау-бағалау функциялары, бағалаудың интегративті түрі, дамыған шығармашылық әлеует, білім берудің ақпараттық технологиялары, мектептегі оқу тәжірибесі.

С.Е. Шажанбаева, Н.В. Малиновская, Р.Х. Курманбаев, С.Ж. Ибадуллаева, А.Б. Карабалаева

Перспективы информационно-компьютерных технологий в обучении биологии

В статье рассмотрены проблемы информационного обеспечения уроков биологии как планов реализации дидактического подхода к разработке содержания их технологического состава обучения, так как это дает возможность использовать на уроке компьютерное видео, мультимедийные презентации, что позволяет активизировать мотивацию учащихся и повысить эффективность обучения. Сегодня использование современных информационных технологий в образовательном процессе позволяет улучшить качество подачи учебного материала и повысить эффективность обучения. Актуальность исследования связана с обновлением содержания образования, постановкой задач методической организации информационных и компьютерных технологий в преподавании биологии. А грамотный педагог — важный участник образовательного процесса, и он не может не учитывать столь интенсивное совершенствование информационных и компьютерных технологий в своей работе. Использование информационных и компьютерных технологий позволяет существенно расширить и разнообразить содержание обучения по усвоению биологического материала школьниками. Информационная культура (грамотность и компетентность) — залог успеха. Исследования показали, что практика учителя биологии сегодня включает активные методы обучения с использованием информационных и компьютерных технологий, что открывает новые возможности для развития познавательного интереса учащихся к преподаваемому предмету. Авторы статьи рассмотрели возможность и даже стратегическую необходимость применения информационно-компьютерных технологий в преподавании биологии, что позволяет решить проблемы компьютеризации образования с организационной точки зрения и повысить эффективность обучения.

Ключевые слова: информационно-компьютерные технологии, контрольно-оценочные функции урока, интегративная форма оценивания, развитый творческий потенциал, информационные технологии обучения, школьная образовательная практика.

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Psychological and pedagogical conditions for the formation of digital literacy of students of the modern Kazakhstan schools

The article discusses the necessity to develop psychological and pedagogical conditions that ensure the success of the process of developing digital literacy among students in the context of digitalization of education. The formation of digital literacy is a comparatively new area of activity that is being applied in many countries of the world and is being actively researched, including Kazakhstan. Digital literacy of students in schools aims at providing effective interaction with digital services, includes the ability to work with any source of information, as well as with all types of information, is expressed in knowledge, skills and abilities that allow students to become active partakers in the socializing Internet environment cyberspace. The authors of the article suggest a classification of psychological and pedagogical conditions that ensure more effective formation of digital literacy of students in the context of digitalization of education in Kazakhstan. However, actual problems and perspectives of the formation of digital literacy is still a scope for further scientific research.

Keywords: digital competence, digitalization of education, psychological and pedagogical conditions, IT skills.

Introduction

The concept of digital literacy or competence is closely related to the concept of digitalization of education. An analysis of modern research in the field of digitalization of education shows that the stage of digitalization comes next after the computerization of education. In our country, the digitalization of education, first of all, should be carried out through the motivation and training of teachers for its effective use. The evaluation of academic success is almost always linked to educational activities based on the use of ICTs, and digital teaching methodology continue to be widely disseminated. Digital literacy as a set of knowledge and skills that are necessary for the safe and efficient use of digital technologies and Internet resources includes both digital consumption and digital competencies and digital security.

Digital literacy is a concept that unites important groups: computer and information skills. Information literacy is the ability to formulate information need, to request, search, select, evaluate and interpret information, in whatever form it is presented. The UNESCO Information for All Program (IFAP), based on international experience, has formulated "indicators for the development of the information society", defining digital literacy as an essential life skill [1]. Today, a new challenge for the effective shift to digital education and successful formation of digital literacy of schools' students is the provision of appropriate psychological and pedagogical conditions of teaching and learning. Psychological and pedagogical support together with psychological and pedagogical conditions of educational environments in the frames of digitalization of educations is a little-lit problem in the modern educational context of Kazakhstan, and this work aims to highlight this aspect in our study.

Materials and methods

A questionnaire for teachers was developed in the frame of the research in order to reveal teachers' ideas about effective psychological and pedagogical conditions for the formation of digital competence of elementary school students (grades 5–8). A google-questionnaire was created and a survey of pedagogic schools was conducted among schools in Astana (30 respondents) and schools in Karaganda (39 respondents). The presented sample can be considered representative, since it covers all categories and positions of teaching staff of schools implementing various educational programs — basic general education, in-depth study of subjects.

The developed questionnaire contains questions of closed, open and mixed type. The logic of questions in the questionnaire allowed:

- to determine the views of teachers about the key psychological problems of modern schoolchildren of different ages (students of 5–7th and 8-9th grades), studying in the conditions of digitalization of education;

- to reveal the opinion of teachers about the effectiveness of the created pedagogical conditions of the educational process in the frame of digitalization of education;

- to reveal the attitude of teachers to digital means of pedagogical and psychological support for schoolchildren.

The analysis of the results of the google poll was focused on the verification of the initial hypothesis of the study, which consisted in the assumption of the need to determine the psychological and pedagogical conditions for the effective formation of digital competence.

Psychological and pedagogical conditions as a key element of successful formation of digital literacy of students

The need for the formation of digital literacy in the territory of the Republic of Kazakhstan is due to the digitalization of domestic education, which involves the use of modern technologies and the creation of targeted and effective tools for the subjects of the educational environment: teachers, students, and their parents. The use of digital technologies is not limited only to the instrumental support of the educational process (Smart-board, multimedia projector, etc.), but is implemented through appliance of existing educational online tools and services into building digital personal educational environments for teachers and students with the construction of possible individual trajectories of the educational activity of the latter. In addition, it should be noted that modern educational programs involve the increase in time allotted for extracurricular activities, which means that the potential of digital tools and digital services increases, which allow organizing and providing a system of remote support, accompanying the activities of students and their parents, delivery and broadcasting of digital educational content, creating conditions for the formation of the competencies of a student of the XXI century, which is noted by such domestic and foreign authors as Barlybayev A.B. [2], Sharipbayev A.A. [3], Mukhametzyanov I.S. [4], Solovov A.V. [5], Zenkina S., Pankratova O. [6], Konovalova S.A., Kashina N.I. [7], Țălu Ș. [8], Kalantzis M., Cope B. [9], Davidson P.L. [10], Mironenko [11], García-Tudela P. [12], and others.

Ideas in the field of e-learning in Kazakhstan, the development of digital educational content, the development of digital competencies of teachers in the aspect of designing their own digital resources, are reflected in the works of such domestic scientists as Nurgaliyeva G.K., Artykbayeva Ye.V. [13], Tazhigulova A.I. [14], Sarzhanova G.B., [15–17] and others.

The target indicators of the country's development are set by the Strategy "Kazakhstan-2050" [18] to ensure the development of innovative technologies and the modernization of education. However, the existing potential and real threats affect different spheres of the life of society and mankind. Among them are vulnerability from cyber threats, information attacks, low level of information and media literacy not only of children and youth, but also of the adult population, and, as a result, manipulation of public opinion and provocations. That is why it is necessary to provide the process of formation of digital literacy with effective pedagogical and psychological conditions for its effective implementation.

Pedagogical conditions represent a system of norms and rules, both general and special, taking into account the subject area of knowledge, and should include a content component of a complex of objects, processes or phenomena, on which other objects, processes or phenomena depend and which affects the result of the process formation of digital literacy of people of the third age. We agree with the Soviet and Russian teacher V.I. Andreev, who understands pedagogical conditions as "circumstances of the learning process, which are the result of purposeful selection, construction and application of elements of content, methods, and organizational forms of learning to achieve certain didactic goals" [19].

To ensure the process of formation of digital literacy among students, in the conditions of digitalization of education, we have defined the main **pedagogical conditions**:

• *diagnostic* (analysis of regulatory documents, identification of didactic features of students of basic general education, secondary general education, search for opportunities to implement the educational process in the conditions of updated content of education);

• *structuring* (creation of an accessible electronic informational educational environment for all levels of education; modular object-oriented dynamic learning environments, creation of structural elements of the learning process taking into account the specifics and direction of preparation);

• *content* (modeling and selection of content to ensure the effectiveness of digital literacy formation, support of this process with the necessary tools, methodical materials, handouts, printed teaching and methodical manuals, using cloud technologies and remote modular systems);

• *technological* (correspondence to forms and methods that ensure the process of formation of digital literacy);

• *evaluation-resultative* (making a creative atmosphere; approbation of empirical material to determine the level of formation of digital literacy among students, increasing motivation of students; all-round support of students to achieve positive results at various levels (regional, republican, etc.); optimization of existing programs and development of new resources in accordance with the needs, interests, individual capabilities of students).

Speaking of **psychological conditions**, it should be noted here that in the studies of many psychologists, a high correlation between the level of academic success of schoolchildren and the level of development of their cognitive sphere was revealed. The cognitive sphere, which is an integral part of the human cognitive domain, is a system of sensory-perceptual (sensation and perception), intellectual (thinking and speech), mnemonic (memory), attentional (attention) and imaginative (imagination) processes. In the psychological-pedagogical literature, the issues of the relationship between individual cognitive processes and the success of education in the conditions of a traditional school have been sufficiently considered. However, the digital environment has a number of specific features and contains many factors that have both a positive and a negative impact on the process and result of education, as well as on the development of the personality of the subjects of education. In order to fix the problems that arise in schoolchildren when learning in the conditions of digitalization, it is necessary to consider the features of functioning in the cognitive sphere of the processes of attention, memory, thinking, communicative processes, as well as the features of personality development in general [20, 21].

In the results of psychological and pedagogical studies, psychological problems of schoolchildren caused by the digitization of general education were revealed, which need to be emphasized, as this will allow creating the most comfortable learning environment for the successful formation of digital literacy:

● *Psychosomatic health in the digital environment* — the availability of digital technologies and Internet resources has a known side effect — more and more children, especially teenagers, become addicted users. Today, such expressions as "binge-watch", "hyper-connected", "extreme Internet users" appear. Adolescents who often use the Internet experience a feeling of loneliness and become victims of bullying. Unrestricted use of the Internet is a signal of their psychosomatic vulnerability and the need for support.

● *Information culture* is defined as a culture of interaction with information that forms the student's ability to navigate in the information environment. It creates the basis for the development of informational qualities of a person: informational literacy, informational thinking, informational behavior, and informational worldview.

● *Information security* — according to scientific literature, about 40% of children who regularly visit the Internet browse websites with aggressive and illegal content, are exposed to cyber-stalking and virtual harassment.

● *Professional self-determination in the digital environment* — professional self-determination is characterized by a personal preference for self-realization in the labor market, which greatly affects the quality of life and the feeling of self-worth. At the end of school, a student sometimes cannot decide between what he wants and what he needs due to the influence of individual and social needs. Therefore, he needs help in the vector of further development.

▪ *Personal and emotional problems* — it is necessary to take into account health risks brought by digitalization. Researchers have proven that digital addiction in school age can lead to the risk of developing other types of addiction: gaming, alcohol, and drug addiction. Insufficient motor activity leads to a delay in the development of the kinesthetic mechanism in the work of the brain, and as a result, it can lead to problems in the development of speech and thinking.

▪ *Communication and behavior* — for a teenager, immersion in the Internet is both an expansion of the circle of communication (and the opportunity to interact "as equals" and not only with peers), and instant communication regardless of the location of the interlocutor, and a kind of guarantee of what the teenager can do his place in society, self-realization, feeling significant for his reference group. But at the same time, this kind of communication creates problems and risks, for example, neglect of social norms and ethics due to certain anonymity of interaction, inability to conduct face-to-face or virtual dialogue.

▪ *Mastering the subject content* — the increasing importance of the problem of mastering the subject content is associated with the belief that by the 8th-9th grade, schoolchildren are more aware of the importance of education, while teenagers experience difficulties with competent time allocation and planning of their activities.

Thus, it can be concluded that the creation of conditions for solving the above-mentioned psychological problems guarantees the safe and effective integration of students into the digital educational environment. The success of this process directly depends on how the described conditions will be applied in practice. The directions of further research in this area are to improve the quality of the research process taking into account the correction of the proposed conditions in the conditions of the continuous educational process.

Research results and conclusions

Let us consider the results of the survey conducted by us, within the framework of the PhD dissertation research. The questionnaire consisted of 20 questions, of which we will focus on the results of three important questions, according to the authors:

1. *What pedagogical conditions are necessary for the effective formation of digital competence of students at school?*

A) regulatory documents;

B) creation of an accessible electronic informational educational environment;

C) support of this process with the necessary tools, methodical materials, handouts, printed teaching and methodical manuals;

D) your option

2. *What psychological conditions are necessary for the effective formation of digital competence of students at school?*

A) observing and supporting psychosomatic health of students in the digital environment;

B) providing informational security for students in the digital environment;

C) supporting students' appropriate development of cognitive processes;

D) your option

3. *How could you support your students with psychological-pedagogical assistance during the process of formation of digital competence? (Open question)*

Let's take a closer look at the results of the survey. Speaking about the choice of pedagogical conditions necessary for the effective formation of digital competence of students at school, more than half of the respondents (51.7%) noted that this is "support of this process with the necessary tools, methodical materials, handouts, printed teaching and methodical manuals" (Fig.). A third (29.7%) of respondents noted that this is "creation of an accessible electronic informational educational environment", one tenth of opinions were divided with the statement — (9.5%) "creation of an accessible electronic informational educational environment" and (9 ,1%) gave their own answers among which there were "optimization of existing programs and development of new resources in accordance with the needs, interests, individual capabilities of students, making a creative atmosphere" and others.
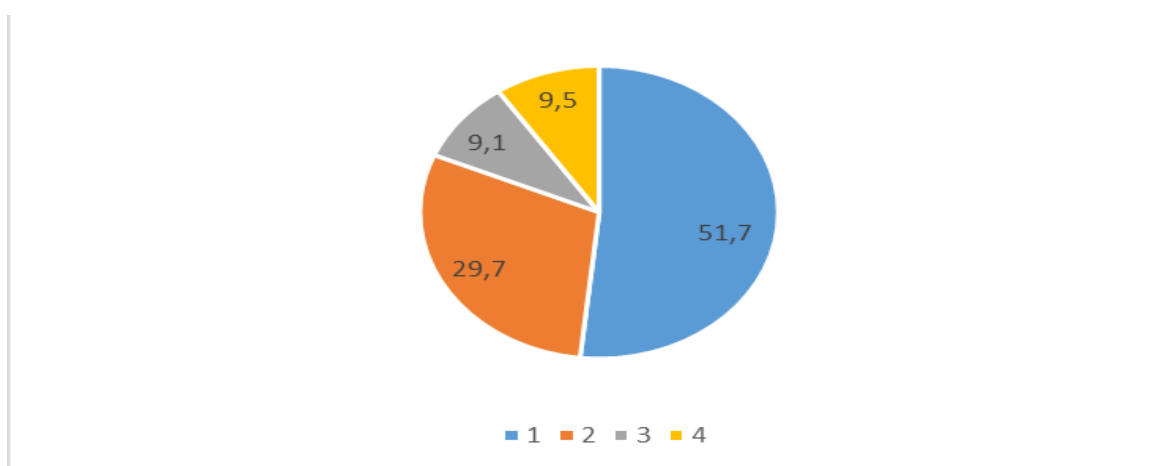
Figure. What pedagogical conditions are necessary for the effective formation of digital competence of students at school?

The results of the following three questions indicate that, according to the teachers' opinion, personal and emotional problems, as well as problems of communication and behavior, mastering subject content and self-determination in the digital environment, their psychosomatic health are the most significant for the formation of digital competence for middle school students. The importance of these problems for teenagers increases.

Among the means of psychological and pedagogical support of students on the way to the formation of digital competence, teachers noted both very effective traditional methods (consultations, organization of excursions, joint events, inclusion in collective creative activities, personal instructions, the teacher's own example), as well as new ones caused by modern conditions of digitalization (organization of chats, groups in social networks and others).

The curriculum for the subject "Digital Literacy" was developed in accordance with the State Compulsory Standard of all levels education. Digitalization of education is aimed at developing digital competencies of schoolchildren that allow them to implement digital technologies such as "computer", "representation and processing information", "working on the Internet", "computing", "robotics", it annually gives every student the opportunity to gain knowledge not only in computer science, but also in other academic subjects, as well as formation of new practical computer skills based on previously acquired experience in school and extracurricular activities. When teaching the subject "Digital Literacy" in school active forms and methods of teaching are used, taking into account age characteristics of students. For a better understanding of the concepts, it is recommended correlate them with the most common specific life examples. To teach this subject, educational and methodological complexes have been created aimed at developing logical and algorithmic thinking, mental and communication skills of students, the formation of universal educational actions, basic theoretical concepts, and skills working on a computer. However, the analysis of the results of pedagogical research and interviews with school teachers shows that schoolchildren have mostly fragmented knowledge of computer science, which is primarily due to the low level of cognitive interest of schoolchildren in this subject. One of the solutions proposed by practicing teachers is the observance of certain conditions to increase students' motivation while studying Digital Literacy, such as the use of electronic educational resources designed so that a set of pedagogical conditions are considered: the use of psychological and pedagogical theories of knowledge acquisition when using computer teaching tools, the use of interactive computer graphics, structuring educational material, taking into account the age and individual characteristics of students when teaching computer science, managing the learning process, etc. Improving the methodological system for developing digital literacy will increase the level of development of students' cognitive interest, as well as the effectiveness of students' assimilation of the material being studied in the subject of Digital Literacy.

The presented results indicate that at present state the society is responding well to innovative processes associated with the digitalization of society and education. Considering the issue of digitalization of Kazakhstani education, it should be noted that the latest global trends have prompted all participants in the pedagogical process to intensify their efforts towards improving digital competence. Summing up the presented, it should be noted that these resources ensure the organization of pedagogical interaction, both in the educational process and beyond, allows teachers to apply elements of educational technologies, thereby increasing the involvement of students in the process of cognition and learning. Aspects that require special attention include a complex system of favorable psychological and pedagogical conditions that need to be implemented into the educational process for further effective formation of digital literacy. The pedagogical aspect of the formation of digital competence still lies in the necessity of optimizing of the existing programs and development of new resources in accordance with the needs, interests, and individual capabilities of students. The psychological aspect of conducting an online lesson deserves special attention, where the teacher must concentrate on informational security as well as psychosomatic health of students. Thus, considering the issue of digitalization of Kazakhstani education, it is necessary to point out the trends being carried out in terms of social and methodological transformations. These include government policies covering education. Among the possibilities of using modern educational technologies, one can find a large number of relevant methods aimed both at teaching a student to learn professional and educational content on their own, as well as for the teacher himself to be able to vary both his ICT capabilities and student knowledge of IT programs and to create favorable psychological and pedagogical support, skillfully operating them in favor of quality education and effective formation of digital competencies.

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Заманауи Қазақстан мектептері оқушыларының цифрлық сауаттылығын қалыптастырудың психологиялық-педагогикалық шарттары

Мақалада білім беруді цифрландыру жағдайында оқушылардың цифрлық сауаттылығын дамыту процесінің сәттілігін қамтамасыз ететін психологиялық-педагогикалық жағдайларды әзірлеу қажеттілігі қарастырылған. Цифрлық сауаттылықты қалыптастыру — әлемнің көптеген елдерінде қолданылатын және белсенді зерттелетін, оның ішінде Қазақстанда да қызметтің салыстырмалы түрде жаңа саласы. Мектептердегі оқушылардың цифрлық сауаттылығы цифрлық сервистермен тиімді өзара іс-қимылды қамтамасыз етуге бағытталған, кез келген ақпарат көзімен, сондай-ақ ақпараттың барлық түрлерімен жұмыс істей білуді қамтиды; оқушыларға қарым-қатынас жасайтын интернет-ортада, киберкеңістікте

белсенді қатысушы болуға мүмкіндік беретін білімдерде, білік пен дағдыларда көрініс табады. Мақала авторлары Қазақстанда білім беруді цифрландыру жағдайында оқушылардың цифрлық сауаттылығын неғұрлым тиімді қалыптастыруды қамтамасыз ететін психологиялық-педагогикалық жағдайлардың жіктелуін ұсынған. Алайда, цифрлық сауаттылықты қалыптастырудың өзекті мәселелері мен келешегі әлі де ғылыми зерттеулердің маңызы болып қала бермек.

Кілт сөздер: цифрлық құзыреттілік, білім беруді цифрландыру, психологиялық-педагогикалық жағдайлар, IT-дағдылары.

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Психолого-педагогические условия формирования цифровой грамотности учащихся современных казахстанских школ

В статье рассмотрена необходимость разработки психолого-педагогических условий, обеспечивающих успешность процесса развития цифровой грамотности учащихся в условиях цифровизации образования. Формирование цифровой грамотности — сравнительно новое направление деятельности, которое применяется во многих странах мира и активно исследуется, в том числе и в Казахстане. Цифровая грамотность учащихся в школах направлена на обеспечение эффективного взаимодействия с цифровыми сервисами, включает в себя умение работать с любым источником информации, а также со всеми видами информации, выражается в знаниях, навыках и умениях, позволяющих учащимся стать активными участниками в общающейся Интернет-среде, киберпространстве. Авторы статьи предлагают классификацию психолого-педагогических условий, обеспечивающих более эффективное формирование цифровой грамотности учащихся в условиях цифровизации образования в Казахстане. Однако актуальные проблемы и перспективы формирования цифровой грамотности еще остаются полем для дальнейших научных исследований.

Ключевые слова: цифровая компетентность, цифровизация образования, психолого-педагогические условия, IT-навыки.

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Investigating "Hidden side" of Foreign Language Teacher: Cognition, Affect, and Motivation

The primary aim of this study is to investigate "hidden side" of foreign language teacher. In order to describe foreign language teacher such factors as Cognition, Affect, and Motivation were taken and investigated. The study used English language teachers in order to investigate "Foreign language teacher". The research sample consists of 40 English language teachers working in different public schools from different cities, teaching levels and various ages and work experiences in Kazakhstan. In order to describe general portrait of foreign language teacher Professional orientation method was used. According to the results, English language teachers have three professional orientations: Self-orientation, Communication-orientation, and Task-orientation. Based on these orientations cognitive, affective, and motivational sides of the teachers were described and compared. The results provide detailed comparison and description of English language teachers with respect to cognition towards communicative approach, motives to work and emotions about teaching English at schools.

Keywords: hidden side, English language teacher, teacher profile, teacher cognition, teacher affect, teacher motivation.

Introduction

L2 Teachers (foreign language teachers) have an important effect in the process of teaching and learning. The academic success of acquiring English totally depends on the ability of teachers. The concept of teaching foreign language includes variety of aspects from the side of L2 Teacher. There are various characteristics of Effective ELT, such as verbal ability, knowledge, experience, certification, etc. [1]. However, all these characteristics can be grouped together that can cover the term of effective L2 Teacher.

To investigate the idea of "hidden side" of teaching of L2 teacher, we need to examine the teacher from different perspectives. According to Bier the picture of L2 teacher can be divided into three categories such as: cognition (knowledge and thoughts), affect (feelings), and motivation (desires) [2]. These three categories are interacted with each other and have an important role on forming the picture of foreign language teacher.

The elements to describe the "hidden sides" of teachers are distinguished by factors such as: cognition, affect, and conation (motivation) [3]. According to Bier these three aspects interact with each other and therefore affect the ELT teacher's motivation. A lot of studies were done in order to investigate the profile of ELT teachers [2]. The results of the research, done in Turkey, show that the cognition is the most influencing factor affecting L2 Teachers [4]. Gabrys-Barker says that the L2 Teachers affect in teaching context is one of the most significant factors that help to improve interaction, classroom dynamics and language achievement of the students [5]. Investigating teacher motivation is also crucial as it is a variable that impacts not both the teacher only but also learners too [6].

This study aims to investigate the factors influencing L2 Teacher's formation. It is believed by psychologists and linguists that the characteristics of foreign teacher can be described using three factors such as cognition, affect, and motivation. Teacher cognition means what the teachers know, believe and think about their profession. Affect is what the teachers feel about teaching. Teachers' emotions and feelings in terms of their sphere of education also form the profile of an ELT teacher too. Motivation is the wish or desire of the teachers. Motivations of the ELT teachers play an important role in describing L2 teacher. There is an assumption that these three aspects have a close relationship between each other and have a considerable impact on teacher's formation. The three dimensions are examined in detail and found some links between these dimensions.

Motivation for the study

The investigation of "the hidden side" of L2 teacher is an important process as it defines the common image of the foreign language teachers. The information about the cognition of teacher can give the image of the common thoughts, beliefs, and attitudes of English language teacher. The affect of the teacher describes the emotional process of the ELT teacher. And lastly, motivation tells us the professional orientation of English language teacher. All these three factors are considered to describe the profile of English language teacher.

Teaching foreign language is interesting and challenging job. In order to improve the quality of teaching foreign languages, teachers should first of all understand their inner part of teaching. That is to say, we need to know cognition, affect, and motivation of teachers to choose teaching foreign languages as a profession. These factors have been investigated before. However, these three factors were not investigated deeply in terms of L2 teachers. Professional profile of L2 teachers should be investigated as it is still researchable topic. The beliefs, emotions, and motives need to be examined together in order to find out what lays behind the term "hidden side" of teaching foreign languages. Current study aims to find out the both interrelation and connection among three factors: cognition, affect, motivation. There is a high expectation that these three factors are closely connected with each other and therefore affect the image of foreign language teacher. There is a need to investigate the "hidden side" of L2 teachers in order to improve the current educational system of teaching foreign languages. More specifically, the following *research questions* need to be addressed:

1. Which professional orientations characterize L2 teacher?
2. How do intrinsic and extrinsic motives impact L2 teachers' job satisfaction?
3. What kind of beliefs do L2 teachers form towards communicative approach?
4. Which positive and negative emotions affect L2 teachers' job satisfaction and coping with stress?

The long term goal of the research is to investigate beliefs, emotions and motives influencing L2 Teacher's formation. The profile of foreign language teacher will be described with the investigation of three factors: beliefs, emotions, and motives.

Methodology

The process of data collection, research design, information about participants, chosen instruments, used methodical procedure are described in this part of the study.

Research Design

The research study is descriptive which uses both qualitative and quantitative research design. Quantitative study was held by using four questionnaires. The questionnaires examine teacher personality orientations, motivation of professional activity, attitude scale, and teacher affect of L2 teachers. These questionnaires include set of numeric data which will analyze by mathematically based methods in order to find out the answers to research questions. This study is also qualitative as there is an open-ended survey with the in service foreign language teachers. The research can also be considered descriptive and exploratory as describes professional portrait of L2 teachers. Both questionnaires and open-ended survey were held online.

Participants

There were 40 English language teachers who participated in this study. The participants are working in local schools. These teachers have different ages, years of experience and place of work.

There are 4 male teachers and 36 female teachers. The teachers are working in different schools. They are teaching English as a second language in Primary and Secondary schools. The ages and years of experience varied. The names of the teachers were not mentioned on the table. It was coded by the numbers. The youngest teacher is 21 years old while the oldest is 54. There were 19 teachers from Private schools and 21 teachers from public schools. We selected these participants intentionally. The main criteria for selecting these participants were having different age groups and years of experience. The teachers should not only be experienced or inexperienced teachers. Moreover, the place of work of the participants is divided into two categories: private schools and public schools. We believe that difference in the ages, years of experience and place of work make the study more reliable. The diversity of participants would help us to understand "Hidden side" of L2 teacher.

Instruments

The first step of the research is to survey the subjects with 4 diagnostic methods: professional orientation, motivation of professional activity, attitude scale, and teacher affect scale. Data was collected online using

Google Forms. The second step in our research is to calculate raw scores and create a coding table in Excel. All the data was collected in one Excel sheet. All the answers of questionnaires and open-ended survey were recorded there. The third step of our research is the mathematical processing of the data obtained. The data array obtained using diagnostic techniques was summarized by us in a pivot table and subjected to mathematical processing using Pearson correlation. It correlated the link between the answers for the questionnaires. After finishing with the questionnaires participants answered to the Open-ended survey.

The first questionnaire is based on *Teacher Personality Orientation* method. This method was developed by Czech psychologists V. Smekal and M. Kucher. The methodology is developed by a questionnaire by B. Bass. Smekal and Kucher investigated and developed further this questionnaire [7]. Their method is formed on the verbal answers of the respondents in special work situations. Participants' answers are totally dependent on the type of satisfaction and reward they would like to receive. Therefore, the method of Teacher Personality orientation will help us to identify main position at work of the foreign language teachers. After the questionnaire we will identify if the foreign language teacher is Self-oriented, Communication-oriented, or Task-oriented.

Self-orientation is a type of professional orientation where the motives of a teacher are his/her own well-being. These teachers have a desire for personal superiority and prestige. That is to say, these teachers are usually caring about themselves, their own emotions, success and results. Self-oriented teachers (SOT) mostly pay less attention on people around them. The work and teaching process is the place where they can satisfy their own needs. SOT may somehow show some competiveness and rivalry.

A communication orientation is a type of professional orientation where the actions of the teachers are identified by their need to communicate with others. These teachers want to have a good relationship with students, colleagues and other people. Communication-oriented teachers (COT) always want to work in groups. COT wants social approval. They love to be significant and want to show their significance to other people. The society is extremely important to these teachers. These teachers are extremely good in communication skills and interpersonal relations. This kind of teachers is aware of their talent and tries to fulfill themselves through them.

Task orientation is type of professional orientation where teachers have dominant motives generated by the activity. Task-oriented teachers (TOT) are interested in the teaching process itself. TOTs want to master their teaching skills, knowledge and abilities. Task-oriented teachers prefer to cooperate with the group. These teachers are high achievers paying more attention on the results of the activities. TOTs are good problem solvers. These groups of teachers are considered to be energetic, executive and trying to bring the work started to the end.

These tree types of professional orientations can be separated from each other. All three types can be found in one person. However, one type is a dominant in a teacher's personality.

The second questionnaire is *Motivation of Professional activity* which is based on K. Zamfir's technique modified by A. Rean. The technique is used to identify professional motives of teaching of foreign language teachers. The next step that helped to identify motivational factors affecting foreign language teachers was method of Zamfir [8].

The third questionnaire was based on *Attitude scale* developed by Karavas-Doukas [9]. This method helps to diagnose attitude of teachers towards communicative approach. There are 5 thematic groups with 24 statements. These groups are: Group/pair work; Quality and quantity of error correction; The role and contribution of learners in the learning process; The role of the teacher in the classroom; Place/importance of grammar. The highest score that the respondent can get is 120 by scoring 5 in all 24 statements. And the lowest is 24.

The next questionnaire is *Teacher affect scale*. This method was based on Kubanyiova model [10]. The method has 5 degrees of scale. The participants need to indicate an answer which applies to them. This method identifies affective structure of Foreign language teacher. The teachers need to rank the statements from 1 to 5. The statements were adapted from Kubanyiova's method. There are several factors that can be measured. These factors are: interpersonal relations, job satisfaction and emotional exhaustion. There are 8 statements in total.

The last method is *Open-ended questionnaire (survey).* This helps us to identify their attitude towards teaching. The questions in the survey are these:

1. Give your positive and negative feelings about teaching English.
2. What is your reaction if your students misbehave or do not show any interest in the classroom?
3. What kind of emotions do you usually experience a. during the lesson and b. after typical work day?
4. What could be major reason/reasons for you to quit teaching and change your job?

Procedure

The procedure of the research was done in three stages: pre-experimental stage, experimental stage, and post-experimental stage.

Pre-experimental stage in this research is the stage where we selected participants. We looked at their personal and professional information. After selecting 40 participant teachers, we sent them the letter of consent. Afterwards, all the participant teachers were explained about the questionnaires. They are told about the results of the three methods. The duration of completing all methods was about 50 minutes.

The next significant stage encompassed the researchers' involvement into the researching process. The links for the Google Forms to fill in the questionnaires were sent to all participant teachers. After completing the questionnaire we found which teachers are self-oriented, task-oriented, or communication-oriented. Then we found the motives of these teachers for teaching foreign languages and their attitude toward communicative approach. Finally, the teachers were interviewed. All these procedures were conducted online.

The final, post-experimental stage included analysis and discussion of collected data, selection of the most valid results, followed by creation of tables and diagrams to illustrate the answers of the research questions. Data processing was held in two steps:

Step 1 — descriptive statistics: arithmetic mean and percentage;

Step 2 — correlation analysis of the relationship between motivational, cognitive and affective structures of the personality of a foreign language teacher.

For quantitative data analysis, we used the Pearson method r. Pearson's r measures linear correlation between two variables. The formula to find out the correlation is:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n(\sum x^2) - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}}$$

The correlation coefficient ranges from -1 to 1. The numbers close to 1 show that the correlation between variables is strong and dependent on each other. This method will help us to see if there is a relationship between professional orientations and three factors: cognition, affect, motivation.

Results and Discussion

English language teachers' professional orientations

Research Question 1: Which professional orientations characterize L2 teachers?

Research Tool: Teacher Personality Orientation method

Objective: to explore personality orientations of L2 teacher

According to the results of questionnaire English Language teachers are mostly Communication oriented and Task oriented. 14 out 40 teachers are Communication Oriented and other 14 are Task oriented teachers. There are 12 teachers who have dominance in Personal (self) orientation. The difference among these professional orientations is not considerably high. However, we need to describe the teachers according to their dominance of professional orientation (Table 1).

T a b l e 1

Professional orientation

Professional orientations	Number of teachers	Percentage of teachers
Self-orientation	12	30%
Communication-orientation	14	35%
Task-orientation	14	35
Total	40	100

By analyzing the results of personality orientation test of English language teachers, it was found out that those who focus on Communication and Task were the same. 35% of English teachers had dominance in Communication and 35% were dominant in Task orientation, and 30% had focus on Self-orientation. In this way, English teachers with task orientation strive to perform the functions assigned to them as best as possible. Task oriented teachers are able to defend their own opinion in the interests of business, are focused on business cooperation, which characterizes the business orientation of the individual. The motivational factor that drives these categories of teachers is to achieve success in teaching process. These teachers do as much as possible to help students to learn target language. Meanwhile, the other half, communication oriented teachers, are truly willing to help their students; they are very good at communicating with students and love working in groups.

If the results are between 0 and 20 it is considered that the type of professional orientation is low. If the scores are between 21 and 49 it is regarded as average level. Very high level is after 50. All the participants got medium level. However, some teachers got 40 and more, which means high level of orientation.

The results of teachers showed us that there is no dominant category by professional orientations. English teachers have all three professional orientations. Self-orientation, communication-orientation, and task-orientation teachers are taken to investigate further more about cognition, motivation and affect.

Motivation of English language teachers

Research Question 2: How do intrinsic and extrinsic motives impact L2 teachers' job satisfaction?

Research Tool: Motivation of Professional activity

Objective: to identify motivational complex of L2 teacher

The next step that helped to find more about L2 teachers was a method of Zamfir. It is believed that the motivation of labor activity is determined by both external and internal factors. Internal motives are generated by labor activity itself: its social utility, the satisfaction that work brings due to the possibilities of creativity, invention, participation in organization and leadership, communication with people contained in it. External motivation contains those motives that are outside of labor as such and itself [8]. It is believed that in the optimal version of the motivational complex, internal motivation is of the greatest importance compared to other components, while external positive motivation is also provided at a high level, but its indicators are lower than those of internal negative motivation (Internal>External Positive>External Negative or Internal=External Positive>External Negative).

On the basis of the results obtained, the motivational complex of the personality is calculated — the ratio of three types of motivation to each other: Int, Ext P and Ext N.

The installation, optimal, motivational complexes should be attributed to two possible types of combinations: Int > Ext P > Ext N and Int = Ext P > Ext N.

Zamfir's test helped to identify that 72% of the respondents had optimal version of motivational complex: 57,5% of these teachers had dominant internal motives (Internal>External Positive>External Negative) and 7,5% had the same intrinsic and extrinsic positive motives (Internal=External Positive>External Negative). Other 35% of respondents had not optimal motivational factors such as extrinsic motives were higher than other two motives or they were the same.

Interestingly, all communication-oriented teachers (COT) have 100% of intrinsic motives. Their test results showed that 72% of communication-oriented teachers had optimal motives in teaching English. 28% of these teachers had the same level of all types of motives (Int=Ext P=Ext N). It means that communication oriented teachers are motivated mostly by intrinsic motives. These teachers are interested in teaching process itself. According to Zamfir, extrinsic negative motives have impact on professional development and do not allow the teachers to focus on intrinsic needs and interests. This means that communicator teachers have perfect ratio. 28% of communicators had the same level of three motives. However, it is important to note that even the levels of motives were the same; all of them had 100% for each of the motive. Compared to the Communication-oriented teachers, Task oriented teachers had less optimal ratio, 72%. All of these participants with optimal ratio of motives had intrinsic motives higher than extrinsic positive motives (IM>EPM>ENM). Remaining 28% of teachers had also high intrinsic motives.

T a b l e 2

Mean of Professional orientation

	Intrinsic (mean)	Extrinsic Positive (mean)	Extrinsic negative (mean)
OT	93%	90%	79%
OT	100%	92%	77%
OT	95%	81%	68%

Table 2 represents mean of all three professional orientations. The highest mean percentage is in intrinsic motives group while the lowest was in Extrinsic negative group. Extrinsic Positive mean was quite similar to Intrinsic motives too.

However, the teachers' motivation of professional activity differed compared to other two groups of teachers. 50% of Self-oriented teachers had optimal ratio. Some of the teachers had the same amount of intrinsic and extrinsic motives (4 respondents) and one respondent's intrinsic motives were less than extrinsic positive and negative motives.

Information about Motivational structure of teachers

	SOT	COT	TOT
Optimal ratio	59%	72%	72%
Non-optimal ratio	8%	0%	21%
Equal ratio	33%	28%	7%

Table 3 shows us the number of teachers who have optimal and non-optimal ratio in motivational structure. Optimal ratio is when the intrinsic and extrinsic positive motives are the highest while non-optimal is when extrinsic motives are the higher. Equal ratio is when all the motives are the same. In the given results the highest is optimal ratio in all teacher groups.
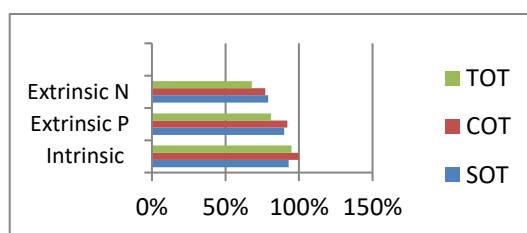
Figure 1. Professional motives of teachers.

Figure 1 shows that intrinsic motives are the highest in all three professional orientation groups. The communication orientation had the highest level of intrinsic and extrinsic motives for teaching foreign languages. It is important to note that Extrinsic negative motives were high in Self orientation while the lowest were in task orientation.

Correlation between professional orientations and motives

	Intrinsic	Extrinsic P	Extrinsic N
OT	0,393	0,868	0,492
OT	0,320	0,165	0,093
OT	0,144	-0,647	-0,188

Table 4 shows correlation between professional orientation and professional activity. The Pearson correlation shows that there is a very high connection between Self-oriented teachers and Extrinsic positive motives. Also, it is seen from the table that there is a high negative correlation between extrinsic positive motives and task-oriented teachers. Other results present that the moderate correlation was found between two variables.

The results of the Professional activity show that English teachers are mostly motivated by intrinsic and extrinsic motives. Being an English teacher because of intrinsic and extrinsic positive motives is connected with the job satisfaction with the work process. English teachers are inspired by simple things such as pride with being a teacher, happiness of working with students, etc.

Cognition of English language teachers

Research question 3: What kind of beliefs do L2 teachers form towards communicative approach?

Tool: Attitude scale.

Objective: to examine L2 teachers' attitudes towards teaching English.

English teachers are first of all linguists. Therefore, there is a high possibility that foreign language teachers mostly prefer Communication in their method of teaching. Communicative approach includes the factors that satisfy all the professional orientations. Role of the teacher, learner, grammar, error correction, group/pair work are the factors that can be found in Communicative approach. In order to find more about foreign language teachers, the cognitive side should also be taken into account. Therefore, there was given an attitude scale developed by Karavas-Doukas [9]. This attitude scale consisted of 24 statements about Communicative approach in teaching foreign languages. It was divided into 5 thematic groups such as:

1. Role of group and pair work;

2.   Quality and quantity of error correction;
3.   The role of teachers in learning process;
4.   The role of learners in learning process;
5.   Role of grammar.

The investigation of attitudes of teachers could help us to find about preferences and difficulties they face in the classroom. The communicative approach is helpful to measure different teaching and learning styles. Attitude scale is an instrument that identifies these varieties.

The highest score in this method is 120 points. There was a considerable range of scores of 40 participants. However, it can be seen from Table 6 that most of the teachers hold positive attitude towards communicative approach. One teacher had 100% positive attitude. The lowest score was 61% which is also high. The average score was 87.4. These scores tell us that overall, teachers have positive attitude towards communicative approach during their lesson.

We tried to investigate teachers' motivation and attitude together. There was not a close relation between professional orientations and attitude. However, the teachers who have dominance in communication orientation have higher scores than other two groups of teachers. The average score of Communication orientation teachers was 90, self-orientation teachers — 85 and task oriented teachers — 88. As it was mentioned before, the scores are quite high. That is to say, teachers of foreign languages hold the opinion that teaching languages is strongly connected with communicating. The teachers and students need to communicate in order to achieve the goals.

We used Pearson correlation method to find out the connection between Teachers Personality orientation and Teacher Cognition. The research shows that the correlation results between self-oriented teachers and Cognition are noticeable. If the teacher is self-oriented, cognitive attitude is supposed to be high. The results for Communication oriented teachers and Task oriented teachers were almost the same, low interrelation with Cognitive variable.

The method of Karavas Doukas has 5 factors: role of communication, role of error correction, role of learners, role of teachers, and role of grammar [9]. We tried to look at each factor. The answers of three categories of teachers were different from each other. Interestingly, all three categories of the participant teachers got maximum amount of scores for Role of Grammar. All the teachers have very positive attitude towards role of grammar in foreign language teaching. However, self-oriented teachers and task-oriented ones have also positive attitude towards the role of the learners. These teachers think that the learning process is mostly dependent on learners. Communication oriented teachers prefer teachers being active in the learning process. These teachers think that teachers are mostly responsible for the learning process. There is not any difference in the answers of all teachers for the role of group and pair work. All the teachers have a positive attitude towards the role of group and pair work in the foreign language learning environment. Compared to four categories of this method, role of error correction got the lowest marks. That is to say, all the teachers do not pay so much attention on the error correction during the learning and teaching process.
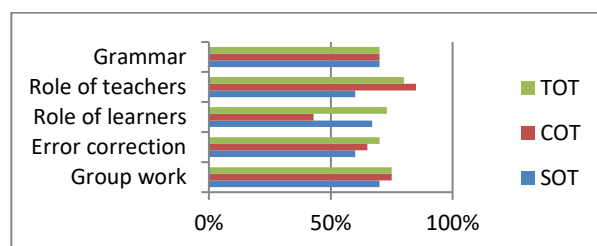
Figure 2. Attitude scale of three professional orientations

Figure 2 shows the mean score of each factor by each category of teachers. All categories of teachers have the same attitude towards grammar (with 70%). Foreign language teachers believe that teaching grammar plays fairly important role in teaching and learning foreign languages. Role of teachers in the classroom is extremely important for Communication oriented teachers while less important for Self-oriented teachers. Role of learners in the learning process gained high percentage in Task oriented and Self oriented teachers' responses. However, Communication oriented teachers gave only around 40%. Task oriented teacher marked error correction high, because these teachers pay more attention to the results of the students. By correcting the students they believe that students will progress more than expected. Interestingly, all the teachers had

positive attitude to group work. Task oriented and communication oriented teachers have 75% and Self oriented teachers 70%.

Affect of English language teachers

Research question 4: Which positive and negative emotions affect L2 teachers' job satisfaction and coping with stress?

Tool: Affect scale and open-ended survey.

Objective: to define emotional complex of L2 teacher.

Foreign language teachers' affect was investigated by two methods. The first method is Teacher affect scale. The method was developed by Pinar, Bardakci, Arslan [4]. The teachers need to rank the statements from 1 to 5. The statements are about job satisfaction, emotional freedom, emotional suffering, and interpersonal relationship. The second method was taking an open-ended survey from the participants. The teachers were asked four questions.
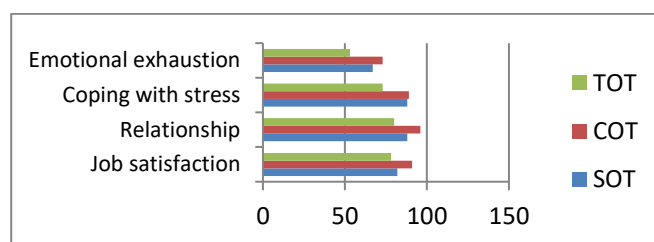
Figure 3. Results of Teacher affect scale

Teacher affect scale showed us four factors about teacher affect: job satisfaction, interpersonal relationship, coping with stress, and emotional exhaustion. We divided the answers based on three categories of teachers too. Job satisfaction is the most important factor in evaluating the emotions of teachers. If the teachers are satisfied with the work they are doing, the results of the students will be productive too. Overall results of all participants are not bad, more than 80%. However, compared to other categories of teachers, communication-oriented teachers were the most satisfied group. Communication-oriented teachers ranked this factor as the highest. They feel emotionally free and satisfied. The relationships with others are also high in Communication-oriented teachers. They feel that they have satisfactory relationship with others. The results of Self-oriented teachers in relationship factor are also high (88%) while Task-oriented teachers showed 80%. Interestingly, Self-oriented teachers and Communication-oriented teachers know well how to cope with stress at work. The results are the same for both categories, 88% respectively. However, only 72% of Task-oriented teachers marked that they know how to deal with work stress. Communication-oriented teachers showed high results in all four factors. In emotional exhaustion category communication-oriented teachers are the first too. By feeling emotionally satisfied, they feel exhausted at the same time too (78%). Task-oriented and Self-oriented teachers agree with emotional exhaustion at 67% equally.

T a b l e 5

Correlation between Teacher affect and professional orientation

	Job satisfaction	Relationship	Coping with stress	Emotional exhaustion
OT	0,531	0,141	-0,091	0,083
OT	0,205	-0,011	-0,335	-0,013
OT	-0,285	-0,230	-0,022	-0,333

The Pearson correlation between Teacher Professional orientation and Teacher Affect scale shows weak correlation. There is a positive weak correlation between self-oriented teachers and job satisfaction. The correlation between communication-oriented teachers was negligible. However, the negligible correlation between job satisfaction and task-oriented teachers was negative. The relationship between teachers, students of all three groups of teachers are weak too. But self-oriented teachers have positive correlation while communication-oriented teachers and task-oriented teachers have negative. When it comes to the ability of coping with stress, all the teachers have almost the same results: negative connection between teacher personality orientation and coping with stress. Task-oriented teachers have negative moderate correlation with emotional exhaustion. Self-oriented and communication-oriented teachers have very weak correlation with emotional

exhaustion. The difference is that self-oriented teachers have positive while communication-oriented teachers have negative correlation.

Emotions are difficult to explain only by questionnaires. Therefore, asking to fill in the open ended survey was an important part of knowing more about feelings of Foreign language teachers. In the survey part there are four questions. In interpreting the survey we coded the participants and divided the answers by the teacher personality groups.

1.   What is your general positive and negative feeling about teaching English?

Most of the feelings about teaching English are positive. First of all, we looked at the answers of all participants. The most common feelings were: satisfied, motivated, happy, enjoyable, fun, successful, challenging. The negative feelings that they mentioned were complicated, stressed, tired, difficult, and nervous. We grouped these feelings into 3 groups such as 1) excited, happy, good; 2) motivated, inspired; 3) satisfied, succeeded and proud. It is seen from the table of positive feelings that the most popular positive feelings are excited, happy, and good. After Foreign language teachers feel motivated and inspired while teaching English language.

T a b l e 6

Positive emotions experienced by teachers about teaching

Positive emotions	Number of teachers
Excited, happy, good	37,5%
Motivated, inspired	30%
Satisfied, succeeded, proud	32,5%

The Table 6 presents and compares the number of teachers by category of personality orientation. It is clearly seen that most of the Communication-oriented teachers feel motivated and inspired (58%) and excited, happy, or good (36%). Interestingly, just 7% of the teachers from communication-oriented group chose satisfied, and succeeded. Compared to COT, Self-oriented teachers mostly feel excited, happy, good and proud of their profession. The less number of teachers of SOT feel motivated or satisfied. Emotional priorities of Task-oriented teachers are similar to Self-oriented teachers' results.

T a b l e 7

Positive emotions experienced by orientation categories of teachers about teaching

Positive emotions	SOT	COT	TOT
Excited, happy, good	42%	36%	36%
Motivated, inspired	17%	58%	14%
Satisfied, succeeded, proud	41%	7%	36%
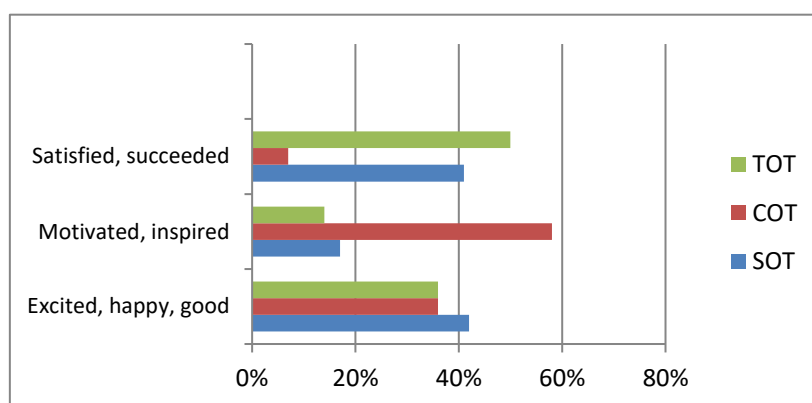
Figure 4. Positive feelings experienced by orientation categories of teachers

There are three groups in negative feelings. We also combined the negative feelings that teachers associated with teaching foreign languages. The most common negative feeling was tired, exhausted, and overworked. 50% of all participants said that they feel tired.

Negative emotions about teaching

Negative emotions	Number of teachers
Complicated, difficult	22,5%
Stressed, nervous	27,5%
Tired, exhausted, overworked	50%

The results in Table 9 and Figure 5 showed that Self-oriented teachers and Communication-oriented teachers mostly feel tired, exhausted, and overworked. They also feel stressed and nervous. Task-oriented teachers mostly feel stressed and nervous.

Negative feelings about teaching by orientations

Negative emotions	SOT	COT	TOT
Complicated, difficult	25%	21%	21%
Stressed, nervous	17%	21%	43%
Tired, exhausted, overworked	58%	58%	36%
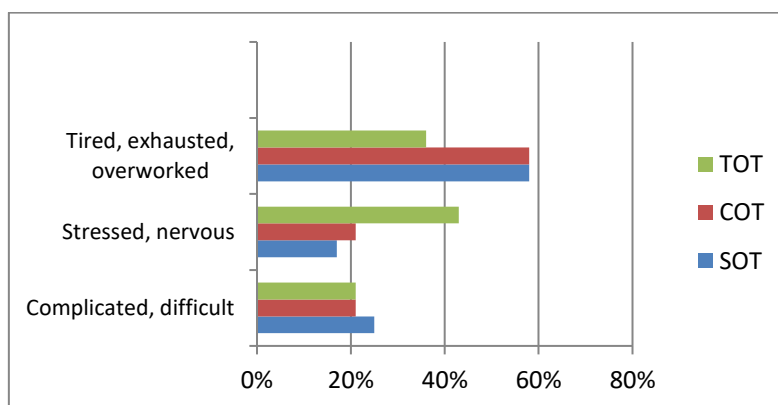
Figure 5. Negative feelings experienced by orientation categories of teachers

2. What is your reaction if your students misbehave or do not show any interest in the classroom?

The next question of open-ended survey about the reactions of foreign language teachers if the students are not interested or misbehave in the classroom. We combined similar answers into 5 groups. The groups are 1) warning or private talk; 2) change the method of teaching; 3) ignore or feel neutral; 4) demotivation or negative emotion; 5) feel motivated to become better.

Reactions of teachers to misbehavior and disinterest of students

Reactions of teachers	Number of teachers
Warning, private talk	17,5%
Change the method	22,5%
Ignore, neutral	27,5%
Demotivation, negative emotions	20%
Motivation to be better	12,5%

Compared reactions by groups of personal orientation, we found (Table 11 and Fig. 6) that Self-oriented teachers mostly prefer to ignore or just feel neutral when the students misbehave or show any interest in the classroom. Communication-oriented teachers feel demotivated and have some negative feelings. Task-oriented teachers try to change the methods of teaching and feel motivated to become better in teaching foreign language.

Reactions of orientation categories of teachers to misbehavior and disinterest of students

Reactions	SOT	COT	TOT
Warning, private talk	17%	28%	8%
Change the method	17%	14%	36%
Ignore, neutral	58%	14%	14%
Demotivation, negative emotions	8%	36%	14%
Motivation to be better	0	8%	28%
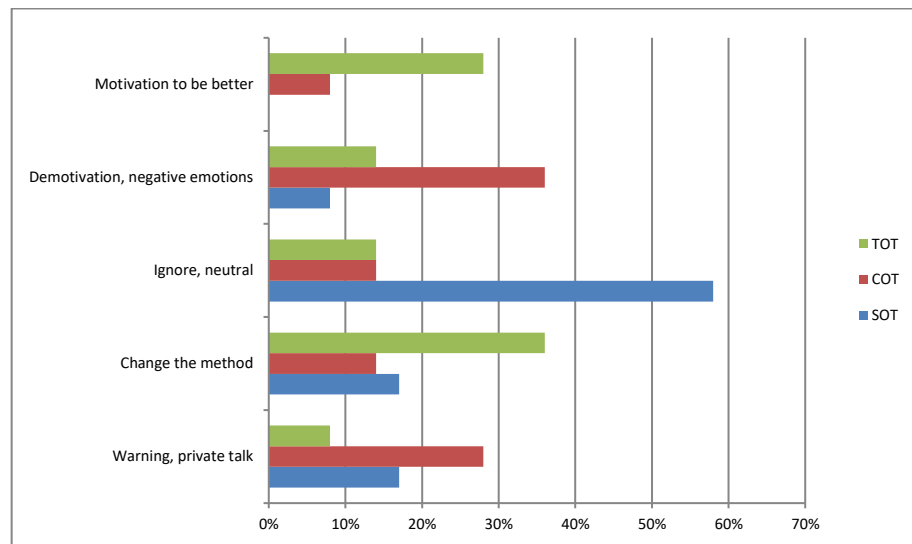
Figure 6. Reactions of teachers to misbehavior and disinterest of students

3. What kind of emotions do you experience a) during the lesson and b) after typical work day?

The third question of open-ended survey has two answers: feelings during the lesson and feelings after the lessons. Interestingly, all the participants feel positive emotions during the lessons. The teachers did not mention any negativity in this question. For example, T18 said: *I feel very motivated during the lesson. I prepare a lot of tasks to my students and I want my students to finish and understand the lesson.*

Another Teacher gave this answer: I set some goals to myself and to my students. And during the lesson I feel to achieve these goals together with my students (Teacher 5).

Emotions of teachers experienced during the lesson

Emotions during the lesson	Number of teachers
Happy, excited, energetic	37,5%
Motivated, focused	30%
Goal oriented, wishing to achieve	32,5%

The results by Personality orientation showed us that Self-orientated teachers feel happy, excited, or energetic. Task-oriented teachers mostly feel goal oriented. The results of Communication-oriented teachers showed almost the same numbers in all three categories of answers.

Emotions of teachers experienced during the day by professional orientations

Emotions during the lessons	SOT	COT	TOT
Happy, excited, energetic	50%	36%	28%
Motivated, focused	33%	36%	21%
Goal oriented, wishing to achieve	17%	28%	50%
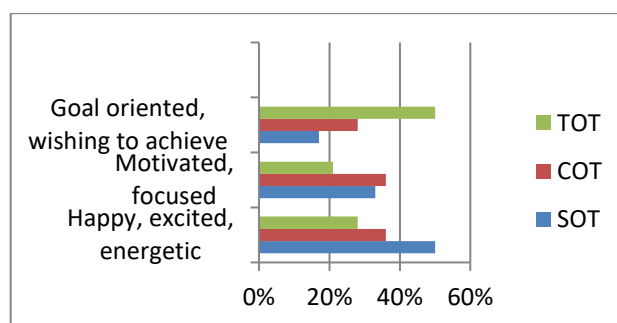
Figure 7. Emotions during the day

The emotions after the lessons are different than during the lesson. There are both positive and negative emotions mentioned. More than half of the teachers said that they feel tired or exhausted. Some teachers said that they feel happy while others have some feelings of satisfaction.

T a b l e   1 4

Emotions after the lessons

Emotions after the lessons	Number of teachers
Happy, relaxed	25%
Exhausted, tired	55%
Satisfied	20%

After the typical work day all categories of teachers feel exhausted. The number of teachers feeling tired are higher than other two groups of feelings. Other two groups of feelings have almost the same number of teachers.

T a b l e   1 5

Emotions experienced after the lesson by professional orientations

Emotions	SOT	COT	TOT
Happy, relaxed	25%	22%	28%
Exhausted, tired	58%	50%	58%
Satisfied	17%	28%	14%
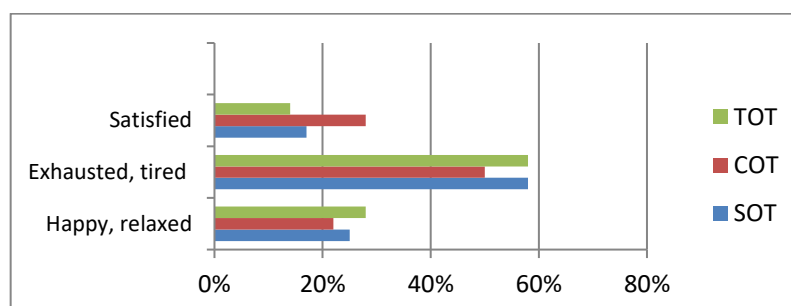
Figure 8. Emotions experienced after the lessons

4. What could be major reason for quitting or changing the teaching profession?

The last question in the open-ended survey was about quitting or changing the profession of teaching foreign language. In this part we have 5 groups of answers. Interestingly, there are some teachers that said that they will never change their job. For example, Teacher 15: *I do not see any reasons to change my job. The main reason might be retirement. Only in this case I will change my job. I have never thought about changing my profession* (Teacher 33).

Another category of answers was about money or salary. The teachers said that the decrease in salary might be the reason of quitting the job. *Sometimes I feel that the balance between salary and workload we have are not the same. Therefore, this might be the reason* (Teacher 2).

Professional development was the next category of answers. The teachers said that sometimes they feel like they are not developing further as a teacher. They need some courses or qualifications to teach their students. *Teaching at school is like a daily routine. The same things and the same topics. I think if this continues I might stop teaching* (Teacher 7).

Parents and School staff and administration were also mentioned in the possible reasons for quitting the profession.

I do not want to change my job. But in the same time I feel pressured from the side of parents. Parents attitude might be the main reason (Teacher 39). *School administration gives so much work. They also underestimate our work* (Teacher 11).

The majority of the Communication-oriented teachers (Fig. 9) do not want to change their job. Self-oriented teachers might change their profession because of school administration or staff. However, task-oriented teachers might quit teaching because of lack of professional development.
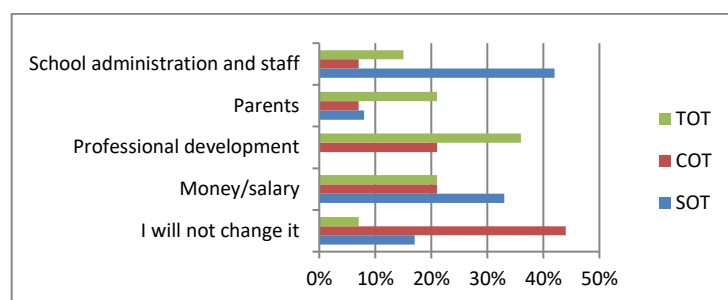
Figure 9. Possible reasons of quitting teaching by professional orientations

Findings
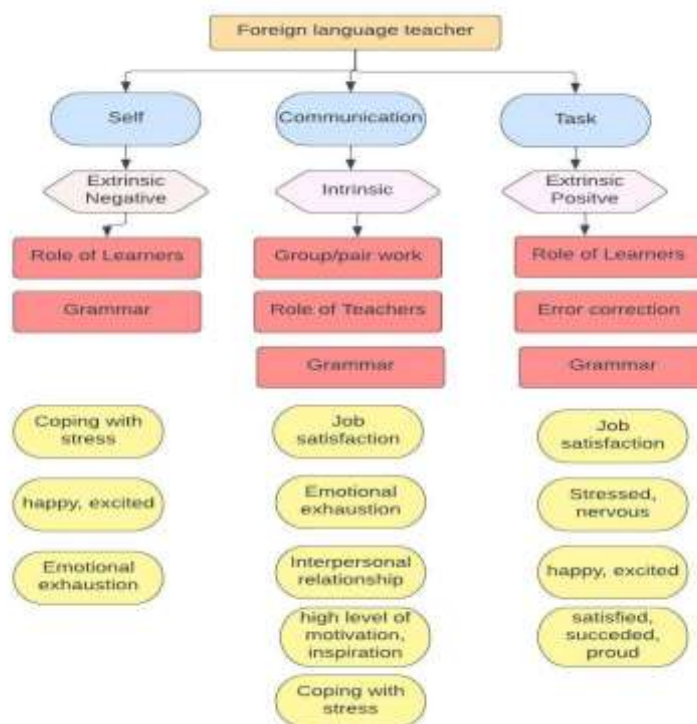
Figure 10. Foreign Language Teacher Profile

The results of the study showed (Fig. 10) that English language teachers may be Self-oriented, Communication-oriented and Task-oriented. For Self-oriented teachers (SOT) the work and teaching process is the place where they can satisfy their own needs and obtain personal superiority and prestige. Communication-oriented teachers (COT) are more focused on obtaining good relationship with students and colleagues and

maintain social approval. Task-oriented teachers (TOT) use classroom to master their teaching skills, knowledge and abilities and achieve high results in activities.

The majority of the English language teachers have optimal ratio of motives which means that their motivation is driven by internal or external positive motives. While Communication-oriented teachers demonstrated the best motivational complex with highest intrinsic and extrinsic motivation to teach, only half of Self-oriented participants managed to reach the balance. Moreover, there is a high degree of correlation between Self-oriented teachers and extrinsic positive motives, which means the higher is the salary, respect from others or praise of the English language teachers, the more effective the Self-oriented teachers are. This explains why Self-oriented teachers are mostly motivated by extrinsic rewards. Compared to SOT, Task-oriented teachers have strong negative correlation with extrinsic positive motives. That is to say, Task-oriented teachers are not really motivated by salary or social compliment. They get passion in getting the job done the most effective way. Thus, if the teacher's personality dominance is Task-orientation, the less attention is paid to the extrinsic positive rewards. Overall, they managed to reach almost high optimal motivational complex. The results of the participants of Zamfir's method showed that English language teachers have optimal ratio which means that the teachers specifically chose their profession and they have interest to teach the students. The teachers are happy during the lessons and motivated from the lesson itself, demonstrating a good level of job satisfaction.

English language teachers have positive cognitive attitude towards Communicative approach. These teachers are interested in using communicative approach while teaching English. However, three groups of teachers with different professional orientations revealed a number of different beliefs and teaching preferences. Interestingly, Role of Grammar and Group work in teaching English are rated moderately by all three categories showing high similarity; meanwhile, the biggest discrepancy is discovered in their attitudes to the Role of Learners and Role of Teachers. For example, Communication-oriented teachers place twice as much responsibility for Teacher role in communication, demonstrating the highest level among all three groups. At the same time, Role of Learners is rather underestimated by COT. Task-oriented teachers find Roles of Learners and Teachers similarly valuable; whereas Self-oriented teachers believe that learners should contribute more than teachers. Compared to four criteria of communicative approach, Role of error correction got the lowest marks. That is to say, all the teachers do not pay so much attention on the error correction during the learning and teaching process. Teachers cognitive preferences are supported by Pearson in a strong correlation with SOT and moderate correlation with COT and TOT.

In the affective factor, which illustrates how EFL teachers cope with teacher stress, enjoy building relationship with students, experience job satisfaction or emotional exhaustion, all three groups of teachers obtained different results. The leader in all criteria was Communication-oriented teachers: they are most satisfied, inspired by relationship with students, use helpful strategies to cope with stress and at the same time feel most exhausted by the end of the day. Surprisingly, Task orientation interferes with ability to build relationship and get satisfaction from work; meanwhile, prevents emotional exhaustion; it is demonstrated by Pearson moderate negative correlation results Task–oriented teachers of which obtained with job satisfaction, interpersonal relationship and emotional exhaustion. They are less prone to emotional burnout, in contrast to Communication-oriented ones who tend to burn at work. It is also important to note that if the professional orientation of English language teacher is Self-oriented, the job satisfaction is expected to be higher. Self-oriented teachers and Communication-oriented teachers are equally good at coping with stress at work.

Thus, the most emotionally exhausted English language teachers are Communication-oriented teachers while the least exhausted are Task-oriented teachers. This result was also supported by open-ended survey. Self-oriented teachers and Communication oriented teachers answered that the negative feelings that they associate with teaching English at school can be tired, overworked, and exhausted while very small number of Task-oriented teachers mentioned those feelings. Three categories of teachers reveal different strategies to cope with stress. For example, SOTs mostly try to ignore or have neutral feeling towards the students who are not interested in the lesson; whereas COTs lose motivation for teaching in this situation. The students who are not interested is the reason for teachers' demotivation. If students misbehave or do not show any interest in the lesson TOTs prefer to change the method of teaching in order to make the lesson better.

It was found out that attitude of school administration and colleagues play an important role on the feelings of SOTs. This can even force them to quit their job if they are not respected and appreciated enough. However, most of the COTs answered that they do not want to change their job for any reasons. For TOTs professional development is the most important attribute as they indicated they could stop teaching if they do not see any way of professional development.

Conclusions

The current study explored "hidden side" of English language teachers. "Hidden side" of foreign language teachers is described by three main factors such as cognition, affect and motivation. By investigating these factors English language teacher profile was described. Professional orientation method was taken as a basement of the study. The results of the method helped us to identify the dominant orientation of English language teachers. It was found that all three professional orientations are dominant in English language teachers. Therefore, English language teachers were described and compared by three professional orientations: self-orientation, communication-orientation, and task-orientation. Teachers based on their professional orientations differed by motives, cognitive attitudes, and emotional states.

According to the results of current study the majority of English language teachers are motivated by intrinsic and extrinsic positive motives. The study found that English language teachers prefer to work at school because this brings them happiness and joy. The teachers are also working as English language teachers because teaching foreign language at school is associated with higher salary, respect or social prestige.

ESL teachers have positive Cognitive attitude towards Communicative approach. The teachers believe that teaching and learning process should be done in group and pair works. The role of learners and teachers are considered to be very important in the teaching process too. The attitudes and beliefs of three categories of teachers about teaching English are quite similar to each other. The teachers generally think that nowadays paying too much attention on correcting students and grammar should be minimized and communication should be improved during the lessons.

ESL teachers generally feel happy and satisfied with their profession. Teaching English is associated with positive feelings. However, we cannot deny the fact that English language teachers feel emotional exhaustion and burnout. There are several factors that bring ESL teachers to emotional exhaustion such as school administration, colleagues or parents' attitudes.

The study revealed the factors influencing teachers the most and may give some ideas to improve the quality of teaching foreign languages in schools. Teachers should improve and promote communicative skills at workplace with parents, colleagues and school administration. There should be done some activities in order to help teachers to cope with stress. There should be some professional development courses done in order to improve teaching process at schools. Administrators should facilitate professional learning and need to provide opportunities for professional development.

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Шет тілі мұғалімінің «жасырын жағын» зерделеу: таным, ықпал және мотивация

Зерттеудің негізгі мақсаты — шет тілі мұғалімінің «жасырын жағын» зерттеу. Шет тілі мұғалімін сипаттау үшін таным, ықпал және мотивация сияқты факторлар алынып, зерттелді. Зерттеуге Қазақстанның әртүрлі қалаларынан, яғни педагогикалық деңгейлері, жасы мен жұмыс тәжірибесі әртүрлі, мектептерде жұмыс істейтін 40 ағылшын тілі мұғалімдері іріктеліп алынды. Зерттеу барысында ағылшын тілі мұғалімдеріне сауалнама жүргізілді. Шетел тілі мұғалімінің жалпы бейнесін сипаттау үшін кәсіптік бағдар беру әдісі қолданылды. Нәтижелерге сәйкес, ағылшын тілі мұғалімдерінде үш басым кәсіби бағдар бар. Олар: өзін-өзі бағдарлау, коммуникативті бағдарлау және тапсырмаға бағдарлау. Осы бағдарлардың негізінде мұғалімдердің когнитивтік, аффективтік, мотивациялық аспектілері сипатталып, салыстырылды. Нәтижелер ағылшын тілі мұғалімдерінің коммуникативті тәсілді білуге, жұмыс мотивтеріне және мектептерде ағылшын тілін оқыту бойынша эмоцияларға қатысты егжей-тегжейлі салыстыру мен сипаттамасын береді.

Кілт сөздер: жасырын жағы, ағылшын пәні мұғалімі, мұғалім бейнесі, мұғалім танымы, мұғалім ықпалы, мұғалім мотивациясы.

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Изучение «скрытой стороны» учителя иностранного языка: познание, влияние и мотивация

Основной целью данного исследования является изучение «скрытой стороны» учителя иностранного языка. Для описания учителя иностранного языка были взяты и исследованы такие факторы, как познание, аффект и мотивация. В исследовании участвовали учителя английского языка. Выборка исследования состоит из 40 учителей английского языка, работающих в разных государственных школах из разных городов, с разным уровнем преподавания, возрастом и опытом работы в Казахстане. Для описания общего портрета учителя иностранного языка был использован метод профориентации. Согласно результатам, учителя английского языка имеют три доминатные профессиональные ориентации: самоориентация, коммуникативная ориентация и ориентация на задачу. На основе этих ориентаций были описаны и сопоставлены когнитивная, аффективная и мотивационная стороны педагогов. Результаты дают подробное сравнение и описание учителей английского языка в отношении познания коммуникативного подхода, мотивов работы и эмоций по поводу преподавания английского языка в школах.

Ключевые слова: скрытая сторона, учитель английского языка, портрет учителя, познание учителя, аффект учителя, мотивация учителя.

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Комплаенс-менеджмент и управление рисками кибербезопасности в системе школьного образования: теоретический обзор

Риск потери персональных данных или кражи важных личных и организационных данных делает кибербезопасность главной проблемой, с которой сталкиваются организации, особенно школы. Целью данной статьи является теоретический обзор исследований в области комплаенс-менеджмента в управлении рисками кибербезопасности в школьной среде, проведенных в период с 2019 по 2023 год, включенных в международную базу данных *Google Scholar*. С помощью описательной методологии представлены значимые данные для определения рисков кибербезопасности школьной среды и механизмов комплаенс-менеджмента системы школьного образования в области кибербезопасности, которые применяются в школах. Анализ данных показал, что в качестве основных рисков кибербезопасности в школе являются социальная инженерия; фишинг; скимминг; угрозы, связанные с технологиями; утечка / потеря данных; нарушения конфиденциальности; угрозы, связанные с домогательствами; инсайдерство; мошенничество с целью компрометации; захват учетной записи; вторжения в онлайн-классы и школьные собрания; недостаточный уровень обеспечения политики безопасности; недостаточная подготовка учителей в сфере кибербезопасности. Школами предпринимаются шаги для предотвращения подобных инцидентов, одним из которых является комплаенс-менеджмент кибербезопасности, включающий механизмы стандартизации процесса кибербезопасности, внедрение политики кибербезопасности в школе, самооценка и оценка мер кибербезопасности. Одним из важнейших механизмов обеспечения соответствия требований кибербезопасности в системе школьного образования является обучение процессу и инструментам кибербезопасности учителей, сотрудников, администрации школы, родителей.

Ключевые слова: кибербезопасность системы школьного образования, комплаенс-менеджмент, управление рисками, теоретический обзор, библиометрическая база данных, конфиденциальность школьных данных, стандартизация процесса кибербезопасности, политика кибербезопасности.

Введение

Большая часть мира сейчас находится в киберпространстве. В результате возросшей зависимости от Интернета кибербезопасность стала одной из важнейших проблем, стоящих перед школами в XXI веке. Зависимость от сложной технологической инфраструктуры имеет свою цену: принимая Интернет так широко, школы подвергли себя целому ряду кибератак со стороны целого ряда правонарушителей, которые ищут школьные данные и информации.

Правительства, предприятия и школы стали жертвами кибератак, киберпреступлений и киберсбоев. Несмотря на повышенное внимание и возросший уровень инвестиций в кибербезопасность, количество киберинцидентов, связанные с ними затраты и их влияние на здоровье людей, продолжает расти [1; 268].

На протяжении первых лет использования технологий человеческий фактор оставался неисследованным и неоспоримым. Однако участившиеся кибератаки, утечка данных и атаки программ-вымогателей часто являются результатом ошибок, допущенных человеком; фактически исследователи указывают, что до 95 % всех киберинцидентов связаны с поддержкой человека [2; 60]. Кибербезопасность — это, по сути, взаимодействие человека и автоматизации, поэтому и машина, и человек потенциально уязвимы. Результаты исследования показывают, что наибольшей уязвимостью в системе безопасности является недостаточная осведомленность сотрудников [3; 11]). Хотя инструменты и технологии

важны, люди являются наиболее важным элементом стратегии кибербезопасности. Первичный анализ состояния школьной среды показывает неосведомленность ее субъектов в вопросах кибербезопасности, киберзащиты и киберэтики [4; 184].

Осенью 2022 года в Казнете увеличилось количество кибератак в несколько сотен раз, были зафиксированы массированные внешние атаки. Это показывает уязвимость сетевых ресурсов и необходимость защиты образовательной среды, так как школы используют информационные системы *Kundelik.kz, bilimland.kz, ekitap.kz, onlinemektep.kz.* Также участившиеся инциденты киберопасности свидетельствуют о наличии в школьной среде проблем, связанных с киберэтикой, кибербуллингом, конфиденциальностью данных, киберзащитой от вирусов, а также о фактах передачи логинов, повторного исправления баллов в электронном журнале и прочие.

Одним из механизмов соблюдения требования кибербезопасности в учреждении является комплаенс-менеджмент, обеспечивающий соответствие требованиям стандарта кибербезопасности в школьной среде. В Казахстане комплаенс-менеджмент — новое явление, особенно это касается школ, где процедуры комплаенс управления еще не внедрены. Поэтому целью данной статьи является теоретический обзор научных исследований по проблеме комплаенс-менеджмента кибербезопасности в школьной среде. Мы определили следующие исследовательские вопросы:

- Какие риски кибербезопасности школьной среды существуют?

- Какие механизмы комплаенс-менеджмента системы школьного образования в области кибербезопасности применяются в школах?

Материалы и методы

Для поиска ответов на исследовательские вопросы был использован метод теоретического обзора научных исследований в базе данных Google Scholar, опубликованных в период с 2019 по 2022 годы.

Теоретический обзор проводился в пять этапов: постановка вопроса или цели поиска, определение стратегии поиска, выбор релевантных научных публикаций, анализ и синтез данных [5; 4]. В качестве поискового запроса была выбрана фраза: «school cybersecurity» AND compliance.

Найдено 28 источников, из которых были отобраны семь публикаций, максимально соответствующих следующим критериям: публикация написана на английском языке; содержание публикации соответствует предмету исследования, включающего процедуры обеспечения соответствия кибербезопасности. Были исключены работы, связанные с образованием в области кибербезопасности в образовательных учреждениях. В следующем разделе представлен количественный и качественный анализ найденных исследований.

Следует отметить, что исследований по теме комплаенс-менеджмента кибербезопасности школьной среды не так много, что свидетельствует о слабом освещении данной проблемы в научной литературе.

Результаты и обсуждение

Отвечая на вопрос: «Какие риски кибербезопасности школьной среды существуют?» были проанализированы отобранные исследования на описание выявленных рисков в школьной среде.

Сфера образования является наиболее уязвимой в области кибербезопасности. По данным исследования [6; 1], сектор образования признан в 2018 году наименее безопасным с наибольшим количеством уязвимостей. Онлайн-обучение только способствовало усугублению данной ситуации. В 2020 календарном году было зафиксировано рекордное количество публично раскрытых инцидентов кибербезопасности в школах.

В исследовании говорится о различного рода кибератаках на школьные ресурсы. Приведено несколько примеров кибератак, которые были зафиксированы за последние 5 лет: фишинг, распределенные атаки «отказ в обслуживании», атака с компрометацией деловой электронной почты, DDoS-атака, атаки с помощью программ-вымогателей.

Как утверждают авторы M. Torres, A. Mullins, N. Thompson, недостаток ресурсов и внимания показывает, что школы являются легкой мишенью для проникновения, часто они медленно реагируют и не обладают необходимыми знаниями для устранения угроз кибербезопасности. В отчете отмечается рост числа атак программ-вымогателей и излагаются технические планы действий по устранению связанных с ними рисков. Ученые также утверждают, что в большей степени к киберопасности приводят человеческие ошибки: ошибочное принятие решений из-за недостаточной подготовки и восприятия угроз, слабая организационная культура безопасности, фишинг, социальная инженерия, вредоносное

программное обеспечение, несоблюдение требований и недостаточный уровень политики безопасности [4, 186; 7, 3].

К типам киберсобытий, влияющих на кибербезопасность школы, исследователи M. Richardson и другие относят технические риски, связанные с технической системой кибербезопасности, утечку данных, риски, связанные с незаконным или неподходящим контентом, угрозы, связанные с домогательствами, такие как киберзапугивание, кибер-преследование и риск раскрытия информации (дети раскрывают свою личную информацию посредством фишинга или обмена информацией на платформах социальных сетей) [8; 32].

В образовательной системе часты случаи мошенничества с платежными картами, раскрытие конфиденциальной информации, взлом или вредоносное программное обеспечение, потеря данных, инсайдерство, порча веб-сайта и социальных сетей, вторжения в онлайн-классы и школьные собрания [9, 17; 10, 12–13].

Важными рисками, которые необходимо учесть при следовании политике кибербезопасности являются киберзапугивания, расстройства, связанные с интернет-играми, рискованное поведение в Интернете, кибер-агрессия и кибер-сплетни [11; 11]. В таблице 1 представлен обобщенный список рисков, рассмотренных в анализируемых исследованиях.

Т а б л и ц а 1

Риски кибербезопасности в системе школьного образования

Риски	Исследования
Социальная инженерия	M. Torres, M.N. Sadiku, J.B. Ulven
Фишинг / скимминг	M. Torres, E. Belastock, M.D. Richardson, J.B.Ulven
Угрозы, связанные с технологиями	M. Torres, E. Belastock E., M.D. Richardson, T. White
Утечка / потеря данных	M.N.Sadiku, M.D. Richardson, T.L. White
Нарушения конфиденциальности	M.D. Richardson
Угрозы, связанные с домогательствами (киберзапугивание, кибер-преследование, киберагрессия)	I. Diana , M.D. Richardson
Инсайдерство	J.B. Ulven
Мошенничество с целью компрометации	T. White, J.B. Ulven
Захват учетной записи	J.B. Ulven
Вторжения в онлайн-классы и школьные собрания	T. White
Недостаточный уровень обеспечения политики безопасности	M. Torres
Недостаточная подготовка учителей в сфере кибербезопасности	M.N. Sadiku

Ответом на второй исследовательский вопрос: «Какие механизмы комплаенс-менеджмента системы школьного образования в области кибербезопасности применяются в школах?» стал анализ исследований на описание мер обеспечения кибербезопасности в школьной среде для обеспечения соблюдения требований.

Одним из основных мер исследователи E. Belastock, M. Torres считают соблюдение политики кибербезопасности, включающее:

- повышение осведомленности о необходимости принятия мер кибербезопасности;
- разработка и внедрение нормативных актов по кибербезопасности;
- регулирование доступа цифровых устройств к школьным ресурсам;
- фильтрация на шлюзе электронной почты;
- обновление антивирусного программного обеспечения и использование антивирусного решения с централизованным управлением [6; 7].

Риск потери персональных данных или кражи важных личных и/или организационных данных делает кибербезопасность главной проблемой, с которой сталкиваются организации, особенно школы. Поэтому школы должны проявлять инициативу в оценке потенциала слабых мест в их системах кибербезопасности и разработке альтернатив для максимального снижения рисков.

Школы располагают конфиденциальными данными об учениках, родителях, выпускниках, преподавателях и персонале. Записи обычно хранятся спустя десятилетия после того, как учащиеся покидают учебное заведение. Более того, сам объем потенциально ценных данных, хранящихся в

большинстве школ, как правило, делает их весьма привлекательными объектами. Отсутствие централизованной структуры для обеспечения кибербезопасности школы могут размещать свои данные во многих разных местах, а не в одном централизованном местоположении. Данные об учащемся могут храниться отдельно в каждой школе и могут быть объединены централизованно в районном офисе. Данные об учениках и финансовые данные могут храниться отдельно. Эта децентрализованная структура может предоставить киберпреступникам больше возможностей для использования уязвимостей в разрозненных системах, содержащих конфиденциальные данные.

Комплаенс-менеджмент основывается на плане кибербезопасности, включающем обучение сотрудников и учеников, развитие доверия к процедурам кибербезопасности, план соблюдения политики [8; 36].

Политика устанавливает обязательные руководящие принципы, влияющие на благоприятное поведение организации при использовании систем или работе с данными. Все политики информационной безопасности должны соответствовать миссии и целям школы и подчеркивать их. Они создаются для обмена протоколами безопасности, распределения четких ролей и обязанностей и предоставления сотрудникам рекомендаций по обеспечению безопасного поведения во время выполнения своих обязанностей. Роли, обязанности и руководящие принципы также дают ясность в отношении того, с кем следует связаться и как обрабатываются инциденты информационной безопасности.

Некоторые ученые сошлись во мнении, что необходима непрерывная программа, направленная на обеспечение информационной безопасности [8, 38; 9, 35]. Разработка адаптированных стандартов кибербезопасности для школьной системы образования, включая инструменты самооценки кибербезопасности [10; 22].

Предотвращение киберрисков означает стратегический подход к предотвращению киберугроз. План предотвращения молодежных киберрисков, таких как проблемы с убийствами и кибервиктимизация среди старшеклассников заключается в ознакомлении с эмоциональными компетенциями, чтобы исключить многозадачность в средствах массовой информации, кибер-сплетни и фуббинг. Также ученики должны быть осведомлены о своей конфиденциальности при обмене личными данными. Родительское руководство также важно и должно быть частью плана действий по защите учащихся от киберрисков. Предотвращение киберрисков должно быть хорошо спланировано, чтобы учащиеся могли с удовольствием пользоваться Интернетом в киберпространстве, не беспокоясь о кибератаках [11; 14].

На основании теоретического обзора исследований определены основные механизмы комплаенс-менеджмента системы школьного образования в области кибербезопасности, которые применяются в школах (табл. 2).

Т а б л и ц а 2

Механизмы комплаенс-менеджмента

Механизмы	Исследования
Стандартизация	E. Belastock, M. Sadiku, T. White
Внедрение политики кибербезопасности	I. Diana, T. White
Самооценка и оценка мер кибербезопасности	M. Torres, M. Richardson , T. White
Обучение кибербезопасности учителей, сотрудников, администрации школы, родителей	M. Torres, E. Belastock, M. Sadiku, I. Diana, J. Ulven

Определение рисков кибербезопасности и механизмов комплаенс-менеджмента в школьной среде позволяет проанализировать систему кибербезопасности в школах и содействовать внедрению политики комплаенс-контроля в систему школьного образования Казахстана. Информационная безопасность в Казахстане регулируется концепцией «Киберщит Казахстана», описывающей меры по обеспечению кибербезопасности. Тем не менее в данном документе не описаны конкретные процедуры обеспечения соответствия информационной безопасности принятым нормам. Правительством Республики Казахстан утверждены единые требования в области ИКТ и обеспечения информационной безопасности, перечень необходимых процедур и документов, включающий методику оценки рисков информационной безопасности; правила идентификации, классификации и маркировки активов, инвентаризации и паспортизации средств вычислительной техники и др. Принят ряд документов, регулирующих кибербезопасность для банковской и страховой сферы [12]. Данные документы и процедуры не адаптированы для школьной среды.

В школах генерируются большие объемы данных по отслеживанию успеваемости учащихся, выполнению административных функций, кадрового обеспечения и построению учебного плана. Однако все эти данные не попадают под действие школьных правил по кибербезопасности при услугах третьих сторон интернета. Поэтому зачастую не оценивается предполагаемый риск онлайн ресурсов, у школьников и учителей мало знаний об опасности использования сторонних сервисов [9; 5], педагоги не готовы обучать школьников кибербезопасности [6; 7]. Поэтому для казахстанских школ необходимы политики и руководства по организации цифровой безопасности на всех уровнях, стандарты эффективности в структуре проверки школ для защиты и поддержки учащихся и учителей. Большое значение при этом имеет комплаенс-менеджмент, который позволяет урегулировать нормативно-правовую документацию в области кибербезопасности школ [2; 61], использовать комплекс инструментов и процессов для обеспечения соблюдения правил [3; 26].

Анализ источников позволил определить алгоритм комплаенс-менеджмента по кибербезопасности [1, 270; 2, 60]:

1) единая стратегия для вовлечения — все стейкхолдеры должны понимать важность комплаенса для кибербезопасности школьной среды;

2) оценка рисков — обеспечивает основу для определения действий по предотвращению, смягчению или устранению рисков;

3) аудит политики — инвентаризация инструментов, которые уже существуют в школах;

4) обучение субъектов образовательного процесса для обеспечения кибербезопасности, киберзащиты и киберэтики;

5) механизмы контроля и проверки — обеспечивают соответствие выполнения стандарта кибербезопасности школьной среды и дальнейшую поддержку;

6) подотчетность — это обеспечивает четкие дисциплинарные руководящие принципы и протоколы, подлежащие активному и последовательному применению при несоблюдении норм кибербезопасности.

Теоретический обзор исследований позволил определить ряд рисков кибербезопасности школьной среды, которые важно учитывать при комплаенс-менеджменте системой кибербезопасности в школе.

Заключение

Данное исследование направлено на выявление необходимости комплаенс-менеджмента кибербезопасности системы школьного образования через определение рисков, которым подвергаются школы в информационном пространстве. Включение образовательных учреждений в киберпространство привлекает большое количество злоумышленников за персональными данными учеников, сотрудников школ, недостаточный уровень знаний по кибербезопасности влечет ошибки сотрудников, повышающих уязвимости кибербезопасности школьной среды.

Теоретический обзор показал основные риски, с которыми сталкиваются школы: социальная инженерия, фишинг / скимминг, угрозы, связанные с технологиями, утечка / потеря данных, нарушения конфиденциальности, угрозы, связанные с домогательствами (киберзапугивание, кибер-преследование, кибер-агрессия), инсайдерство, мошенничество с целью компроментации, захват учетной записи, вторжения в онлайн-классы и школьные собрания, недостаточный уровень обеспечения политики безопасности, недостаточная подготовка учителей, школьников, администрации, сотрудников в сфере кибербезопасности.

Для превенции рисков и обеспечение соответствия требованиям кибербезопасности системы школьного образования в проанализированных исследованиях описаны механизмы комплаенс-менеджмента кибербезопасности, такие как механизмы стандартизация процесса кибербезопасности, внедрение политики кибербезопасности в школе, самооценка и оценка мер кибербезопасности. Одним из важнейших механизмов обеспечения соответствия требованиям является обучение процессу и инструментам кибербезопасности учителей, сотрудников, администрации школы, родителей. Данные процедуры отразились в алгоритме комплаенс-менеджмента по кибербезопасности.

Теоретический обзор показал, что количество научных исследований в области комплаенс-менеджмента кибербезопасности системы школьного образования является скудным, что указывает на актуальность проводимого исследования.

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Мектептегі білім беру жүйесіндегі комплаенс-менеджмент және киберқауіпсіздік тәуекелдерін басқару: теориялық шолу

Дербес деректерді жоғалту немесе маңызды жеке және ұйымдық деректерді ұрлау қаупі киберқауіпсіздікті ұйымдардың, әсіресе мектептер осындайға тап болса, онда басты мәселенің бірі болмақ. Мақаланың мақсаты халықаралық Google Scholar дереккорына енгізілген, 2019 және 2023 жылдар аралығында өткізілген, яғни мектеп ішінде киберқауіпсіздік тәуекелдерін басқарудағы комплаенс-менеджмент саласындағы зерттеулерге теориялық шолу жасау. Сипаттамалық әдіснаманың көмегімен мектеп ішіндегі киберқауіпсіздік тәуекелдерін және мектептерде қолданылатын киберқауіпсіздік саласының мектептегі білім беру жүйесінің комплаенс-менеджмент тетіктерін анықтау үшін маңызды деректер келтірілген. Деректерді талдау көрсеткендей, мектептегі киберқауіпсіздіктің негізгі қауіптері әлеуметтік инженерия, фишинг, скимминг, технологияға байланысты қауіптер, деректердің бұзылуы/жоғалуы, құпиялылықтың бұзылуы, зорлық-зомбылыққа байланысты қауіптер, инсайдерлік, ымыраға келу мақсатында алаяқтық, есептік жазбаны тартып алу, онлайн сабақтар мен мектеп жиналыстарына басып кіру, қауіпсіздік саясатын қамтамасыз етудің жеткіліксіз деңгейі, киберқауіпсіздік саласында мұғалімдерді даярлаудың жеткіліксіздігі. Мектептер мұндай оқиғалардың алдын алу бойынша шаралар қабылдауда, олардың бірі киберқауіпсіздік процесін стандарттау, мектептің киберқауіпсіздік саясатын іске асыру, өзін-өзі бағалау және киберқауіпсіздік шараларының бағалау тетіктерін қамтитын киберқауіпсіздікті сәйкестендіру менеджменті. Мектептегі білім беру жүйесінде киберқауіпсіздік талаптарының сақталуын қамтамасыз етудің маңызды тетіктерінің бірі мұғалімдерді, қызметкерлерді,

мектеп әкімшілігін және ата-аналарды киберқауіпсіздік үдерісі мен құралдарына оқыту болып табылады.

Кілт сөздер: мектептегі білім беру жүйесінің киберқауіпсіздігі, комплаенс-менеджмент, тәуекелдерді басқару, теориялық шолу, библиометриялық дерекқор, мектеп деректерінің құпиялылығы, киберқауіпсіздік процесін стандарттау, киберқауіпсіздік саясаты.

Zh.O. Zhilbayev, D.B. Abykenova, A.Zh. Assainova, Zh.N. Matenova, G.M. Abildinova

Compliance management and cybersecurity risk management in the school education system: a theoretical review

The risk of personal data loss or theft of important personal and organizational data makes cybersecurity a major problem faced by organizations, especially schools. The purpose of this article is a theoretical review of research in the field of compliance management in cybersecurity risk management in the school environment, conducted in the period from 2019 to 2023, included in the Google Scholar international database. With the help of a descriptive methodology, significant data are presented to determine the cybersecurity risks of the school environment and the compliance management mechanisms of the school education system in the field of cybersecurity that are used in schools. Data analysis has shown that the main cybersecurity risks at school are social engineering, phishing, skimming, threats related to technology, data leakage/loss, privacy violations, threats related to harassment, insider trading, fraud for the purpose of compromise, account hijacking, intrusions into online classrooms and school meetings, insufficient level of security policy, insufficient training of teachers in the field of cybersecurity. Schools are taking steps to prevent such incidents, one of which is cybersecurity compliance management, which includes mechanisms for standardizing the cybersecurity process, implementing a cybersecurity policy at school, self-assessment and evaluation of cybersecurity measures. One of the most important mechanisms for ensuring compliance with cybersecurity requirements in the school system is teaching the process and tools of cybersecurity to teachers, staff, school administration, parents.

Keywords: cybersecurity of the school education system, compliance management, risk management, theoretical review, bibliometric database, confidentiality of school data, standardization of the cybersecurity process, cybersecurity policy.

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Prospective English language teachers' self-efficacy beliefs in English language teaching environment

This study examines prospective English language teachers' self-efficacy beliefs in English language teaching environment. Self-efficacy as ability can impact on students doing task sufficiently. Nowadays self-efficacy plays an important role in developing English language proficiency, because the term "self-efficacy" demonstrates individuals' competence. Therefore in order to prepare qualified future English teachers, their self-efficacy beliefs also should be tested. For that reason, the purpose of this research study was to figure out prospective English language teachers' self-efficacy beliefs. Participants of present research study were 54 students, enrolled at Foreign Languages Teaching Department of Khoja Akhmet Yassawi International Kazakh-Turkish University. Quantitative research design was used in this study to describe the current condition of future teachers. The data was collected with the help of online questionnaire, through survey method prepared by Google form. Results demonstrated that future English teachers possess adequate level of self-efficacy beliefs. There were not significant differences between male and female undergraduate students, due to Mann-Whitney's U-test analysis. Overall, research study provided information about undergraduate students' self-efficacy beliefs using Statistical Package for the Social Sciences (SPSS) program which played a huge role to examine the data.

Keywords: self-efficacy beliefs, prospective English language teachers, language proficiency, competence, quantitative research, survey method, English as a foreign language, SPSS program.

Introduction

Language itself is a combination of different concepts in difference verdicts. As nowadays to know more languages are beneficial, however, become proficient at them is challenging. English as international language all over the world is being learnt by people day after day.

Self-efficacy according to A. Bandura indicates individual's personal determination of whether a person deals with the circumstances properly or not, using their perceived abilities. Having knowledge for some circumstances might not be enough in order to succeed in your life and career. For that reason self-efficacy beliefs of individuals must be recognized and developed [1].

A person learning a particular language also faces self-efficacy beliefs. Skills which we gained can sense on our self-efficacy accomplishments. Apart from that, low-sense of self-efficacy will appear stress and non-confidence. A. Bandura assumed that person who believes accomplishing any challenging task competently has high self-efficacy level. The research studies related to self-efficacy were also examined not only in pedagogical sphere but also in others [2].

K. Hamann, M, Pilotti and B. Wilson stated that self-efficacy is cognitive varying which can notify about students' academic realization. To support learners' achievement, pedagogical methodologies helped.

Investigating male and female successes during the college lifetime women's presence were greater than men learners [3].

According to L. Myyry, T. Karaharju-Suvanto, A.M.K. Virtala, M.R Raekallio, O. Salminen, M. Vesalainen and A. Nevgiresearch specified that during the testing assessment had a crucial role towards being aware of students' self-efficacy. From their point of view teachers are able to know levels of their students' self-efficacy if they are qualified and open to assessment [4].

B. Bai, J. Wang and Y. Nie assume that in order to stimulate students' self-efficacy, writing skill in English language is requirement. The failure from English writing skill may validate students' chances for realization. Besides, optimistic feedback should be set to students to acquire progresses in self-efficacy. Reassurance has to be used in order to remain harmonious [5].

According to A. Kosimov there are many factors which influence on English teachers' self-efficacy towards learning a language as a second language acquisition [6]. He also claimed, as a teacher to put into practice proper techniques must do element.

C. Terzi claimed that one of the vital predictor in academic accomplishment is self-efficacy. Educators should know various types of selections and introduce numerous writing strategies. From that, scholars can select which would be more appropriate in their writing skills. Therefore, ESL learners' writing abilities were expecting to be developed by guiding them, in order to enlarge their self-efficacy beliefs [7].

O. Otmane, M. Mohammed and R. Driss's research study was about factors which influence on students respectable performance. Self-efficacy was the main aspect when learners present themselves appropriately. There were dissimilarities between students who live with parents during the period of university progressions and with those students who reside distantly. Getting knowledge either governmental or non-public institution did not matter in obtaining a good self-efficacy belief [8].

R. Cobo-Rendón et al. argued that mental health plays a vital role on welfare and in academic performance. Furthermore, in order to adapt new environment, if to be more precisely, university life students need to have self-confidence which is close to self-efficacy [9]. In their study researchers focused on first-year students' study and their performing during that period. They scrutinized students' optimistic and undesirable affects towards educational self-efficacy.

A.D. Anders reported mainly about how magnify self-efficacy for social media skills. The research was devoted to explore crucial aspects of both social and communicative abilities. The article informed that students' self-efficacy could boost with the help of activities which belongs to networked learning [10]. From the authors' research study, we can say that self-efficacy must need skill in all spheres and it should be developed in order to succeed in professional development.

According to S. Demir in civilized countries, the sphere of education and knowledge — teachers play an important role to enroll educators with high quality. To have profitable teaching system teachers' self-efficacy is pivotal. In order to have a good satisfaction on their occupation and other essential features, teachers need to have high self-efficacy beliefs. To have a good self-efficacy belief influence on professional capacity. On the other hand, having a lot of teachers who have high level of self-efficacy beliefs and potential is the main factor to aid students' self-efficacy and work together. Nevertheless, learners' attitudes changes to positive way after conducting a lesson with a teacher who is confident and uses creative methods. Students of such kind of educators, whom they had a lesson, avoid disabilities like not to cope with issues and do not feel resilient towards learning a subject [11].

D.B. Hajovsky, S.R. Chesnut and K.M. Jensen analyzed about teachers' self-efficacy and their abilities. They indicated that specifying school psychologists, aid educators to expand their assurance on the way to succeed management in classroom [12].

A. Kurmanova identified that teachers' self-efficacy, impact on human beings' behavior in variety of ways. People have to face challenges and make an effort in order to use it in practice then built findings. It was recommended that teachers should know how to work with young learners and use approaches properly to segregate accurate assessment which is important in recent days [17].

Considering the importance of self-efficacy beliefs in the sphere of language teaching the following purpose was established to identify undergraduate students' level of self-efficacy.

Purpose of the study. The aim of the research work is to investigate prospective English language teachers' self-efficacy beliefs in English language teaching environment. Therefore, for this purpose, the present study took up with the following research questions which will be discussed in details in result section.

Research questions:

1. What is the perceived level of self-efficacy beliefs of undergraduate ELT students?

2. Are there any differences between first, second, third and fourth-year ELT students in terms of their self-efficacy beliefs?

3. Are there any significant differences between male and female students' self-efficacy beliefs?

Experimental

Research design. Quantitative research design was used in the present research study. The data was collected with the help of conducting online questionnaire as the form of a survey method. A. Falk, A. Becker, T. Dohmen, D. Huffman and U. Sunde observed survey module, informed that survey as an instrument for all experimental and survey research which is helpful to collect data information and acquire an easy way [14].

In this study survey was used to check samples self-efficacy beliefs and it was conducted anonymously.

Participants. The participants were the first, second, third and fourth-year students of Foreign Languages Teaching Department studying at Khoja Akhmet Yassawi International Kazakh-Turkish University which situated in Turkistan, Kazakhstan. Convenience sampling method was used in choosing the participants in this study. The form of convenience sampling method as one of the types of non-probability procedure is advantageous and not long-delayed [15]. The participants participated voluntarily and randomly. The demographic information related to the participants is given in (Table 1).

T a b l e 1

Demographic information about participants

Grade level of undergraduate students	Number of participants	The age of students
First-year students	11	16-17
Second-year students	11	17-18
Third-year students	10	18-19
Fourth-year students	22	19-20

There were overall 54 undergraduate students. In terms of the gender difference, 83,3% of the students were females (f = 45), whereas 16,6% were males (m = 9), aged from 16 to 20 years. Moreover, 22 of them were fourth-year students, 11 of them were second-year students, other 11 first-years students, and other 10 were third-years students.

Data collection instruments. The instrument Questionnaire of English Self-Efficacy (QESE) used in this study was developed by C. Wang, D.H. Kim, M. Bong and H.S. Ahn which was originally appeared with observations and interviews [13].

The self-efficacy scale consisted of 28 questions in four subscales which are: Self-efficacy for listening (7 items), self-efficacy for speaking (8 items), self-efficacy for reading (6 items) and self-efficacy for writing (7 items). The questionnaire was conducted in the form of 7 point Likert scale. The responses were ranged as the following:

1 — I am totally unable to do this; 2 — I am unable to do this; 3 — I am possibly unable to do this; 4 — I am possibly able to do this; 5 — I am basically and in principle able to do this; 6 — I am able to do this; 7 — I am able to do this well.

Data analysis procedure. The participants were required to complete the questionnaire which was provided on online form. Online questionnaire was made with the help of Google form. The Cronbach's Alpha value was $\alpha = 0.97$. Reliability statistics is shown in (Table 2).

T a b l e 2

Reliability statistics of Cronbach's Alpha

Reliability Statistics	
Cronbach's Alpha	N of Items
971	28

As the initial step of the research test of normality was computed to the data. This was done to determine whether parametric or non-parametric tests would be more appropriate to reach the goal of the study.

Following, to answer to the first research question descriptive statistic were performed to the data. As P. Mishra, C.M. Pandey, U. Singh, A. Gupta, C. Sahu and A. Keshri acknowledged, descriptive statistics are one of

the types of method which analysis and computes the data from the samples' given answers [16]. In order to figure out descriptive statistics, test of normality should appropriately be tested, then chosen whether do research with Kolmogorov-Smirnov or Shapiro-Wilk's test. This is very crucial to select parametric or non-parametric test.

The results of the first research question were presented in the form of means and standard deviations. As the next step, in order to find the answer to the second research question Kruskal-Wallis *H*-test was employed to the data. Finally, Mann-Whitney U-test was used to distinguish the difference between male and female participants' levels of self-efficacy beliefs.

Results and Discussion

This section provides information regarding to the research questions. To answer the first research question "What is the perceived level of self-efficacy beliefs of undergraduate ELT students?", descriptive statistics were computed. The results are presented in Table 3.

T a b l e 3

Descriptive statistics of the Questionnaire of English Self-Efficacy (QESE)

Subscales	N	Minimum	Maximum	Mean	Std. Deviation
Self-efficacy for listening	54	2,57	7,00	5,0344	1,16486
Self-efficacy for speaking	54	1,50	7,00	5,1412	1,28674
Self-efficacy for reading	54	1,83	7,00	4,9290	1,31616
Self-efficacy for writing	54	1,57	7,00	4,9206	1,33743
Total	54	2,00	7,00	5,0139	1,21809

The results of descriptive statistics presented in Table 3, showed that the level of participants' self-efficacy beliefs is in medium level (total X̄=5.01), since the min was distributed as 1, whereas maximum as 7. The scores related to the subscales were also analyzed. "Self-efficacy for listening" subscales mean score was found X̄=5.03; "self-efficacy for speaking" was X̄=5.14; "self-efficacy for reading" subscale's mean score X̄=4.92; "self-efficacy for writing" subscale score was also found X̄=4.92.

According to the second research question, "Are there any differences between first, second, third and fourth-year ELT students in terms of their self-efficacy beliefs?". Kruskal-Wall *H*-test was performed. The results from Kruskal-Wallis *H*-test are given in (Table 4).

T a b l e 4

Kruskal-Wallis *H*-test

Subscales	Grade level	N	Mean Rank	H	P
Self-efficacy for listening	1 year students	11	28,45	1,179	,758
	2 year students	11	28,32		
	3 year students	10	22,65		
	4 year students	22	28,82		
Self-efficacy for speaking	1 year students	11	26,86	,458	,928
	2 year students	11	29,32		
	3 year students	10	24,95		
	4 year students	22	28,07		
Self-efficacy for reading	1 year students	11	30,95	1,459	,692
	2 year students	11	27,77		
	3 year students	10	22,75		
	4 year students	22	27,80		
Self-efficacy for writing	1 year students	11	28,68	1,688	,640
	2 year students	11	26,14		
	3 year students	10	22,45		
	4 year students	22	29,89		
Total	1 year students	11	29,05	,804	,849
	2 year students	11	27,91		
	3 year students	10	23,55		
	4 year students	22	28,32		

*p<0.05

According to the results of Kruskal-Wallis *H*-test no statistically significant differences were found among four years students regarding their level of self-efficacy beliefs (H=.804; P =.849). However, the results were analyzed according to their mean rank scores. As stated in the first subscale "self-efficacy for listening" the fourth (MR=28.82), the first (MR=28.45), and the second-year (MR=28.32) students' indicated similar scores, whereas the third-year students results showed lower scores (MR=22.65).

According to the second subscale "self-efficacy for speaking" the second (MR = 29,86) and the fourth-year (MR = 28,07) students represented the highest scores, rather than the first-year (MR = 26,86) and the third-year (MR = 24,95) students.

If to look at the third subscale called "self-efficacy for reading", it can be seen that first-year students (MR = 30,95) peaked the reach, whereas the lowest was third-year (MR = 22,75) students. The second (MR = 27,77) and the fourth-year (MR = 27,80) students had a similar scores.

In the last scale "self-efficacy for writing", results of the first-year (MR = 28,68) and the fourth-year (MR = 29,89) students were similar. The second-year students' findings (MR = 26,14) were in a medium when the third-year students stood in the lowest position.

The third question is about "Are there any significant differences between male and female students' self-efficacy beliefs?". Mann-Whitney U-test was accomplished in order to acquire the reply to the third research question. The results are given in (Table 5).

T a b l e 5

Mann-Whitney U-test

Subscales	Gender	N	Mean Rank	Sum of Ranks	U	P
Self-efficacy for listening	Male	9	32,67	294,00	156,000	,280
	Female	45	26,47	1191,00		
Self-efficacy for speaking	Male	9	33,00	297,00	153,000	,250
	Female	45	26,40	1188,00		
Self-efficacy for reading	Male	9	34,11	307,00	143,000	,166
	Female	45	26,18	1178,00		
Self-efficacy for writing	Male	9	32,72	294,50	155,000	,274
	Female	45	26,46	1190,50		
Total	Male	9	32,44	292,00	158,000	,302
	Female	45	26,51	1193,00		

*p<0.05

Conforming to the results obtained from Mann-Whitney U-test, it was found no particular significant difference between male and females self-efficacy beliefs (U=158.0; P=.302), as well as in the results according to the subscale: "self-efficacy for listening" (U=156, P=.280); "self-efficacy for speaking" (U=153, P=.250); "self-efficacy for reading", (U=143, P=.166); "self-efficacy for writing" (U=155, P=.274).

However, although there was not found statistically significant differences, if to look at the mean rank scores of two groups we may see that male participants possess higher level of "self-efficacy for listening" (male =32.67; female=26.47); "self-efficacy for speaking" (male=33,00, female=26,40); "self-efficacy for reading", (male = 34,11, female= 26,18); "self-efficacy for writing" (male= 32,72 , female=26,46).

All in all, even if total outcome presented that there was no significant difference among subscales. Since, p-value is .302 which means that it is bigger than > 0.05. However, all mean rank deviation demonstrated that the male undergraduate students' score were higher than female learners. It also should be noted that the cause of being male gender's mean rank score higher could be due to its number of participants. In fact, males were nine, whereas females were forty five. Total males (MR = 32,44), females (MR = 26,51) which also represents that males' score was greater.

The current study reported about prospective English language teachers' self-efficacy beliefs in English language teaching environment. As a consequence, given answers from online questionnaire was found that undergraduate students' self-efficacy beliefs were in a moderate level. Undergraduate students from Foreign Languages Teaching Department at Khoja Akhmet Yassawi International Kazakh-Turkish University were participated. All four course students were enrolled. From setting research questions, results were examined. Findings exhibited that there were neither similarities nor differences among courses and genders.

In this section, other researchers findings from different countries will be considered and discussed whether their results are similar with present research study or not. Each of researchers' investigation was

about mainly self-efficacy beliefs and its difference among genders, academic performance and even in teaching.

Terzi's findings about English language teachers' self-efficacy beliefs among junior and senior educators showed that there was steady growth in the participants' efficacy levels towards classroom management (80%) and instructional strategies (67%) during the course time. Even though, after four years of teaching, the rise was established to be more significant and predominant. As a result, work experience changed junior and senior teachers' self-efficacy beliefs across years. From that point of view, we might confirm, that C. Terzi in his before and after practicum period came up with conclusion that pre-service English language teachers promoted because of having real practice with students and that is advanced on their self-efficacy [7].

The results of S. Demir found in his research, that many educators' self-efficacy beliefs, motivation, work gratification and engagement were developed. It influenced positively on their occupation participation. Relationship towards other teachers' self-efficacy inspiration completely facilitated [11].

O. Otmane, M. Mohammed and R. Driss's findings designated the significance of self-efficacy beliefs to improve students' learning performance. They measured students' level of education, viewpoints towards university professors' lessons and their preliminary intention to being involved university as they were the main factors of self-efficacy. The experiment was set at different universities. In the result, third-year students were more efficacious that first-year and second year students. Additionally, students' living styles whether with parents or separately was also considered. Moreover students who live in parents' home and who chose the profession due to its possibility were less efficacious than those who live without parents and those who were involved with subject to succeed in future [8].

R. Cobo-Rendón et al. who examined about self-efficacy, quantity of learners with a positive and negative stability performance in academic years, identified that second-year students' optimistic affect declined during that year. Furthermore, researchers stated that psychological wellbeing foresees positive feelings. First-year students' performance transmitted into negative from positive up to 10% due to post-stress issues which appeared from university life and this reflected on self-efficacy level [9].

K. Hamann, M.A. Pilotti and B.M. Wilson took up with investigating the role of self-efficacy and gender differences among college students. Convenience research sampling was chosen as in the present study. Acquired findings stated that learners from public university in the USA, male and female student' self-efficacy were different and female attended to college more than male genders. Samples were mostly those students who inspired doing well in college. Male students depended more seriously on the elements as getting good marks under the impact of family and friends, however there were no particular differences in academic success as GPA among genders [3].

The findings of A. Kurmanova, researcher from the Republic of Kazakhstan, examined teachers' self-efficacy beliefs and their relationship at one of the Nazarbaev Intellectual schools. Research study confirmed that educators' work experience cannot impress on their level of obtained self-efficacy. In the research work done by her, one of the teachers had self-confidence despite the fact that she had only two years of professional experience.

Kazakhstani researcher chose six educators from NIS then used survey and interview as observation. Only five of them exposed their capacity that they were ready to face challenges, whereas one of them had low self-efficacy belief. More importantly, researcher figured out that during the professional development self-efficacy would be appeared. Apart from that, some of the participants agreed that it helped them to encourage personal growth in teaching environment [17].

Results taken from interviews and surveys specified that educators with more confidence and level of self-efficacy, open towards new methodology and innovations as well as to tackle with struggles.

Considering some of the researchers' investigation, it can be noted that not all researchers observed learners' level of self-efficacy, some of them examined how efficacy effects on academic performance and teaching strategies. However, from the findings of researchers' O. Otmane, M. Mohammed and R. Driss's [8] results were not similar with the current study. More importantly, the present study's results based on online questionnaire and analyzed subscales related to listening, speaking, reading and writing. Whereas O. Otmane, M. Mohammed and R. Driss [8] investigated about learners' education, interests and differences between universities towards self-efficacy level.

On the other hand, the author agrees with S. Demir [11] and C. Terzi [7] statements about self-efficacy development and having a real practice with students face to face can develop self-efficacy level.

The author also cannot agree with R. Cobo-Rendón et al. [9] and K. Hamann, M.A. Pilotti and B.M. Wilson [3] research examinations.

Since the teacher has a few experiences from teaching, the efficacy level might be higher from the results of A. Kurmanova [17]. Research study was about teachers' self-efficacy beliefs in teaching among both more experienced and at least two year experience. In order to define the accuracy of A. Kurmanova's [17] research study, it should be specified by experimenting.

Conclusion

The current research study pointed out the significance of self-efficacy beliefs of undergraduate students. Questions from research questions were answered and shown in tables. The questionnaire was conducted according to the purpose of the study. Participants of Khoja Akhmet Yassawi International Kazakh-Turkish University, Faculty of Philology were controlled to take part in questionnaire.

Findings of this research indicated that the self-efficacy beliefs of students enrolled at Foreign Languages Teaching Department, Khoja Akhmet Yassawi International Kazakh-Turkish University were in a medium level. Moreover, no significant differences were found between male and female students. The results analysis also indicated that self-efficacy beliefs of the first, second, third and fourth-year students' were identical.

Subscales in current research study were demonstrated that subscale of "self-efficacy of listening" distributed first, second and fourth-year students' scores as similar, when third-year students showed low scores. In "self-efficacy for speaking" second and fourth-year students' scores were greatest, from "self-efficacy for reading" first-year, in "self-efficacy for writing" first and fourth-year students' scores were the highest.

As A. Kurmanova stated, people who have powerful self-efficacy level are prepared to set aims to realize them [17].

The researcher of the resent research study comes up with conclusion that self-efficacy gives an opportunity to evaluate performance in learning as well as in teaching environments.

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Болашақ ағылшын тілі мұғалімдерінің ағылшын тілін оқыту ортасындағы өзіндік тиімділікке деген сенімдері

Мақалада болашақ ағылшын тілі мұғалімдерінің ағылшын тілін оқыту ортасында өзіндік тиімділікке деген сенімдері қарастырылған. Қабілет ретінде өзіндік тиімділік оқушылардың тапсырманы жеткілікті түрде орындай алуына әсер етуі мүмкін. Қазіргі уақытта өзіндік тиімділік ағылшын тілін меңгеруді дамытуда маңызды рөл атқаруда, өйткені «өзіндік тиімділік» термин ретінде жеке тұлғаның қалыптасқан құзыреттілігін көрсетеді. Сондықтан білікті де білімді болашақ ағылшын тілі мұғалімдерін даярлау үшін олардың өзіндік тиімділікке деген сенімдері де тексерілуі керек. Зерттеудің мақсаты болашақ ағылшын тілі мұғалімдерінің өзіндік тиімділігіне деген сенімдерін анықтау. Зерттеуге Қожа Ахмет Ясауи атындағы Халықаралық қазақ-түрік университетінің педагогикалық шетел тілдері кафедрасында оқитын 54 студент қатысты. Бұл зерттеудегі сандық сипаттамалық зерттеу дизайны зерттеуге қатысқан болашақ мұғалімдердің қазіргі өзіндік тиімділік сенім деңгейлерін анықтау үшін қолданылды. Мәліметтер Google формасы арқылы дайындалған сауалнама әдісімен онлайн түрде жиналды. Нәтижелер болашақ ағылшын тілі мұғалімдерінің өзіндік тиімділікке деген сенімдерінің барабар деңгейіне ие екенін көрсетті. Mann-Whitney U тестісінің талдауына сәйкес, бакалавриат студенттері, яғни ұлдар мен қыздар арасында айтарлықтай айырмашылықтар болған жоқ. Тұтастай алғанда, деректерді зерттеуде үлкен рөл атқарған Қоғамдық ғылымдардың статистикалық пакеті (SPSS) бағдарламасын қолдана отырып, өзін-өзі тиімділікке деген сенімдері туралы ақпарат ұсынылды.

Кілт сөздер: өзіндік тиімділік сенімдері, болашақ ағылшын тілі мұғалімдері, ағылшын тілін меңгеру, құзыреттілік, сандық зерттеу әдісі, сауалнама әдісі, ағылшын тілі шет тілі ретінде, SPSS бағдарламасы.

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Убеждения будущих учителей английского языка в самоэффективности в среде преподавания английского языка

В исследовании рассмотрено убеждение будущих учителей английского языка в самоэффективности в среде преподавания английского языка. Самоэффективность как способность может повлиять на выполнение учащимися задания в достаточной степени. В настоящее время самоэффективность играет важную роль в развитии владения английским языком, поскольку термин «самоэффективность» демонстрирует компетентность индивидов. Поэтому чтобы подготовить квалифицированных будущих учителей английского языка, их убеждения в самоэффективности также должны быть проверены. По этой причине целью данного исследования было выяснить убеждения будущих учителей английского языка в собственной эффективности. Участники данного исследования — 54 студента, обучающиеся на кафедре педагогических иностранных языков Международного казахско-турецкого университета имени Ходжи Ахмета Ясави. Количественный описательный дизайн был использован для описания текущего состояния будущих учителей. Данные были собраны с помощью онлайн анкеты и метода опроса, подготовленного *Google* формой. Результаты показали, что будущие учителя английского языка обладают адекватным уровнем убеждений в самоэффективности. Согласно анализу U-теста Манна-Уитни, существенных различий между студентами бакалавриата мужского и женского пола не выявлено. В целом, исследование предоставило информацию об убеждениях студентов бакалавриата в самоэффективности с использованием программы Статистического пакета для общественных наук (SPSS), которая сыграла огромную роль в изучении данных.

Ключевые слова: убеждения в самоэффективности, будущие преподаватели английского языка, уровень владения языком, компетентность, количественное исследование, опрос, английский как иностранный язык, программа SPSS.

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Формы и направления корпоративного сотрудничества вузов и компаний в рамках образовательных программ естественнонаучного и инженерного профилей

Происходящие во всем мире процессы глобализации требуют принятия странами комплексных стратегических мер по поддержке различных форм партнерства вузов и компаний, направленных на создание технологических инноваций, проведение совместных исследований, трансфер знаний и технологий, что позволит реализовывать инфраструктурные и сетевые инициативы, интегрировать производство и образование, создавать современные корпоративные объединения, реализовывать совместные программы обучения. В соответствии с этим целью настоящей работы является анализ форм и направлений взаимодействия вузов с предприятиями и их систематизация для повышения эффективности межинституционального взаимодействия с позиций ключевых стейкхолдеров, определение путей для развития корпоративного партнерства в подготовке кадров, развития и модернизации образовательных программ, улучшения практического обучения студентов на рабочем месте. В работе были поставлены следующие задачи: 1) оценка результативности отдельных направлений партнерства между вузами и компаниями/предприятиями; 2) анализ факторов, влияющих на выбор формы и вида партнерства; 3) установление факторов, влияющих на обновление образовательных программ; 4) проектирование подходов, которые могут быть реализованы при разработке и обновлении образовательных программ; 5) определение понятия корпоративного обучения в рамках реализации образовательных программ. Для решения поставленных задач в работе были проведены анкетирование и интервьюирование преподавателей и обучающихся по инженерным и естественнонаучным специальностям в вузах и колледжах различных регионов Казахстана, а также сотрудников партнерских компаний с целью выяснения их мнения о: 1) существующих программах сотрудничества между вузами/колледжами и компаниями/предприятиями при подготовке кадров; 2) основных проблемах, с которыми сталкиваются вузы/колледжи, при реализации образовательных программ инженерного и естественнонаучного профилей; 3) мерах, которые могли бы повлиять на качество образовательных программ, на устранение пробелов в обучении и компетенциях выпускников вузов/колледжей. На основе анализа результатов анкетирования было сделано заключение о том, что формы и направления корпоративного партнерства вузов/колледжей и компаний должны обеспечить устойчивость развития, эффективный менеджмент и вовлеченность партнерских компаний во все процессы обучения студентов. Для повышения эффективности взаимодействия вуза/колледжа с индустриальными партнерами, качества подготовки специалистов необходимо синтезировать и интегрировать новые формы корпоративного обучения в систему подготовки кадров.

Ключевые слова: образовательная программа, стейкхолдер, практическое обучение, обучение на рабочем месте, программа сотрудничества, навыки и компетенции, корпоративное обучение.

Введение

Процессы глобализации во всем мире меняют векторы политики в сфере трудовых отношений, оказывают влияние на практические подходы к новым моделям организации труда, формы работы и межинституционального взаимодействия ключевых стейкхолдеров, содержание мер реагирования на современные вызовы рынка труда [1–8]. В условиях происходящих перемен по прогнозам Организации экономического сотрудничества и развития (OECD) по мере автоматизации отдельных производственных процессов будут иметь место тенденции к сокращению и изменению существующих рабочих мест, кадровой нестабильности и краткосрочности трудовых отношений, регулярному обновлению навыков и квалификаций [3]. Во многих странах увеличится разрыв в занятости молодежи и людей более старшего возраста, что отрицательно скажется на карьерных перспективах выпускников вузов и колледжей [9]. Наблюдаемые тенденции потребуют от стран принятия комплексных стратегических мер по поддержке различных форм партнерства вузов и компаний, направленных на создание технологических инноваций, проведение совместных исследований, трансфер знаний и технологий [4-8, 10]. Развиваемые партнерства будут охватывать различные виды и формы сотрудничества, включая: 1)

финансовую поддержку развития университетов, включая предоставление грантов и стипендий для реализации инновационных инициатив, перспективных проектов, модернизации учебной и научной инфраструктуры вуза, обучения студентов; 2) предоставление доступа к имеющимся ресурсам; 3) проведение совместных исследований в масштабах компании или отрасли, создание инновационной продукции; 4) разработку образовательных программ и принятие стратегических решений по вопросам их реализации, совершенствование системы обучения студентов, включая обучение на рабочем месте (программы производственного опыта, стажировки, консультации, наставничество, программы по развитию навыков построения карьеры и др.) и профессиональные практики, консультирование студентов по вопросам карьерного развития; 5) совместную реализацию профориентационных мероприятий и акций, направленных на повышение привлекательности бренда работодателя и условий труда для выпускников; 6) проведение совместных мероприятий по квалификационной оценке и трудоустройству выпускников; 7) обучение и подбор персонала; 8) коммерциализацию академических открытий и инноваций и т.д.

В рамках программ сотрудничества могут реализовываться инфраструктурные и сетевые инициативы, осуществляться полная или частичная интеграция производства и образования (учебные центры, базовые кафедры, аутсорсинг), создаваться образовательные, инновационные и исследовательские корпоративные объединения нового формата, реализовываться совместные программы, в том числе дуального и корпоративного обучения, программы целевой подготовки, обучения на протяжении всей жизни, практико-ориентированные программы и учебные курсы, создаваться и распространяться востребованные рынком технологии, знания, готовая продукция, внедряться программы промышленных связей, проводиться конференции и подготавливаться совместные публикации, может предоставляться доступ обучающимся и преподавателям к современному оборудованию партнерских компаний, осуществляться мобильность ученых [11].

Эффективная реализация перечисленных видов и форм сотрудничества вузов и компаний позволит обеспечить актуальное и качественное образование, поддерживаемое современной инфраструктурой и технологиями; оптимизировать участие всех заинтересованных сторон в подготовке кадров и поддержке соответствующих преобразований в системе обучения, улучшить управление образованием, создать условия для внедрения инноваций в соответствии с достижениями в науке и изменениями на рынке труда [12], обеспечить плавный переход студента от академической к профессиональной среде, повысить качество рабочих мест, обеспечить интеграцию обучения с производственными процессами, создать дополнительные возможности для получения студентами востребованных бизнесом навыков и компетенций, расширить формы и методы передачи знаний и технологий [5, 13–17].

Для мотивации вузов и компаний к различным формам академического, научного, социального и других видов партнерства, повышения его эффективности и привлекательности, преодоления различных препятствий большое значение имеет поддержка со стороны государственных органов и ведомств, в том числе и финансовая. В соответствии с изложенным выше целью настоящей работы является анализ форм и направлений взаимодействия вузов с предприятиями и их систематизация для повышения эффективности межинституционального взаимодействия с позиций ключевых стейкхолдеров, определение путей для развития корпоративного партнерства в подготовке кадров, развития и модернизации образовательных программ, улучшения практического обучения студентов на рабочем месте.

Для достижения поставленной цели в работе были поставлены следующие задачи: 1) оценка результативности отдельных направлений партнерства между вузами и компаниями/предприятиями; 2) анализ факторов, влияющих на выбор формы и вида партнерства; 3) установление факторов, влияющих на обновление образовательных программ; 4) проектирование подходов, которые могут быть реализованы при разработке и обновлении образовательных программ; 5) определение понятия корпоративного обучения в рамках реализации образовательных программ на основе результатов анкетирования и интервьюирования ключевых стейхолдеров.

Методы и материалы

Современное развитие общества, науки и производства показывает, что динамичное обновление и видоизменение промышленных технологий приводит к разрыву между фундаментальной теоретической и прикладной практической подготовкой кадров, что снижает на них спрос современным рынком труда, приводит к несоответствию базовых профессиональных знаний выпускников вузов уровню оснащенности современного промышленного предприятия и требованиям современной экономики,

снижает гарантии трудоустройства выпускников и возможности их карьерного роста даже при положительных результатах обучения [18, 19]. Исходя из этого, выпускник, попадая на производство, вынужден доучиваться, самообразовываться и адаптироваться к инновационным технологиям и оборудованию, формировать готовность к реформированию и модификации рабочего места, выполнению и реализации инновационных методов и средств своей профессиональной деятельности [20].

Одним из путей решения данной проблемы, на наш взгляд, являются опережающее обучение [21], активное привлечение к обучению студентов практикующих специалистов, создание различных корпоративных объединений производства и вузов, интеграция новых форм корпоративного обучения в рамках реализации дуальных образовательных программ инженерного и естественно-научного профилей.

Обращаясь к сущности корпоративного обучения, можно отметить, что зародилось оно в начале 60-х гг. XX в. в США вместе с понятием корпоративных университетов. Наиболее распространенный термин в зарубежной литературе — «Training & Development (T&D)» — «обучение и развитие» [22].

В исследованиях, посвященных корпоративному обучению, предлагаются следующие определения: корпоративное обучение, или обучение на рабочем месте, представляет собой набор образовательных мероприятий, предоставляемых сотрудникам, как правило, бесплатно [23]; предполагает предоставление обучающимся адекватных навыков и обучение с помощью программ обучения, которые расширят их знания и повысят их эффективность на рабочем месте [24]; позволяет сформировать единые для компании принципы обучения, которые способствуют развитию профессионализма, корпоративного духа, воспитанию чувства принадлежности к команде специалистов компании, организованной для достижения общей цели [25] и др. С точки зрения Р.А. Долженко, под системой корпоративного обучения понимается комплекс мер по развитию навыков, умений и знаний персонала, направленный на наиболее оптимальное использование человеческих ресурсов компании с учетом принятой стратегии компании [26]. А.В. Белошицкий, Ш.Г. Гарайшин подчеркивают, что корпоративное обучение является ключевым элементом процесса непрерывного совершенствования и механизмом стимулирования технологической инновационной активности компании, оказывающим сильное влияние на устойчивое экономическое развитие предприятия в целом [27]. Авторы данной научной работы, исследуя развитие корпоративного обучения персонала на промышленных предприятиях, акцентируют внимание на том, что реализация корпоративного обучения потребует от предприятия включения в их структуру дополнительных подразделений, которые будут заниматься подготовкой кадров. Ими обосновывается комплексная характеристика системы корпоративного обучения персонала, включающей организационный, содержательный и методолого-технологический компоненты [28].

А.О. Полушкина, используя данные исследования Workplace Learning Report, работы зарубежных ученых США, Канады и других стран, рассматривает тенденции изменения корпоративного обучения, выявляет основные трудности промышленных предприятий в организации и реализации дополнительного профессионального обучения сотрудников и возможности их разрешения. В своей работе она справедливо отмечает, что в последнее время большую роль в развитии корпоративного обучения играют информационно-коммуникативные технологии, системы поиска, сбора, систематизации и предъявления информации [29].

Ряд ученых подчеркивают важное значение электронных университетов, которые, по их мнению, сыграли большую роль в развитии корпоративного обучения [30–32].

Проведенный анализ корпоративного обучения показывает, что основной акцент в анализируемых работах сделан на обучение сотрудников в рамках промышленного предприятия, фирмы, компании и с учетом потребностей и стремления работника и работодателя. В тоже время для повышения качества подготовки специалистов инженерного и естественно-научного профилей, по нашему мнению, необходимо синтезировать и интегрировать новые формы корпоративного обучения в систему высшего профессионального образования.

Исходя из этого чрезвычайно актуальным становится определение форм и направлений взаимодействия вузов с предприятиями, для чего нами на первом этапе нашего исследования было проведено анкетирование и интервьюирование ключевых стейкхолдеров — преподавателей и обучающихся по инженерным и естественно-научным специальностям в вузах и колледжах различных регионов Казахстана, а также сотрудников партнерских компаний. К участию в анкетировании привлечены 1100 обучающихся и 100 преподавателей из 15 вузов и 4 колледжей, 100 сотрудников из 46 компаний/предприятий из различных регионов Казахстана (Астана, Шымкент, Караганда, Семей, Павлодар и др.). Из

числа сотрудников компаний, участвующих в анкетировании, 77,1 % отметили наличие постоянного опыта работы со студентами во время их обучения в вузе/колледже.

Качественный и количественный состав респондентов был следующим: 1) преподаватели со стажем работы в занимаемой должности «менее 5 лет» — 27 %; «5–10 лет» — 20 %; «10–15 лет» — 19 %; «более 15 лет» — 34 %; 2) сотрудники компаний/предприятий со стажем работы в занимаемой должности «менее 5 лет» — 38,7 %; «5–10 лет» — 26,4 %; «10–15 лет» — 17,9 %; «более 15 лет» — 17 %; 3) обучающиеся по программам бакалавриата в вузах — 71,9 %, по программам магистратуры — 6,7 %; другие категории обучающихся — 21,4 %. 31,4 % опрошенных студентов обучаются по направлению подготовки инженерные, обрабатывающие и строительные отрасли; 19,4 % — IT, информационная безопасность, информационно-коммуникационные технологии; 13 % — естественные науки, математика и статистика. 35,7 % опрошенных студентов имеют опыт работы в компании/на предприятии по профилю обучения. Из числа участвующих в анкетировании преподавателей инженерного и естественно-научного профилей 57,1 % имеют опыт работы в компании по профилю преподаваемых дисциплин. 44,8 % опрошенных сотрудников компаний имеют опыт педагогической деятельности.

В рамках проводимого анкетирования представляло интерес выяснить мнение респондентов о 1) существующих программах сотрудничества между вузами/колледжами и компаниями/предприятиями при подготовке кадров по инженерным и естественно-научным специальностям; 2) основных проблемах, с которыми сталкиваются вузы/колледжи при реализации образовательных программ инженерного и естественнонаучного профилей; 3) мерах, которые могли бы повлиять на качество образовательных программ, на устранение пробелов в обучении и компетенциях выпускников вузов/колледжей. При проведении анализа результатов анкетирования факторы, влияющие на обновление образовательных программ, были сгруппированы по четырем категориям: 1) рынок труда; 2) внутренние ресурсы организации образования; 3) конкуренция вузов; 4) запросы ключевых стейкхолдеров.

Во всех используемых в работе анкетах, категории ответов варьировались между рейтинговыми шкалами, единственным и множественным выбором, открытыми ответами. Рейтинговые шкалы выбирались таким образом, чтобы респонденты могли дать оценку с точки зрения уровня согласия или несогласия, степени важности анализируемого показателя (очень важный, важный, незначительный, неважный). При оценке степени удовлетворенности содержанием программы обучения, качеством преподавания и качеством организации практик использовалась пятибалльная шкала (от 1 — самая низкая оценка, до 5 — самая высокая оценка). Результаты анкетирования анализировались качественно и количественно, с использованием методов оценки средневзвешенных показателей и ранжирования оцениваемых индикаторов.

Источниками первичной информации при проведении исследования являлись нормативно-правовые документы Министерства науки и высшего образования Республики Казахстан, открытые данные Интернет-ресурсов, национальной статистики Казахстана, статистические данные и информационные материалы международных организаций, научная и методическая литература по исследуемой проблеме.

Результаты и обсуждение

Эффективность реализации различных форм и направлений корпоративного сотрудничества вузов и компаний в рамках образовательных программ естественнонаучного и инженерного профилей во многом зависит от таких факторов, как:

1) понимание партнерами взаимной выгоды и культурных различий [33];

2) заинтересованность партнерских компаний в сотрудничестве с вузами [13, 33];

3) финансирование программ сотрудничества вузов и компаний и обеспечение гарантий отдачи от инвестиций;

4) инклюзивность в планировании и реализации учебных программ, обеспечение гарантий развития у выпускников необходимых навыков и компетенций для трудоустройства в отрасли;

5) вовлеченность промышленности в планирование и реализацию образовательных программ, в принятие стратегических решений по подготовке кадров.

При этом программы сотрудничества между вузами и компаниями должны быть основаны на доверительных отношениях, что обеспечит создание взаимной ценности и творческой обстановки, распространение и двусторонний обмен идеями, знаниями, технологиями в тех отраслях, где имеется потенциал совершенствования и инноваций, «коммерциализации» академических знаний, увеличения инвестиций в ресурсы и подготовку кадров.

Для реализации программ сотрудничества вузов и компаний необходимо определить:

1) формы и методы интеграции сотрудничества с компанией в образовательную программу;

2) виды, формы и механизмы коммуникации вузов с компанией/ предприятием по вопросам подготовки кадров;

3) порядок согласования и реализации мероприятий, направленных на оптимизацию сроков и продолжительности профессиональных практик, стажировок, обучения на рабочем месте;

4) порядок отбора обучающихся и преподавателей, участвующих в программах сотрудничества;

5) порядок планирования всех видов деятельности, рассмотрения результатов совместной работы на основе анализа отзывов всех ключевых стейкхолдеров и планирование работ на будущее [34];

6) инструменты, позволяющие учесть потребности ключевых заинтересованных сторон, определить ожидания студентов, организаций образования и компаний от программ сотрудничества, включая совместные программы обучения;

7) виды и формы выполняемых ролей участниками партнерства, инструменты оценивания достигнутых результатов и степени удовлетворенности ими [35];

8) методы идентификации, анализа, выявления и устранения рисков, возникающих при выполнении программ сотрудничества;

9) способы принятия ключевых решений [36], управления интересами и конфликтами [37];

10) стратегии управления, учитывающие потенциальные ценности партнерства для всех заинтересованных сторон [4–8];

11) периодичность, порядок и формы мониторинга результатов всех направлений сотрудничества.

В рамках программ сотрудничества с компаниями должны быть предусмотрены такие мероприятия, которые обеспечат вузам/колледжам выбор новых точек роста и превосходства, расширение спектра основных и дополнительных образовательных услуг, внедрение новых форматов обучения, актуализацию содержания образовательных программ, повышение уровня профессионализма преподавателей и сотрудников компаний.

Проведенный в работе анализ факторов, влияющих на обновление образовательных программ, показал, что вузы в этом вопросе в большей мере, чем колледжи ориентируются на тенденции, происходящие на рынке труда (рис. 1).
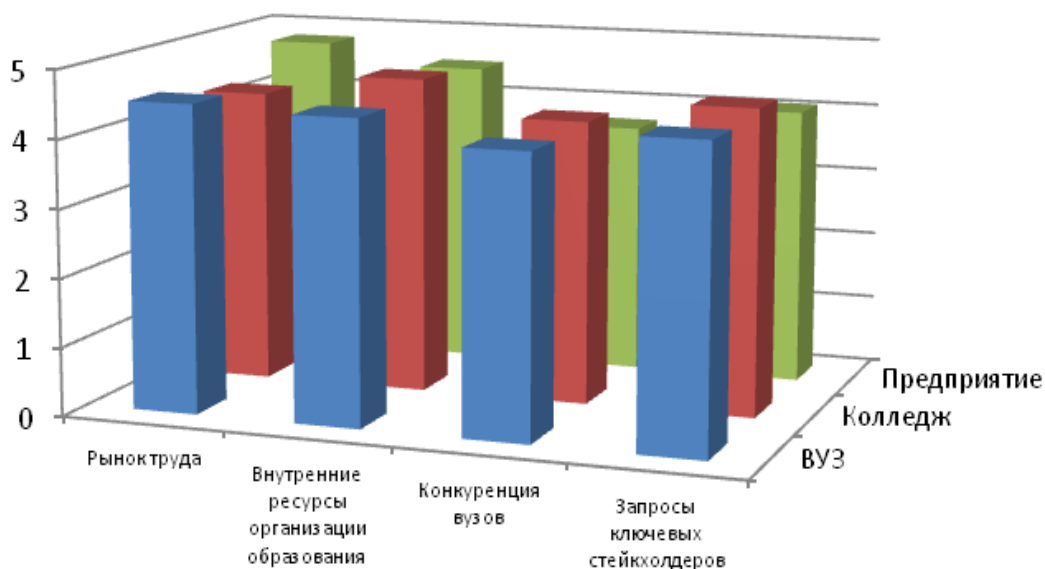
Рисунок 1. Основные факторы, влияющие на обновление образовательных программ

При этом позиция вузов совпадает с позицией сотрудников компаний. Колледжи отдают приоритет в данном вопросе имеющимся собственным ресурсам для реализации образовательной программы. Конкуренция на рынке образовательных услуг рассматривается всеми тремя группами респондентов как наименее важный фактор в обновлении образовательных программ. Влияние запросов ключевых

стейкхолдеров на обновление образовательных программ выше оценивается преподавателями и сотрудниками колледжей, чем преподавателями вузов и сотрудниками предприятий.

Полученные на основании анкетирования результаты позволяют выстроить два модельных подхода, которые могут быть реализованы при разработке и обновлении образовательных программ:

1) на основании результатов анкетирования преподавателей вузов и сотрудников компаний при разработке и обновлении образовательных программ необходимо в первую очередь провести мониторинг основных тенденций, имеющих место на рынке труда, оценить собственные внутренние ресурсы, необходимые для реализации новой или обновленной образовательной программы, выявить основные заинтересованные стороны в реализации образовательной программы и изучить их запросы, провести анализ рынка образовательных услуг и оценить сильные и слабые стороны имеющихся образовательных программ аналогичного профиля, условия и особенности их реализации;

2) на основании результатов анкетирования преподавателей колледжей разработка и обновление образовательных программ должна начинаться с оценки внутренних ресурсов (наличие материальной и/или лабораторной базы, наличие преподавателей, способных преподавать те или иные дисциплины и др.) и мониторинга запросов ключевых стейкхолдеров (изменение спроса предприятий на компетенции выпускников, запросы обучающихся, изменение нормативных требований к содержанию образовательных программ и др.). Состояние рынка труда (изменение его структуры, появление новых профессий и др.) и конкуренция на рынке образовательных услуг рассматриваются ими как менее важные факторы.

Оба модельных подхода могут быть реализованы при тесном взаимодействии организаций образования и компаний/предприятий, наличии поддерживающей инфраструктуры и технологий, оптимизации участия всех заинтересованных сторон в процессах модернизации содержания и структуры процесса обучения, улучшения управления образованием, внедрения инноваций в соответствии с достижениями в науке и изменениями на рынке труда, практической апробации собственных исследований и теоретических разработок. Администрация вузов должна поощрять различные инициативы преподавателей и сотрудников, направленные на поиск и реализацию новых форм и методов сотрудничества с индустриальными партнерами и бизнес-сообществом, создавать и укреплять атмосферу партнерства между академическими кругами и промышленным сектором. Формы корпоративного партнерства вузов с компаниями по профилю подготовки специалистов должны реализовываться на этапах планирования, разработки, реализации и обновления образовательной программы, регулярного повышения уровня профессионализма преподавателей в соответствующем отраслевом направлении и в производственной среде, мониторинга академических и профессиональных достижений обучающихся.

Подтверждением тому являются результаты анкетирования преподавателей вузов, преподавателей и сотрудников колледжей, сотрудников компаний при оценке мер, которые могли бы повлиять на качество образовательных программ. Все три группы респондентов наиболее высокую оценку по пятибалльной шкале дали такому показателю, как создание условий для взаимовыгодного партнерства (4,47) и ориентация на формирование гибких и профессиональных навыков у обучающихся (4,39). Наименее низкой оказалась оценка таких мер, как внедрение форсайт-программ (4,06), переподготовка и повышение навыков взрослого населения (4,06). Карьерное консультирование (4,20) и трансфер зарубежного опыта (4,15) заняли среднюю позицию. При этом результаты оценивания всех предложенных параметров преподавателями вузов были выше, чем респондентами от колледжей и компаний. Оценка сотрудниками компаний такой меры, как трансфер зарубежного опыта совпадала с оценкой преподавателей вузов, а оценка влияния форсайт-программ и создание условий для взаимовыгодного партнерства на качество образовательных программ была одинаковой у всех трех групп респондентов.

При оценке респондентами по пятибалльной шкале проблем, с которыми вузы/колледжи сталкиваются при реализации образовательных программ, были выделены следующие:

- нехватка квалифицированных кадров — 4,58;

- слабая вовлеченность предприятий в обучение — 4,45;

- непризнание компаниями/предприятиями вузов в качестве партнеров — 4,39;

- медленное внедрение инновационных технологий и передовых практик — 4,35;

- незначительные инвестиции в подготовку кадров — 4,35;

- слабая коммуникация между основными участниками образовательного процесса (исполнительные органы–руководство вуза/колледжа–преподаватели–обучающиеся–предприятия) — 4,34;

- морально-устаревшая база вуза/колледжа, используемая для профессиональной подготовки

обучающихся — 4,29;

- слабое взаимодействие вуз/колледж–предприятие — 4,27;
- недостаточно высокое качество поступающих — 4,08;
- слабое междисциплинарное взаимодействие — 3,92.

При этом результаты анкетирования преподавателей вузов и колледжей существенно отличались от полученной оценки проблем сотрудниками компаний. Так, например, сотрудники компаний дают более высокую оценку значимости таким проблемам, как нехватка квалифицированных кадров, слабая коммуникация между основными участниками образовательного процесса (исполнительные органы–руководство вуза/колледжа–преподаватели–обучающиеся–предприятия), слабое взаимодействие вуз/колледж–предприятие.

Выделение респондентами проблемы нехватки квалифицированных кадров как наиболее значимой, хорошо коррелирует с оценкой респондентами существующих программ повышения квалификации. Так, например, только 78,6 % преподавателей, участвующих в анкетировании, отметили, что в вузе/колледже является постоянной практика повышения квалификации преподавателей. При этом качеством предоставляемых вузом/колледжем программ повышения квалификации удовлетворены только лишь 59,2 %. Опрос сотрудников казахстанских компаний показал, что только 79,2 % респондентов отмечают регулярность проведения куров повышения квалификации. При этом только 51 % респондентов удовлетворен качеством предоставляемых услуг по повышению квалификации сотрудников компаний/предприятий. По мнению 49 % участвующих в анкетировании преподавателей вузов/колледжей повышение квалификации необходимо организовывать на базе партнерской компании/предприятия. Сотрудниками компаний отмечается, что курсы повышения квалификации, как правило, проводятся на собственной базе или на базе сторонних организаций смежного профиля (35,4 % и 25 % респондентов соответственно) и только лишь 9,4 % респондентов отметили прохождение квалификации на базе факультетов повышения квалификации вузов. Выявленная ситуация свидетельствует о том, что формы проведения курсов повышения квалификации и содержание их программ требуют существенного обновления и более тесного партнерства между вузами/колледжами и компаниями в планировании, организации и реализации таких программ. При этом преподаватели вузов/колледжей должны регулярно проходить повышение квалификации, в том числе и на курсах, проводимых компаниями, выстраивать индивидуальный профессиональный трек развития в соответствующем отраслевом направлении, обогащать свои знания в производственной среде, участвовать в отраслевых конференциях, использовать разнообразные источники информации о состоянии и развитии соответствующей преподаваемым дисциплинам отрасли. В вузах/колледжах должны быть созданы условия и обеспечены возможности обучающимся и преподавателям для работы на производстве, знакомства с современными и инновационными технологиями, приобщения к культуре производственных отношений и понимания отраслевых особенностей путем применения гибких графиков занятий, вовлечения партнерских компаний в процесс управления и обучения.

Полученный проранжированный по средневзвешенной оценке респондентами список проблем, с которыми вузы/колледжи сталкиваются при реализации образовательных программ, также коррелирует с оценкой удовлетворенности обучающимися качеством организации процесса обучения (рис. 2).

Как видно из рисунка 2, полностью удовлетворены качеством организации процесса обучения 60,34 % из числа опрошенных студентов. При этом 13,26 % опрошенных студентов считают, что необходимы изменения в организации практики студентов, 9,49 % опрошенных студентов считают, что необходимы изменения в образовательных программах. Очевидно, это связано с тем, что вузы и колледжи не придают достаточного внимания практической составляющей обучения на рабочем месте, не проводят достаточной работы по профессиональной ориентации обучающегося на конкретное предприятие.

Рисунок 2. Оценка удовлетворенности обучающимися качеством организации процесса обучения

Выявлены случаи, когда вузы/колледжи формально относятся к организации и проведению профессиональных практик в процессе обучения, полученные знания в вузе не всегда позволяют студентам интегрироваться в производственный процесс. При этом студенты не всегда достаточно мотивированы в обучении в целом, слабо представляют себе цели своего карьерного развития, не осознают существующую конкуренцию на рынке труда, не всегда понимают преимуществ прохождения профессиональной практики и обучения в компании. Подтверждением этому являются результаты проведенного в работе анкетирования студентов, обучающихся по инженерным и естественно-научным специальностям. Так, например, большинство опрошенных студентов считают, что содержание практических занятий и программ практики не соответствует их планам по трудоустройству. Только лишь 51,6 % опрошенных студентов уверены, что найдут работу по специальности сразу после завершения вуза/колледжа (рис. 3). 74,69 % опрошенных студентов хотели бы после завершения вуза/колледжа работать по специальности, 78,14 % хотели бы совмещать обучение с работой по специальности в компании/на предприятии, 81,34 % считают достаточными формируемые в процессе обучения компетенции, знания, навыки для трудоустройства по специальности, 68,42 % имеют представление о возможностях для карьерного роста в компании, чья деятельность связана со специальностью обучения, 75,11 % имеют представление в какой компании/предприятии могут трудоустроится по специальности после завершения своего обучения в вузе/колледже.
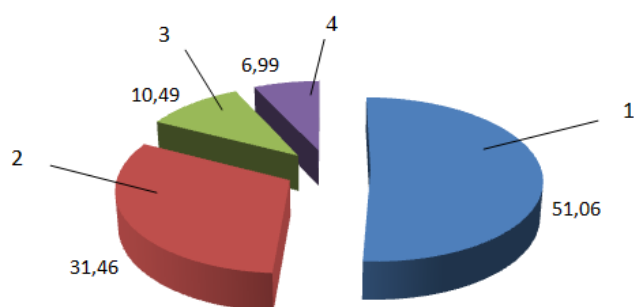
Рисунок 3. Оценка обучающимися своих перспектив трудоустройства после завершения обучения в вузе/колледже: 1) уверены, что найдут работу по специальности сразу после завершения вуза/колледжа; 2) уверены, что найдут работу по специальности в течение 1 года после завершения обучения в вузе/колледже; 3) не уверены, что смогут найти работу по специальности; 4) считают, что для того, чтобы найти работу по специальности необходимо дополнительное обучение (курсы, обучение по другой специальности и т.д.)

83,36 % опрошенных студентов отмечают, что вуз/колледж, в котором они обучаются, практикует проведение обучения на базе компании/предприятия. Вместе с этим, только лишь 48,72 % опрошенных студентов отмечают, что для вуза/колледжа, где они обучаются, практика сотрудничества с

компаниями/предприятиями является постоянной, 71,11 % удовлетворены качеством предоставляемых вузом/колледжем программ профессиональных практик; 65,52 % отмечают, что имеют возможность самостоятельно выбрать место прохождения профессиональной практики; 62,82 % считают себя вовлеченным в процесс организации своего обучения. 52,57 % опрошенных студентов отмечают, что профессиональная практика студентов проводится на собственной базе в лабораториях, учебных центрах, в мастерских, исследовательских центрах, институтах и т.д., 28,8 % — на базе партнерских компаний/предприятий; 2,96 % — на базе других вузов/колледжей; 11,39 % — другое.

На основании результатов анкетирования можно сделать следующие выводы: для подготовки кадров по образовательным программам инженерного и естественно-научного профилей в вузах/колледжах должны быть созданы условия для расширения кругозора и профессиональных навыков студентов в рамках учебных дисциплин и обучения на рабочем месте, обеспечен регулярный мониторинг получаемых студентами знаний и навыков, их соответсвие целям и ожидаемым результатам обучения, организована консультационная помощь студентам, созданы возможности для их участия в студенческих конкурсах и профессиональных стажировках, в выполнении реальных проектов в компании с использованием современного научного оборудования, инструментов, приборов и механизмов. Организация образовательного процесса должна реально обеспечивать переход студентов от обучения к работе в компании или на предприятии, повышать ориентацию образовательных программ на реальную промышленность [38]. Среда обучения должна быть сравнима с той средой, в которой будет работать выпускник, и обеспечивать развитие у студентов навыков самостоятельной работы в компании или на предприятии, профессиональных компетенций, необходимых для успешного трудоустройства после завершения обучения. При этом вузы/колледжи должны стремиться к поиску дополнительного финансирования для академических исследований, приобретения лабораторного оборудования, обновления материально-технической базы университета.

Вместе с этим, выстраивая сотрудничество с индустриальными партнерами при подготовке кадров вузы должны определить общие требования и критерии выбора производственных технологий, которые могут быть использованы для обучения студентов на рабочем месте (рис. 4).

Рисунок 4. Общие требования и критерии выбора учебных производственных технологий

К числу важных требований выбора учебных производственных технологий следует отнести их современность и перспективность применения студентами в будущей профессиональной деятельности, соответствие профилю подготовки и уровню научно-технического прогресса, возможность их применения для организации научной работы и создания технологических разработок, простоту и безопасность для самостоятельного применения обучающимися, многофункциональность, универсальность и модульность. Такой подход позволит организовать для обучающихся разноуровневое и разнонаправленное обучение и выполнение проектной работы.

При проведении практического обучения студентов на базе партнерской компании организациям образования необходимо учитывать размер компании и ее структурные характеристики (например, график работы, сезонность работ и др.). Во время практического обучения на рабочем месте студенты должны выполнять под руководством наставника реальные производственные задачи, решение которых будет способствовать развитию у них профессиональных навыков и компетенций. При этом могут возникать противоречия между формальными процедурами системы образования и неформальными

процедурами компании, где обучение основано на повторяющемся выполнении практических задач, между стандартизированными, метрическими, процедурами оценивания в организациях образования и неформальными процедурами оценивания в компаниях, основанными на конкретных критериях, позволяющих оценить практические умения и навыки студента.

На основе проведенного в работе исследования и анализа результатов анкетирования ключевых участников программ корпоративного партнерства вузов и компаний в рамках образовательных программ естественно-научного и инженерного профилей, анализа форм и направлений партнерства между организациями образования и компаниями/предприятиями, типологий и классификаций партнерства можно предложить следующее определение понятия корпоративного обучения: корпоративное обучение — комплекс мер по подготовке специалистов, направленный на предоставление обучающимся актуальных знаний, раскрытие их индивидуально-личностного потенциала, развитие профессионализма и корпоративной этики путем применения согласованных принципов обучения, оптимального использования имеющихся ресурсов, обеспечения взаимной выгоды и соблюдения стратегических приоритетов, повышения инновационной активности и непрерывного устойчивого развития каждой из сторон, участвующей в процессе подготовки кадров. Корпоративное обучение должно строиться на доверительных отношениях, создании взаимной ценности и творческой обстановки, распространении передовых идей и двустороннем обмене знаниями, технологиями, научными, методическими, образовательными разработками, что позволит обеспечить актуальность и инновационность совместно создаваемой продукции, коммерциализировать академические и научные знания, увеличивать инвестиции в ресурсы и подготовку кадров.

Заключение

Формы и направления корпоративного партнерства вузов/колледжей и компаний в рамках образовательных программ естественнонаучного и инженерного профилей должны обеспечить устойчивость развития и эффективный менеджмент, гарантирующий надежную основу для сотрудничества.

Партнерские компании должны быть вовлечены во все процессы, связанные с достижением студентами цели и результатов обучения, через совместные процессы обучения, оценку, поддержание связи содержания программы обучения с потребностями конкретного сектора экономики.

Вузам/колледжам необходимо искать дополнительные источники финансирования, привлекать индустриальных партнеров к софинансированию и участию в актуальных, практико-ориентированных исследованиях, в обучении студентов и преподавателей.

Вуз/колледж должен обеспечивать гибкость и вариативность образовательных программ, своевременную актуализацию их содержания на основе контактов со всеми заинтересованными сторонами, периодически проводить мониторинг качества подготовки специалистов, создавать среду обучения, сравнимую с той, где будет работать выпускник, обеспечивать условия для независимой оценки качества подготовки выпускников профессиональным сообществом.

Для повышения эффективности взаимодействия вуза/колледжа с индустриальными партнерами, качества подготовки специалистов инженерного и естественнонаучного профилей необходимо синтезировать и интегрировать новые формы корпоративного обучения в систему подготовки кадров.

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Жаратылыстану-ғылыми және инженерлік бейіндегі білім беру бағдарламалары шеңберінде жоғарғы оқу орындарымен компаниялардың корпоративтік ынтымақтастығының нысандары мен бағыттары

Бүкіл әлемде болып жатқан жаһандану үдерістері елдердің технологиялық инновацияларды құруға, бірлескен зерттеулер жүргізуге, білім мен технологиялар трансферіне бағытталған жоғары оқу орындары мен компаниялар әріптестігінің әртүрлі нысандарын қолдау бойынша кешенді стратегиялық шаралар қабылдауын талап етеді, бұл инфрақұрылымдық және желілік бастамаларды іске асыруға, өндіріс пен білім беруді интеграциялауға, заманауи корпоративтік бірлестіктер құруға, бірлескен оқыту бағдарламаларын іске асыруға мүмкіндік береді. Осыған сәйкес, бұл жұмыстың мақсаты жоғары оқу орындарының кәсіпорындармен өзара іс-қимылының нысандары мен бағыттарын талдау және негізгі стейкхолдер (мүдделі тараптар) тұрғысынан институционалдық аралық өзара іс-қимылдың тиімділігін арттыру үшін оларды жүйелеу, кадрлар даярлауда корпоративтік әріптестікті дамыту, білім беру бағдарламаларын дамыту және жаңғырту, студенттерді жұмыс орнында практикалық оқытуды жақсарту жолдарын айқындау. Жұмыста келесі міндеттер қойылды: 1) жоғары оқу орындары мен компаниялар/кәсіпорындар арасындағы әріптестіктің жекеленген бағыттарының нәтижелілігін бағалау; 2) әріптестіктің нысаны мен түрін таңдауға әсер ететін факторларды талдау; 3) білім беру бағдарламаларын жаңартуға әсер ететін факторларды анықтау; 4) білім беру бағдарламаларын әзірлеу және жаңарту кезінде іске асырылуы мүмкін тәсілдерді жобалау; 5) білім беру бағдарламаларын іске асыру шеңберінде корпоративтік оқыту ұғымын айқындау. Жұмыста қойылған міндеттерді шешу үшін Қазақстанның әртүрлі аймақтарындағы жоғары оқу орындары мен колледждердің инженерлік және жаратылыстану ғылымдары бойынша оқытушылары мен студенттеріне, сондай-ақ әріптес компаниялардың қызметкерлеріне 1) университеттер/колледждер мен компаниялар/кәсіпорындар арасында кадрлар даярлаудағы қолданыстағы ынтымақтастық бағдарламалары; 2) техникалық және жаратылыстану ғылымдары бойынша білім беру

бағдарламаларын іске асыру кезінде университеттер/колледждер кездесетін негізгі мәселелер; 3) білім беру бағдарламаларының сапасына әсер етуі мүмкін шаралар; жоғары оқу орындарының/колледждердің түлектерін дайындау мен құзыреттіліктеріндегі олқылықтарды жою бойынша сауалнама және олардың пікірлерін білу мақсатында сұхбат жүргізілді. Сауалнама нәтижелерін талдау негізінде жоғары оқу орындары/колледждер мен компаниялар арасындағы корпоративтік әріптестіктің нысандары мен бағыттары тұрақты дамуды және тиімді басқаруды қамтамасыз етуі керек және студенттердің барлық оқу процестеріне әріптес компанияларды тарту керек деген қорытынды жасалды. Жоғары оқу орны/колледж және өндірістік әріптестіктер арасындағы өзара әрекеттестіктің тиімділігін және мамандарды даярлау сапасын арттыру үшін кадрларды даярлау жүйесіне корпоративтік оқытудың жаңа формаларын синтездеу және енгізу қажет.

Кілт сөздер: білім беру бағдарламасы, стейкхолдер, практикалық оқыту, жұмыс орнында оқыту, серіктестік бағдарламасы, дағдылар мен құзыреттіліктер, корпоративтік оқыту.

S.G. Karstina, E.K. Mussenova

Forms and directions of corporate cooperation between universities and companies within the framework of educational programs of natural science and engineering profiles

The globalization processes taking place all over the world require countries to take comprehensive strategic measures to support various forms of partnership between universities and companies aimed at creating technological innovations, conducting joint research, knowledge and technology transfer, which will make it possible to implement infrastructure and network initiatives, integrate production and education, create modern corporate associations, and implement joint training programs. Accordingly, the purpose of this paper is to analyze the forms and directions of interaction between universities and enterprises and their systematization to improve the efficiency of inter-institutional interaction from the perspective of key stakeholders, to identify ways to develop corporate partnerships in training, to develop and modernize educational programs, to improve practical training of students in the workplace. The following tasks were set in the work: 1) to assess the performance of individual areas of partnership between universities and companies/enterprises, 2) to analyze the factors influencing the choice of the form and type of partnership, 3) to establish the factors influencing the updating of educational programs, 4) to design approaches that can be implemented in the development and updating of educational programs 5) to define the concept of corporate training in the implementation of educational programs. In order to solve the set tasks, a questionnaire survey and interviewing of teachers and students of engineering and natural science specialties in universities and colleges in different regions of Kazakhstan, as well as employees of partner companies were conducted to find out their opinions about 1) existing cooperation programs between universities/colleges and companies/enterprises in personnel training, 2) main problems faced by universities/colleges in implementing educational programs of engineering and natural science profiles, 3) measures that could influence the quality of educational programs, eliminate gaps in training and competencies of university/college graduates. Based on the analysis of the questionnaire results, it was concluded that the forms and directions of corporate partnership between universities/colleges and companies should ensure sustainable development and effective management, involvement of partner companies in all processes of student training. To improve the efficiency of interaction between the university/college and industrial partners, the quality of specialist training, it is necessary to synthesize and integrate new forms of corporate training into the system of personnel training.

Key words: educational program, stakeholder, experiential learning, on-the-job training, cooperative program, skills and competencies, corporate training.

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Pedagogical strategies and mechanisms of bilingual education in the context of axiologization of the language educational environment, review

Contemporary education endeavors not only to formulate efficacious pedagogical methodologies but also to imbue language education with a value-centric paradigm. The comprehension of the inherent significance, aspirational inclinations, and cognitive capacities for learning constitutes a pivotal pathway to achieving commendable outcomes. Within this trajectory, the axiological approach has garnered escalating attention from scholars in recent times, establishing itself as a foundational tenet of scientific knowledge that captivates the scholarly discourse. Based on this, this article examines the connection between axiology and language education. In this context, bilingual education, focused on the acquisition of several languages in combination with value orientations, becomes an important direction in the development of educational systems. Thus, axiology influences language education through the definition of values, guidelines and principles that guide the educational process, and also shape attitudes towards language and culture, which is important for effective and deep language acquisition. Moreover, the article undertakes an exploration of the systemic integration of pedagogical strategies and mechanisms inherent in bilingual education, contextualizing their assimilation within the broader framework of axiologization of the language educational environment.

Key words: bilingual education, axiologization, education, strategies, mechanisms, education, pedagogy, training.

Introduction

In the contemporary world, distinguished by the rapid dynamics of transformative shifts in human existence, there arises an imperative for a meticulous reevaluation of diverse facets, with particular emphasis on the educational system as a pivotal social institution within society. Within this milieu, the organic emergence of novel educational paradigms becomes inevitability, with the current focal point gravitating towards the nuanced cultivation of "soft skills". A preliminary examination of this pervasive global trend elucidates its intrinsic association with a systemic configuration of social values and human perspectives vis-à-vis the multifaceted dimensions of our existential reality. Regarding this bilingual education within the context of axiologization involves the recognition and establishment of values in the educational approach that promotes proficiency in two or more languages.

Literature review

Nowadays, in the context of language education, bilingual education, as a method of introduction to world culture through the use of native and foreign languages, is a process that depends on subjective and personal factors, and also has a psychological nature. In addition, it is determined not only by the individual characteristics of a person, but also by the general process of development of the social system. The main difference between bilingual education and traditional education is that here the language of instruction is not just a tool for transferring knowledge, but is also the goal of the educational process itself [1].

In their work, J. Hamers and M. Blanc defined "bilingualism" as the ability of an individual or society to use two languages at the same level [2], while R. Aliev and N. Kazhe understand bilingualism as the use of languages, each of which functions in the relevant area, for example, the state one — in official structures, and the second one — in business and the non-state sphere. This phenomenon is typical for states with an insufficiently stable political situation and polarization of communities [3].

In a narrow sense, the main task of bilingual education is the mastery of a foreign language, while in a broader context the goal of bilingual education is the active use of two languages in the learning process, promoting the development of perception skills (listening and reading texts) and oral speech skills [4]. When

teaching a foreign language, two languages are always used: a native language and a second language. In this process, depending on the purpose of teaching a second language, different types of bilingual teaching are used, aimed either at creating bilinguals or teaching a second language.

When it comes to learning, it is necessary to remember the need for learning strategies and mechanisms that serve an important role in helping to structure and improve learning, helping students gain knowledge, develop skills and achieve learning goals more effectively.

The concept of "strategy" is becoming increasingly widespread in understanding and describing successful educational practices. In scientific and pedagogical research of K.A. Abulkhanova-Slavskaya, I.A. Zimnyaya, V.V. Ignatova associates the development of strategies with the creation of personality-oriented conditions for the implementation of the educational process. The concept of "pedagogical strategies" is a widely used concept in the field of education and is actively used in teaching. In a general sense, teaching strategies, or pedagogical strategies, are a generalized lesson plan that includes a variety of tasks, structure and learning goals, the implementation of which leads to specific results. It should be noted that a strategy always has its own carrier (developer, implementer), who can be both individual and collective subjects of activity. Paying attention to the creative nature of the strategy, V.V. Ignatova notes that the features of its implementation "through a set of conditions, methods, techniques and means (tactics) always depend on the personality of its creator, his experience, ability for pedagogical creativity, style of activity and communication" [5].

The essence of projection on pedagogical values allows to understand them as the values of a teacher, teaching staff, as well as the generally accepted human values that serve as guidelines in professional activity. Today, both in science and in social practice, there is a clear tendency to overcome identification. Without subjecting the presence of politics in the field of education to polemics, and recognizing the interest of political power in the implementation of pedagogical goals, "projects" [6].

When developing a pedagogical strategy, which is the definition of a way to achieve a goal and obtain reasonable pedagogical results, successive stages occur, including forecasting, planning, searching for resources and minimizing risks, as well as monitoring based on feedback on progress towards the goal. This process ensures the correct distribution of pedagogically sound actions over time. When implementing the strategy, it becomes important to use a situational-event approach when organizing the educational and professional activities of students [7]. One of the key conditions in this context is the implementation of educational and professional activities in an open educational environment, taking into account the axiological features of the content of textbooks in target languages (Kazakh L2, Russian L2, English L3), the practical experience of teachers of target languages (grades 5–9) and language educational environment.

Educational strategies and mechanisms of pedagogical influence are important elements of educational practice. The development of effective teaching strategies and their corresponding mechanisms plays a key role in ensuring quality teaching and education. Approaches to educational strategies and appropriate mechanisms may vary depending on the context, the objectives of the educational program and the characteristics of the students.

Within the framework of axiologization, pedagogical strategies and mechanisms acquire a special meaning. These teaching methods, also called teaching methods or procedures according to the subject being studied, in the context of axiology, are given a new interpretation. According to V.V. Ignatova, the successful implementation of such strategies depends on the individual characteristics and personality of their creator. When a pedagogical strategy is considered as a set of tasks and a system for monitoring their implementation, the mechanism for implementing the strategy takes the form of a methodology for monitoring the implementation of strategic tasks. G.P. Shchedrovitskyi, in the context of axiology, associates the concept of "mechanism" with the concept of "process". In education, a mechanism is an integral system of processes that have given value principles and the interconnection of their results.

In turn, this led to the emergence of a new philosophy and methodology of education. We are talking about pedagogical axiology. We fully agree with the researchers' statement that "The axiological approach in pedagogy (or value-based) is a mechanism that is a connecting link between cognitive and practical approaches; establishing relationships between values, social and cultural factors and personality" [8].

In other words, the axiologization of education focuses on values, on value relations in all forms, methods, means of education and training and, of course, in their content. And here the axiological approach in pedagogy becomes almost the only mechanism for selecting the content of education.

This mechanism consists in updating the educational potential of the entire educational process for the formation and development of value relations and the entire value system of its subjects. In theories that consider values, it is important for educators to know and understand their moral operation. The foundation for

this should be the recognition of any person as the highest value of society. This applies to the individual, regardless of who she is: whether she is a kindergarten student or a student of a higher educational institution, including teachers and parents.

Learning mechanisms are a set of teaching methods and principles that increase the effectiveness of the educational process. Moreover, the learning mechanisms include: the systematic nature of the educational process, which implies the systematization of educational material through textbooks, guidelines, developed by highly qualified teachers; sequence, i.e. logical sequence of issuing educational material to students; visibility of the educational process. According to this mechanism, in the learning process, teachers need to use a wide variety of visual materials, which allow them to make the educational process simple and logical; accessibility of the educational process. This mechanism consists in the availability of the curriculum for every child. The educational material must be compiled in such a way that children, regardless of the degree of their abilities, can learn at least the minimum of this program. Moreover, accessibility also means the ability of every child, regardless of the financial status of the family, culture and traditions, to attend an educational institution.

Axiology as a science of values contains many theories, among which an understanding of the moral practical action of values seems important for our research. That is, we are interested in the discourse of studying values that explains them as a set of moral norms that determine the content and consistency in the education of the individual.

Understanding the factors leading to the axiologization of the modern education system allows us to identify problems that require attention from philosophical and pedagogical reflection. It also contributes to the revision of the education system taking into account modern requirements of social and personal development, taking into account their interrelation. The main concepts concerning axiological problems are based on general theoretical and methodological approaches developed within the framework of axiology as a philosophical theory of values.

The formation of an approach based on values to understanding educational phenomena contributed to overcoming the crisis in the value sphere and its development. The use of this approach is associated with the idea of humanization of education, which has philosophical, anthropological, as well as social and political significance. Scientific knowledge, including pedagogical knowledge, is aimed not only at comprehending the truth, but also at realizing social goals. The axiological approach provides a relationship between educational practices and understanding of educational phenomena.

Axiology has to do with a value system or the quality of something. On the other hand, axiology is defined as the study of value judgments, including aesthetics and ethics.

The impact of axiology on education is to discuss the important manifestations of respect and the role of teachers and students, since core values are considered immutable. Axiological aspects of education and upbringing attract the attention of many scientists who seek to improve pedagogical practice aimed at the formation of values in the context of social and personal development. Values must serve as a continuous basis for both the individual and society as a whole. The definition of values considered as generally accepted beliefs depends on different contexts. For a person, values act as the highest guideline in the world and form the basis of his personality. Value for a person determines the purpose of his activity and shapes his individuality. Values perform a regulatory function in the social environment, playing a key role in the life of an individual, since the value system is the basis of its existence. Practical activity acquires value only in the context of society, and it is in society that a person is able to fully live as an individual.

One of the areas of society in which values are formed is education. The education system plays a key role in the transfer of values from one generation to another and contributes to the formation of individual value orientations. The axiological aspect of teaching practice is always important.

Discussion

As posited earlier, axiology, being inherently value-laden, dictates that bilingual education operates within a framework wherein due consideration is accorded to the values and educational objectives intrinsic to the advancement of linguistic proficiency and cultural acumen. In this particular dimension, discernible strategies for bilingual instruction underscore a deliberate emphasis on axiologization.

Foremost among these strategies is the imperative of acknowledging and respecting linguistic and cultural distinctions. This approach advocates for the integration of programmatic elements that underscore the richness and diversity inherent in various languages and cultures. Encompassing an array of disciplines such as literature, art, music, and history across different linguistic and cultural landscapes, this strategy endeavors to engender a holistic understanding through the employment of both languages. Concomitantly, the integration of

multilingual educational materials, the execution of cross-cultural projects, and the commemoration of events and holidays serve as instrumental mechanisms for facilitating this immersive learning experience.

Sequentially, the subsequent phase involves the cultivation of intercultural competence, wherein the educational focus pivots towards the refinement of students' adeptness in navigating interactions with individuals from diverse cultural backgrounds. This phase is characterized by a deliberate emphasis on skill development through experiential exchanges and collaborative projects, fostering a dynamic environment conducive to the nuanced comprehension and appreciation of cultural diversity.

According to this strategy, learning mechanisms include discussion of intercultural scenarios, joint research, and virtual exchanges with students from other countries. The third strategy is using the language in the context of real situations, focusing on the use of both languages in real situations, such as role-playing games, discussions and projects that reflect real-life needs. And the last thing is a person-centered approach — determining the personal values of students through learning in both languages, emphasizing the importance of each language in the formation of personality. Such assignments include personal projects, autobiographical essays, discussions of life values, etc.

The above strategies for bilingual education in the context of axiology help not only to develop language skills, but also to introduce values into the educational process, promoting a better understanding and respect for differences in language and culture.

Conclusion

The orchestrated integration of pedagogical strategies and mechanisms within the framework of axiologization in bilingual education establishes a distinctive platform fostering individual development and the cultivation of civil and cultural identity. This methodology not only catalyzes language acquisition but also plays a pivotal role in the cultivation of value orientations, thereby substantiating its significance in engendering harmonious interactions within the intricate fabric of a multilingual and multicultural global milieu.

In summary, the pedagogical strategies of bilingual education within the context of axiologization are purposefully designed to reflect and reinforce values such as cultural diversity, language equity, global awareness, and identity affirmation. These strategies contribute to a comprehensive and enriched learning experience that extends beyond language proficiency, aligning with broader educational goals and values.

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А.Қ. Жұман, А.М. Омарова, И.И. Софьина, К.Д. Арабаджи

Тілдік білім беру ортасын аксиологизациялау жағдайындағы қостілді білім берудің педагогикалық стратегиялары мен механизмдеріне шолу

Заманауи білім беру тек тиімді оқыту әдістерін ғана емес, сонымен қатар тілдік білім беруде құндылықтық көзқарасты қамтамасыз етуге ұмтылады. Оқудың маңыздылығын, ынтасын және қабілетін түсіну жоғары нәтижелерге қол жеткізуге мүмкіндік береді. Бұл қатарда соңғы кезде зерттеушілер көбірек айналысатын аксиологиялық көзқарас ерекше орын алады. Демек ғылыми танымдағы аксиологиялық көзқарас бүгінгі таңда ғалымдар арасында үлкен қызығушылық тудырып отырған іргелі көзқарастардың бірі. Осыны негізге ала отырып, бұл мақалада аксиология мен тіл білімі арасындағы байланыс қарастырылған. Осы тұрғыда құндылық бағдарлармен үйлестіре отырып, бірнеше тілді меңгеруге бағытталған билингвалдық білім беру білім беру жүйесін дамытудың маңызды бағытына айналды. Осылайша аксиология білім беру процесіне басшылық ететін құндылықтарды, нұсқаулар мен қағидаларды анықтау арқылы тіл тәрбиесіне әсер етеді, сонымен қатар тілді тиімді және терең меңгеру үшін маңызды болып табылатын тіл мен мәдениетке деген көзқарасты қалыптастырады. Авторлар мақалада қостілді білім берудің педагогикалық стратегиялары мен механизмдерінің жүйесін, сонымен қатар олардың тілдік білім беру ортасын аксиологизациялау контексіне біріктіруін қарастырған.

Кілт сөздер: қос тілді білім беру, аксиологизация, білім беру, стратегиялар, механизмдер, білім беру, педагогика, оқыту.

А.Қ. Жұман, А.М. Омарова, И.И. Софьина, К.Д. Арабаджи

Педагогические стратегии и механизмы билингвального обучения в контексте аксиологизации языковой образовательной среды (обзор)

Современное образование стремится к созданию не только эффективных методов обучения, но и к обеспечению ценностного подхода к языковому образованию. Понимание важности, желание и умение учиться позволяют достичь высоких результатов. Особое место в этом ряду занимает аксиологический подход, к которому в последнее время все чаще обращаются исследователи. Так, аксиологический подход в научном познании является одним из основополагающих, который привлекает большой интерес ученых на сегодняшний день. Исходя из этого, в данной статье рассмотрена связь аксиологии с языковым образованием. В этом контексте билингвальное обучение, ориентированное на усвоение нескольких языков в сочетании с ценностными ориентациями, становится важным направлением развития образовательных систем. Таким образом, аксиология оказывает влияние на языковое образование через определение ценностей, ориентиров и принципов, которые направляют образовательный процесс, а также формируют отношение к языку и культуре, что важно для эффективного и глубокого освоения языка. Более того, в представленной статье мы рассмотрим систему педагогических стратегий и механизмов билингвального обучения, а также их интеграцию в контекст аксиологизации языковой образовательной среды.

Ключевые слова: билингвальное обучение, аксиологизация, образование, стратегии, механизмы, образование, педагогика, обучение.

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The importance of vocabulary in teaching the language of law and ways of its assimilation

The article defines the essence and structure of the professional terminological competence of future lawyers based on the study of such fundamental concepts as "linguistic competence" and "professional competence"; also identifies the main factors determining the essence of the professional terminological competence of future lawyers. The purpose and objective of the article is to consider the study of legal terms from the point of view of Kazakh linguistics, to determine the scientific and methodological foundations for the development of legal (professional) terminological competence of future lawyers, to discuss alternative translation issues. During the writing of the article, we have considered information, pragmatic, cognitive activities in the structure of law. This is the main scientific novelty of the article. The following research methods were used in this work: observation method, description method, systematization method, methods of linguostatistical and structural analysis. The research work has theoretical and practical significance, since the presented concept is valuable information for students of the legal field. It is necessary to emphasize once again that in order to fully master the profession, it is necessary to know and correctly use lexical units called special concepts that are terms. They make up the semantic core of a language for specific purposes. Legal terms have a number of unique characteristics that allow them to be divided into a special category. These characteristics include the abstractness of legal concepts; the ability of judicial and legal organizations to introduce new meanings of terms; the importance of judicial interpretation for the formation of the meaning of a legal terminological unit. Each term itself is connected in a certain way and takes its place among other elements of the system of terms that exist in certain relationships. A systematic approach to the study of industry terminology will undoubtedly optimize the learning process. This, in turn, reflects the consistency of scientific knowledge.

Key words: competence, linguistic competence, legal term, judicial interpretation, terminological system, structural models, legal vocabulary, definition.

Introduction

The problem of developing legal terminological *competence* among students of higher educational institutions is characterized by the task of training a specialist in a professional field, in particular professional terminological competence plays an important (determining) role for a specialist with high professional competence, who is ready to serve in his/her field. The processes and types of activities, resources, methods, and content of any professional field are reflected through certain professional concepts and names. It is clear that those concepts and names form the professional vocabulary of the field, including its main lexical fund – terminology.

In this regard, we define the integrative function of the professional lexical system, specifically, professional terminology, because professional terminology, in addition to playing a role that unites the language and the professional sphere, is studied in relation to both and is used in common with the concept of *professional competence*. It is known that no professional field can be realized without a language — a special vocabulary, and the level of professionalism of industry specialists is determined by the fact that he or she speaks a special language, knows not only professional terms, but also uses them appropriately and participates in the formation of new terms and special vocabulary. At the same time, *professional terminological competence*, except for being an indicator characterizing the professionalism of a specialist, is also taken into account in the formation of the concept of professional potential and is closely related to the problem of *professional socialization*, since the role of *professional communication* in this area is enormous.

If we turn to the conclusion of the well-known scientist A.V. Hutorskoi [1], who gave a scientific definition from the point of the field of education, *competence* is a set of interconnected abilities of a person, necessary for quality productive activity and formed within the framework of certain processes (field) —

knowledge, skills, abilities related to the activity. *Competency* is a person's mastery of certain competences and expression of his/her personal attitude towards the service.

If we describe definitions in accordance with our study, *competence* means specific professional knowledge, skill, abilities, *competency* is a manifestation of qualitative mastery of those professional competences, the nature of professionalism. In this regard, the issue of the *professional personality* of future lawyers deserves attention, because this aspect is important for structuring the content of our projected pedagogical model. Thus, in special studies [2], the *structure of a professional personality* is defined as follows:

1) professional orientation;
2) level of motivation for professional achievements;
3) professional and personal feature of a specialist.

J.N. Bisenbaeva [3], J.H. Salhanova [4], A.B. Tumanova [5] and other Kazakhstani scientists are of the opinion that competence is the readiness and ability of an individual to be able to implement his or her knowledge in situations during practical work. At the same time, at all levels of education, we notice the statements that the tasks of professional training and development in its content and structure should be carried out in a continuous manner.

N. Chomsky was a well-known scientist who raised the issue of competence in the field of education from the point of view of language theory. In general, in the 1970s of the 20th century, in the USA, and then in Europe, this concept was widely used in relation to the quality of education and individualization of training. Therefore, foreign scientists tend to use the concept of competence as a general description of a person (rather than a professional description. Chomsky 's statement about language and competence is close to our position, because the scientist believes [6] that the concepts of language knowledge and language competence belong to two different categories, it is necessary to distinguish between them: language knowledge is the language system, and competence is the use of language in specific situations.

It was found that foreign scientists were specially engaged in the problem of language competence. Among them are L.F. Bachman, N. Chomsky, R.P. Milrud, S. Moirand, S. Savignon et al. For example, French scientists such as S. Muaran, S. Savignon [7] attribute to language competence the ability to recognize the phonetic-phonological, lexical, morphological and grammatical, syntactic features of the language, the ability to use them in communication. Dutch researcher Jan Van Eck [8] believes that linguistic competence means the ability to grammatically correctly compose and interpret word wrappers, which are formed from the traditional meaning of words (familiar to language owners).

Law has always been and remains the basis for regulating interpersonal, social and interstate relations, it is considered an integral part of society's life. Therefore legal terminological competence of future lawyers and their knowledge and relevant use of legal terms is crucial and worth to discuss in an academic discourse.

Experimental

The core objects of our research and building material are the *term* and *terminology (legal)*. The basis for the appearance of special languages is not social groups, but the division of modern society into professions. Therefore, the languages of fishermen, peasants, linguists, lawyers, hunters and others are distinguished. Thus, social specialization is reflected both in professional languages, which are indispensable both for internal thematic communication and for the language economy.

Legal terminology and terminology culture are of great importance in the professional communication of lawyers. The term is the main category of professional thinking and professional development of being in a particular field. In this regard, special attention should be paid to the study of legal terminology in professions taught in the legal field. *This leads to hypotheses* that the formation of the basic speech manners and skills of students in this direction, their professional speech competence often take place in the process of mastering legal terminology; when studying a number of topics, including "legal terminology", it is necessary to take into account the possibilities of language in lawmaking, its role as the main tool in the work of a lawyer; clarity of concepts and the corresponding terminological concreteness are the most important principles of writing legal texts.

The *research approach* is based on the notion that the main criteria for the professional training of a lawyer is knowledge of the legislation of the state, the language of legal documents and the ability to use them freely. A lawyer is looking for the necessary form of a legislator for this, approves the investigative actions carried out by him/her with protocols, interrogates, makes decisions, condemns, defends, concludes contracts, and in all these cases the contribution of a lawyer to the sphere of public relations is essential since incorrect

or improper treatment, incorrect presentation in connection with the consequences that can lead to tragic situations. Therefore, *language issues are close to lawyers, interest in them is important for a lawyer.*

To explain the most common features of legal terms and the ways of their creation, assimilation we have used method of structural, semantic and conceptual linguistic analysis. It helps us to describe the process when words acquire a terminal meaning which differs from their original meaning. Methods of systematization and observation allow us to analyze these processes in the course of a long term. The linguostatistical method contributed to the discovery of the connection between the quantitative and qualitative aspects of legislative terms: between the frequency and age of words. Grouping and classification methods were used to generalize and make clear the main qualities of terms, the division of the activity of legal terms.

Results and Discussion

Since legal terms, like any words in the lexical composition of our language, are the names of entities and phenomena in the real world, their meanings extend from these concepts. But they represent values that have gone through a long process of abstraction based on what is often used by legal science. Therefore, it is used in a new meaning when words acquire a terminal meaning, differing from their original meanings by the property of generality. When you say: "the terms will be monofamily", you have to understand it in this context. For example, an employee of a law enforcement agency, who is working to simplify the criminal case in the judicial process, is given the term "Defender". This word is also used in other stylistic groups of the lexical composition of the Kazakh language: saying "defender Kairat" today shows a special gesture, thanks to which not a single ball passed into their goal", we mean "defender" as a professional name denoting a sporting concept, and "the selfless feat of Kazakhstanis in defending Moscow from the enemy will forever remain in memory", the word "protection" as one of many words in the national vocabulary defines the word "courage", does not belong to any of the special lexicons. Therefore, the analyzed word is considered a term only when expressing the concept of "lawyer", only in this function we do recognize its monosemanticism as the name of a legal concept. The word "humiliation", as the origin of the name "discrimination", performs the function of legal terms in the concept of "prejudice, restriction of the rights of people by nationality, race". This word can also perform a terminal function only in this meaning [9; 47]. And in the national vocabulary, this word continues to be used in other meanings (all people are equal. He was humiliated by all the students of the class, etc.). Another example: in our native language there is the word "qor" (fund), which refers to the whole concept of wealth. This is a homonymous word in the national vocabulary (If *Askar has had qor on this day* means he had become rich, then *My poor soul* means *Poor I am, I had no honor left*. And nowadays this word began to perform the functions of legal terms which is defined as "Money or material means established for a specific purpose. The main fund of something (currency fund, housing fund, etc.)". As a result of the individualization and monosemonization of the latter meaning in this activity, it was deprived of a homonymic property. On this basis, many new words began to appear in the future. "Konayev Fund", "Tole Bi Fund", "Children's Fund", "Rayimbek Fund", etc.

Thus, words denoting a legal concept are abstracted from their origin. For example, to express many legal concepts related to the creation of our national state, when we need names, we look for them primarily from the possibilities of our native vocabulary. Thus, we identify a new concept of the term for words whose meaning corresponds to a particular concept. When we say that the creation of terms occurs consciously, they are taken into account. The ways of their passage are different in the terminological sense: if we abstract from one meaning of a number of polysemous words, now one group arises as a result of changing the meaning of individual polysemous words. For example, the word "suspect" in the sense of "a person detained on suspicion of committing a crime and a person to whom a preventive measure was applied before being charged" functions as a legal term, but in the sense of "fear" is often used in the national vocabulary. For example: Why are you afraid that you jumped up so abruptly? What are you afraid of, my child, I don't feel anything? " Who is guilty, betrays himself" (proverb).

In the examples where it says "I have a constant feeling of anxiety and doubt about this", the words anxiety and doubt are synonymous, and are used in the meaning of "fear", and in the second preposition in combination with "I don't feel" means "I didn't know" and "I can't understand". Consequently, this word can be a legal term only when it is used to express a legal concept in a certain situation, and arises on the basis of the meaning of "to be afraid", "to think that this is so". At the same time, it should be noted that one of the meanings of the word is an independent word, since it is a new concept. If this is so, then along with the formation of the word as a term, a new word comes into the world, enriching the lexical stock of our language. Now, when a series of words passes to a term, it is used only in the same sense. For example, there is a legal

term "forgiveness". Its essence is interpreted in the dictionary of legal terms (published in 1986) as follows "Pardon is forgiveness. An act of commutation of the sentence imposed on the convicted person, or on the abolition of the title of the convicted person. The pardon is carried out by the Presidium of the Supreme Soviet of the USSR and the Presidium of the Council of the Kazakh SSR. On this day, the word "forgiveness" has no other meaning, it is limited by this meaning. "Confrontation", which has now become a legal term, was also used only in terms. It is rarely used in the national vocabulary. Its meaning: "in cases of contradiction in the interrogations of witnesses, the person conducting the investigation or inquiry has the right to interrogate them. The confrontation takes place only between two witnesses who were interrogated earlier". This action is called "bettestıru" (confrontation) [9; 150].

First of all, it is necessary to distinguish between the terms of law and the terms of the science of law (Jurisprudence). The terminology of law refers to legal practice, and the terminology of jurisprudence refers to legal doctrine. The terms of law can be included in the system of terms of jurisprudence, but not vice versa. Terminological units of jurisprudence are scientific, and such units of law can be considered as a special category, since they are one of the forms of public consciousness. Another feature of the special legal vocabulary is that each individual term falls into different terminological categories. Common law terms include lexical units, the meaning of which does not change depending on the applicable branch of law. The meaning of specialized industry terms in a narrow framework is disclosed only within the framework of the system of the relevant branch of law.

When writing a research paper, a system of tasks and exercises aimed at mastering the term law, its characteristic features, concepts of classification on various grounds has been developed. The work on the study of the characteristic features of the term, including the distinctive properties of legal terms, begins with its definition. The term "law" is a word (or phrase) used in legislation and is a generalized name for the concept of "law". As the authors of textbooks and manuals note, the terms:

1) unambiguous;

2) devoid of an emotionally expressive shade;

3) semantic boundaries should have a strict logical structure. The special properties of the term include consistency, a clear environment of use and stylistic neutrality. Linguists believe that the term should "ideally" meet these requirements. Indeed, the accuracy of the use of this term is an actual problem of educational, scientific, and professional communication. Given the versatility of many terms, it is necessary to try to overcome this.

Particular attention should be paid to the part of the definition of the term "law" that one term of law means one legal concept. The principle of "one concept — one term" helps in working with terms specified by complex phrases. It is very important to be guided by this principle when highlighting individual terms. For example, at this stage of the work, the following tasks are proposed: Read the text. Set the legal terms. Find the articles of the law in accordance with the terms found in the dictionary of legal terms, make sure that the terms are correctly designated, give an oral, brief explanation of the meaning of each term.

Let's focus on the ways of creating the term, based on the students' understanding of the term law. The following approaches are used in normative legal acts to express concepts:

1) word formation, which means the creation of terms using word-forming elements in the language;

2) replacement of names in the expression of the concept associated with the Association;

3) word combinations, which means the transfer of a concept through the union of one or more words;

4) introductory words, that is, the use of terminological names borrowed from another language.

After studying the theoretical material, you can suggest performing the following tasks: *Read the legal terms. Copy and write down the sentences that use the terms given in the legislative acts. Identify ways to create legal terms.* The materials for the analysis are taken from legal texts, as well as from scientific literature devoted to the study of the language of normative acts.

Familiarity with the classification of legal terms for various reasons involves the presentation of the most popular ways of constructing a typology. Thus, general corporate terminology *(state body, official, competence, legal, etc.)*, applicable in all areas of legislation; intersectoral terminology used in several areas of legislation *(liability, substantial harm, misconduct, etc.)*; terminology used in a specific area of law *(transaction, term of commission of the crime of obsolescence, etc.)* [10; 70].

As a special mention of this classification, we can consider the division of the activity of legal terms used in scientific texts into several types in accordance with their purpose:

1) general scientific, characterized in that the same meaning is used in various terminological systems, for example: *concept, system, totality, form, structure, type, object*, etc. the semantics of such terms are

observed when they go hand in hand with industry terms: *the concept of classification of crimes, competitive types of norms, specific recruitment, structure of public relations*, etc.;

2) terms used within the framework of specialized, i.e. highly specialized related disciplines. These terms, in a sense, function in one or more areas of law, such as: *law, article, obsolescence of deadlines, code, and others*;

3) the terms of the narrow-gauge profession. Acts in a certain area of law; for example, the terms of criminal law include *kidnapping, robbery, banditry, correctional labor, bribes and othe*rs [11; 42].

Unfortunately, there are currently no clear, scientifically based principles and criteria for the logical description of legal terms in one or another sphere of legal relations, taking into account their practical significance. Without it, any classification looks very conditional, incalculable and incomplete. For example, it is known that terminology used in legislation can be classified according to vertical and horizontal principles. At the beginning of the vertical terminology will be the terminology fixed in the Constitution and industry codes. In fact, this is a generally accepted terminology that systematically combines terms that apply in all areas of legislation, expresses and names concepts of broad generalizing meaning (rule of law, state body, official, public organization, competence, authority, legislation, law, decision, personal integrity, legal interests, etc.). Horizontal terminology it covers various types of intersectoral and industry terminology. Intersectoral terminology is terminology used in several areas of legislation (material liability, significant damage, misconduct, etc.). The specificity of industry terminology is that the relevant concepts reflecting the specifics of a particular sphere of legal relations are based on subject-logical connections and relationships.

In this sense, they can be grouped as follows:

1) legal terms related to a certain area of law: prosecutor, recidivist, drug addict, murderer, spy, thief, extortionist, heir, investigator, judge, lawyer;

2) terms characterizing the event, the course of events: court, amnesty, coercion, confiscation, search, appeal, imprisonment, release, discussion, conviction, investigation, interrogation, etc.;

3) terms found in legal documents denoting the name of the law: order, act, subsidy, certificate, license, sanction, declaration;

4) terms denoting socio-political processes: consent, referendum, elections, monitoring;

5) terms reflecting direct circumstances: fine, tax, duty, pension, alimony, salary, fee, scholarship, allowance, bonus;

6) terms defining the social status of punishment: imprisonment, death penalty, colony [12; 1074].

In pre-revolutionary jurisprudence , terms in the field of law are divided into:

1) general terms;

2) terms used in the special law;

3) technical terms.

The first group includes the most common names of objects, qualities-signs, actions and phenomena that are equally used in fiction and scientific literature, business documents and legislation *(petition, meeting, case, rule, order, action, etc.)*. If, when creating a term, there is no corresponding word in the language of general literature, the legislator creates special legal terms reflecting special concepts in the legislation *(crime, court, law, investigation, etc.)*. Special terms include terms belonging to a certain field of science, technology, art, as well as professional words used in regulations and having the same meaning in the relevant field of knowledge *(arithmetic, phonogram, transplantation, and others)*.

In legal science, terms are traditionally divided into literal and implying evaluative concepts. The first include terms reflecting the objective connection of reality, expressing concepts. In the practice of applying the law, the use of such terms is based on the confirmation of the conformity of the signs denoting the terminological names and the specific fact, event, circumstances of the case *(mobilization, storage, theft, Public service, etc.)*. The content of the terms denoting the concepts of evaluation is determined by the specific circumstances of the case under consideration *(exceptional situation, sufficient data, special complexity of the case, serious illness, and others)*. Comparatively defined concepts used by the legislator when it is impossible to regulate in detail a number of similar situations and serving to express abstract legal phenomena with an open content structure are evaluative. Since the semantic structure of the concept of evaluation is always open, its content is established by self-assessment on the part of the user of the right in the case of the application of a specific right. At this stage of studying the topic, students are taught *excerpts from legislative acts*. They are instructed *to find and copy legal terms, classify the found terms by a highly pronounced grouping*.

To attribute terms to a certain category, it is necessary to analyze its definition and the place it occupies in the general system of concepts of law. For example, a feature of the English legal language is the

introduction of new meanings of terms by judicial organizations. Often, the meaning of terms gradually acquires new shades by clarifying in the course of court decisions. The following illustrative example: as a result of the court's decision, the semantic scope of the term "issue" (case) has expanded. When considering the inheritance case, the court introduced into the meaning of this term not only relatives, but also foster children. A special role in the formation of a legal terminological unit is played by judicial analysis.

If in the general terminological system of other languages lexical units are directly related to objects, actions, relationships, then in the legal terminological system lexical units are indirectly related to extralinguistic features. Judicial interpretation assumes that in the case of a disputed period arising from a semantic discrepancy or insufficient argumentation of the author's point of view, the court has the right not only to interpret the meaning of the terminological unit, but also to create new exceptions. As a result, many terms become subjective, and their meaning depends on the decisions made by the court, and imposes certain restrictions on such decisions in the future. According to N.G. Komlev, the judicial process is an area in which the range of variants of meaning, connotation and denotation is the most dramatic and full of large-scale consequences. An unusual interpretation of terminological units is fixed in normative legal acts, which distinguishes the terms of law from the terms of other branches of knowledge. Another important feature is the abstractness, the abstractness of legal concepts, which, even if they use industry terms in narrow circles, can lead to different interpretations of legal documents. Currently, most scientists agree that regularity is one of the main characteristics of terminology. This provision can be found in the works of such Russian researchers as D.S. Lotte, A.A. Reformatsky, O.S. Akhmanova, V.P. Danilenko, T.L. Kandelaki, V.M. Leychik, B.N. Golovin, L.L. Kutina, S.V. Grinev, V.V. Feoktistova, V.K. Nikiforov, A.V. Superanskaya, V.M. Sergevnina, V.G. Afanasyev, R.Ya. Kobrin, S.D. Shelov, A.S. Gerd, V.A. Tatarinov [13; 14].

The systematic nature of terminology is based on the consistency of scientific knowledge. Terms denoting certain concepts are constructed in accordance with the step-by-step structure of these concepts. Each of them, connecting in a special way, takes its place among other elements of the terminosystem that are in certain relationships. Therefore, the terminological system must be considered as a single structure organized in a certain order and including interrelated, legally ordered elements. The systemic nature of terminology implies the presence of a step-by-step relationship in it.

This pattern is necessary for understanding things and phenomena. Since the Term is systemic in nature, the term system is directly and indirectly related to other elements, and most of them are revealed by a term that has parallels in the term system and whose meaning is in antonymic relations. For example: *crime – punishment, specific message – structured message, plaintiff – defendant.*

Antonymic relations can be carried out in two ways:

1. using morphological suffixes;

2. with words of lexically opposite meaning;

In the terminology of criminal law, morphologically there are not so many terms forming an antonymic pair: *direct proof – indirect proof; unifying – distinguishing; simplified punishment – not simplified punishment.*

Most antonyms in the terminology of criminal law are formed at the lexical level. For example: *defendant – plaintiff; defendant's place – the place of trial; indictment – inquisitorial process; specific notification – constructive notification*;

After considering the basic concepts on the topic of legal terminology, existing classifications of legal terms, exercises for the formation of basic skills and abilities, it is advisable to analyze exceptions from the text in which the term is used only in a material sense. To reflect the semantic differences between the term law used in legislation and a term that, by its graphic type and sound composition, coincides with a permanent phrase or a component of phraseology, one should include the following type of task: *to determine the meaning of stable phrases and phraseological units that include the term component – law.*

In order to systematize and consolidate knowledge on the topic "legal terminology", it is proposed to discuss issues in the direction of elaboration. For example: *Define the concept of the term Law and name its main characteristics. Define ways to create legal terms and describe each approach in terms of advantages and disadvantages.*

In principle, Kazakh terminology has good experience in creating terms. One of the proofs of this is the terminological heritage of our first scientists-correspondents. Their works are an example of true termmaking. Therefore, in the development of legal terms, lawyers should rely, first of all, on the experience of modern Kazakh medical scientists and the works of the first researchers in the field of Kazakh terminology. Only

through such an action, taking into account the experience of past years, taking into account the recommendations and advice of terminologists-scientists, can create conditions for the formation of a common terminological system, including terms related to law.

For the first time, the ways of forming legal terms were reflected in the dissertation work of A.Sh. Isanova "Legal terms in the modern Kazakh literary language" [14; 27]. In his research, the scientist studied the stages of formation and development of legal terms, their origin. An etymological analysis of legal terms that existed in the language of the former nation was also carried out. The research paper analyzes the terms of indigenous law in legislative acts, codes, develops proposals for their correct use and shows the directions and ways of improving legal terms. For the first time in the work, legal terms in the Kazakh language were combined into a single system corresponding to the degree and level of historical development. At the end of the dissertation, a Kazakh-Russian dictionary of legal terms covering 1000 words is presented. The dictionary often includes new names in legal terms.

Currently, there is a tendency to define industry terminology in national words. Correspondents, lawyers, translators are engaged in high-quality translation of legal terms in the legal field. Nevertheless, there are many mistakes and shortcomings that occur in this area. International legal terms have no analogues in the Kazakh language, other semantic words are used instead. E. Safuani's speech will be a convincing proof of this:

"The word "function" is often found in the text of the law. With the idea that our law should be as Kazakh as possible, depending on the meaning of the sentence, we sometimes translate it as "service", and sometimes as "duty". Sometimes when the words "activity", "task", "function" are used together, we are forced to write as a function the words that we used to write as "service, "duty"" [15; 160]. Such cases in translation, as in other areas of professional activity, should not be allowed in the translation of legal documents at all. This leads to ambiguity and violation of the content of the documents. As a result, citizens, without special legal knowledge, accept incorrect information.

M. Aiymbetov noted that in order to properly build further development of legislation, "draft laws should be considered and discussed not in the Russian text, but in the state language. This, firstly, would undoubtedly have an impact on the basis of legal texts — on the good stylistic, semantic quality of the language. Secondly, it would increase the responsibility of developers in the state language. Thirdly, it is necessary to go through an expert commission consisting of qualified translators and lawyers, legal terms used earlier and currently used, and create a unified dictionary and database in the state language" [16; 3].

Translator M. Izimuly pays attention to the stylistic side of the translation of legal terms. "... the biggest drawback of our compilers of dictionaries is the presentation of literary, journalistic, colloquial equivalents of terms as scientific names, their inability to distinguish their expressive (sensual) meaning. As a result, *the territory, status, constitution, passport, amnesty, archive, museum*, etc. naturally entered our life as examples of science and technology, the common good of the human race will be replaced with figurative words, such as territory, status, Constitution, passport, favor, archive, museum" says M. Izimuly [17; 15].

Conclusions

Terms by their nature are the semantic core of a special-purpose language because of the expression and transmission of meaningful information. It is this terminology that allows us, along with international scientific communication, to create a single information space. Undoubtedly, changes in the life of society directly affect the vocabulary of the language. The need for ever-growing terms is determined by the era of scientific and technological progress. It is known that more than 90% of new words that appear in languages are terms, and in some sciences they significantly exceed the number of non-specific words.

Certain conclusions can be drawn about the lexical and grammatical features of legal terms by analyzing a number of issues related to it. The main ones are: classification of the names included in this group, with the disclosure of their relationship to the subject, phenomenon and terminological concept of them on this basis; the place occupied by legal terms in the national vocabulary, semantic content or narrowing on this basis; the relation (similarity and specificity) of conceptual words denoting legal concept, to other industry terms; polysemous homonymy, synonymy, antonymic properties, their relation to the term law; the relation of lexical meanings to the expression of a legal concept, such as imagery, interchangeability, etc. [18; 71].

Thus, the main goal of professional training of the Kazakh language for students of law is the formation of practical skills in business documentation and professional communication, which is an important task in the training of future specialists. In addition, knowledge of legal terminology is very important. The study of legal terminology, the practical application of terminological units, consideration of topical issues of

terminology will help achieve the goal of successfully forming the professional conversational competence of future lawyers.

The value of legal documents is due to the fact that they regulate the relationship between the authorities and ordinary people. From this point of view, legal instruments are characterized by their applicability. It is known that the legal acts adopted in the Republic of Kazakhstan have a direct impact on the regulation of the life of citizens living in the country, the solution of their everyday and social problems. Therefore, there is a need to consider legal documents from all sides. Revealing their secrets, describing their achievements and shortcomings is a very serious issue on today's agenda. The linguistic description of the names of legal documents in the article is a manifestation of this feature.

In conclusion, it must be emphasized once again that in order to fully master the profession, it is necessary to know and correctly use special concepts, that is, lexical units called terms. A systematic approach to the study of industry terminology, considered on the example of legal terminology, leads to the optimization of the educational process. The lexical and conceptual correspondence of terms, their relationship and interdependence allow us to consider terminology as an integral terminological system that serves as the linguistic basis of a system of special concepts. This, in turn, testifies to the consistency of scientific knowledge.

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С.Ж. Жанжигитов

Құқық тілін оқытуда лексиканың маңызы және оның меңгерту жолдары

Мақалада «тілдік құзыреттілік» және «кәсіби құзыреттілік» сияқты іргелі ұғымдарды зерделеу негізінде болашақ заңгерлердің кәсіби терминологиялық құзыреттілігінің мәні мен құрылымы; сондай-ақ болашақ заңгерлердің кәсіби терминологиялық құзыреттілігінің мәнін айқындайтын негізгі факторлар анықталған. Мақаланың мақсаты мен міндеті — қазақ тіл білімі тұрғысынан заң терминдерін зерделеуді қарастыру, болашақ заңгерлердің құқықтық (кәсіптік) терминологиялық құзыреттілігін дамытудың ғылыми-әдістемелік негіздерін айқындау, аударманың балама мәселелерін талқылау. Мақаланы жазу барысында құқық құрылымындағы ақпараттық, прагматикалық, танымдық іс-шаралар талданды. Бұл мақаланың негізгі ғылыми жаңалығы. Жұмыста келесі зерттеу әдістері қолданылды, атап айтсақ: бақылау, сипаттау, жүйелеу, лингвостатистикалық және құрылымдық талдау әдістері. Зерттеу жұмысының теориялық және практикалық маңызы бар, себебі ұсынылған тұжырымдама заң бағытында оқитын білім алушылар үшін құнды ақпарат. Мамандықты толық меңгеру үшін арнайы ұғымдар, яғни терминдер деп аталатын лексикалық бірліктерді білу және дұрыс қолдану қажет екенін тағы бір рет атап өту қажет. Арнайы мақсаттағы тілдің семантикалық өзегін құрайтын дәл осы терминдер болып табылады. Құқықтық терминдер оларды ерекше санатқа бөлуге мүмкіндік беретін бірқатар ерекше сипаттамаларға ие. Бұл сипаттамаларға заң ұғымдарының абстрактілігі; сот-құқықтық ұйымдардың терминдердің жаңа мағыналарын енгізу мүмкіндігі; құқықтық терминологиялық бірліктің мағынасын қалыптастыру үшін сот интерпретациясының маңыздылығы кіреді. Әр термин өзі белгілі бір жолмен байланысты және белгілі бір қатынастарда болатын терминдік жүйенің басқа элементтерінің арасында өз орнын алады. Салалық терминологияны зерттеудің жүйелі тәсілі оқыту процесін оңтайландыруға мүмкіндік беретіні сөзсіз. Бұл өз кезегінде ғылыми білімнің жүйелілігін көрсетеді.

Кілт сөздер: құзырет, құзыреттілік, тілдік құзыреттілік, заң термині, соттық интерпретация, терминологиялық жүйе, құрылымдық үлгілер, құқықтық лексика, анықтама.

С.Ж. Жанжигитов

Значимость лексики в обучении языку права и пути ее усвоения

В статье определены сущность и структура профессиональной терминологической компетентности будущих юристов на основе изучения таких фундаментальных понятий, как «языковая компетентность» и «профессиональная компетентность»; также определены основные факторы, определяющие сущность профессиональной терминологической компетентности будущих юристов. Целью и задачей статьи является рассмотрение изучения юридических терминов с точки зрения казахского языкознания, определение научно-методических основ развития правовой (профессиональной) терминологической компетенции будущих юристов, обсуждение альтернативных вопросов перевода. В ходе написания статьи проанализирована информационная, прагматическая, познавательная деятельность в структуре права, в этом заключается основная научная новизна статьи. В работе использованы следующие методы исследования: контроля, описания, систематизации, лингвистико-статистический и структурный методы анализа. Данная статья имеет теоретическое и практическое значение, так как представленная концепция представляет собой ценную информацию для обучающихся юридического направления. Необходимо еще раз подчеркнуть, что для полного овладения профессией необходимо знать и правильно использовать лексические единицы, называемые специальными понятиями, то есть терминами. Именно эти термины составляют семантическое ядро языка специального назначения. Правовые термины обладают рядом уникальных характеристик, позволяющих разделить их на особую категорию. Эти характеристики включают абстрактность правовых понятий; способность судебно-правовых организаций вводить новые значения терминов; важность судебной интерпретации для формирования значения правовой терминологической единицы. Каждый термин занимает свое место среди других элементов терминосистемы, которые определенным образом связаны и находятся в определенных отношениях. Систематический подход к изучению отраслевой терминологии, несомненно, позволит оптимизировать процесс обучения. Это, в свою очередь, отражает последовательность научных знаний.

Ключевые слова: компетенция, компетентность, языковая компетентность, юридический термин, судебная интерпретация, терминологическая система, структурные модели, юридическая лексика, определение.

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Analysing listening anxiety levels of learners in the EFL classrooms

Listening is considered a difficult skill, and also listening is often neglected compared to other skills, exactly reading, writing, and speaking skills. Listening is one of the essential skills in second or foreign language learning that gives opportunities to communicate with other language speakers, as without listening communication cannot be complete. In oral communication listening has the significant role and anxiety has influence on students' listening comprehension. Anxiety is the powerful factor, which blocks learners' listening comprehension. The purpose of the present research was to analyze listening anxiety levels of learners in the EFL (English as a Foreign Language) learning classrooms. The participants of this research were 109 students from two different schools in Turkistan. The participants consisted of 10th -11th grade students from №2 Hamza general secondary school (n=46) and №17 Ataturk gymnasium school (n=63). This study used quantitative descriptive research design. A survey method using questionnaire was used in order to collect necessary data and analyzed using Statistical Package for Social sciences (SPSS) version 23.0. According to the results, it was found that EFL learners have a high listening anxiety level. More precisely, it was found that EFL students face more difficulties when they hear different kind of pronunciations.

Keywords: listening anxiety, anxiety, listening comprehension, a foreign language, quantitative research, survey, learning English, comprehension.

Introduction

Learning a foreign language has become significant for different reasons. Foreign language learning gives the opportunity for better job, incomes and life. Listening is essential skill in second (L2) or foreign language that gives opportunity to communicate with other language speakers, as without listening communication cannot be complete. People with the help of effective listening can create and improve relationships, and also can become better communicator. As people consider listening is not simple, especially when the English language has statute as a foreign language for people [1]. In learning process listening has a huge role, because it is quite important to receive given information in classes. Listening comprehension is a complicated process, listeners of which need to have an active role in communication [2]. According to F.B. Fanandi we can improve our speaking skill with the help of learning to listen [3]. If the person is not good listener and do not hear, the person cannot learn the language. Thus, it is significant to have effective listening in order to learn a foreign language. In conversation without understanding what is being said, it is impossible to save and continue the conversation. Listening is one of the complicated skills in learning English, for this reason listening causes anxiety. In lessons students are listeners because they mostly spend their time to listen, for instance teachers explain theme, ask questions and so on [4]. Teachers mostly pay attention to the teaching of writing, reading and vocabulary in lessons. For the most part teachers don't pay attention to speaking and listening skills, thus it may be one of the reasons why students get nervous and anxious in listening classes. In learning a second or foreign language it is quite important to understand spoken language, since listening is often used in daily life [5].

Anxiety has a significant role in learning process and it has impact on the students' performance. Anxiety is considered as a negative factor for the reason that anxiety creates obstacles in learning process [6]. Students who are learning a foreign language more often feel anxious in learning process. Anxiety will reduce the listeners' attention on the listening materials and also sensitivity of the sensory receptor. In addition, distraction from environment and peers can bring the students feelings, like anxiety, nervousness, and worry in listening. Distraction form surroundings can be spontaneously and this can distract students' attention. Someone who is sneezing or coughing also may interrupt other students' attention and students may lose their concentration on a recording [7]. Another factor that provokes students' listening anxiety may be their classmates or teachers.

Because, students are afraid to make mistakes when they do listening tasks, thinking that their teachers will swear them for their mistakes and classmates will taunt them.

There are two types of anxiety. They are state (situational) or trait anxiety. Trait anxiety is a type anxiety when a person is anxious despite the situation and anxiety is a part of her/his nature. State or situational anxiety is a type of anxiety when a person feels anxious when she/he makes a public speech, and she/he feels anxious in certain circumstances [8]. As R. Susilowati stated EFL students often suffer from anxiety in English classes. Because, English for EFL students is a foreign language, and they do not use English in daily conversation. That's why EFL learners get nervous and worry in listening classes [9]. According to E. Namaziandost, M. Hafezian and S. Shafiee mostly listening anxiety is one of the most ignored and possibly the most enervating type of anxiety [10]. For teachers is the greatest barrier is learners' language anxiety, which they must defeat in foreign language classrooms [11]. According to M.M. Mohamad creating a good atmosphere in a classroom is the teachers' responsibility [12]. A cozy and friendly atmosphere benefits on learners to decrease listening anxiety. The teachers need to be attentive in order to make the classroom an attractive place with minimal stress. Furthermore, listening materials also play a significant role. Listening materials should be appropriate with students' level and the rate of speech should be not fast. For beginners it may be correct to choose slow recordings, since they can lose their motivation while they listen fast recordings. If English recording contains many unknown words, it will provoke students' anxiety. Too many accented speech of the speakers or unfamiliar accent also can be one of the factors that cause the listening anxiety. Therefore, teachers should to assist their students to be aware of other different native speakers' accent and the difference between British and American accent. Listening anxiety affects listening ability. Students participate actively when in the classroom a low anxiety environment. Additionally, teachers need to assist their students to overcome the listening anxiety and teach students efficient listening comprehension strategies.

The purpose of the study was to analyze listening anxiety levels of learners in the EFL classrooms. The study sought the answer for the following research questions:
1. What level of listening anxiety do EFL learners have?
2. Does listening anxiety in learning English differ according to the learners' grades?
3. Is there any difference between students' listening anxiety levels according to their schools?

Experimental

Research Design. The present study employed a quantitative research design. Quantitative research design connected to an object that can be expressed in terms of quantity or something that can be calculated [13]. In order to examine participants' listening anxiety level a questionnaire was conducted. Questionnaire is a tool to gather quantitative data through questions (items) in written form, and people can answer to the questions after reading the questions one by one [14]. The present study is considered as descriptive study. Descriptive study is the study that describes the participants' condition with research instruments and without changing the condition [13].

Participants and setting. The samples of this research were students of №2 Hamza general secondary school (n=46) and №17 Ataturk gymnasium school (n=63) in Turkistan. Totally 109 students took part in this study: 10th grade (n=22) and 11th grade students (n=24) from №2 Hamza school, 10th grade (n=30) and 11th grade students (n=33) from №17 Ataturk school.

Research Instrument. Data were collected using a questionnaire. The questionnaire The Foreign Language Listening Anxiety Scale (FLLAS) developed by J.H. Kim was employed in this study [15]. The questionnaire includes 14 questions and 6 subscales: 1) Unable to catch the word (5 items); 2) Related to pronunciation speaker (2 items); 3) Rapid rate of speech (1 item); 4) The limited time (3 items); 5) The lack of vocabulary (2 items); 6) The lack of concentration (1 item). The first subscale "unable to catch the word" measures students' ability of catching words in English recording. When students listen English recording, students often unable to catch the words from recording. This becomes a barrier for the students to understand the main idea of the records. The second subscale "pronunciation speaker" assesses the ability of students to distinguish word from other words which pronounced same but have various meanings. For the purpose of understanding the main idea of English recording it is essential to understand the speakers' pronunciation. The third subscale "raped rate of speech" assesses the students' ability of catching the words that are spoken quickly. The fourth subscale "limited time" measures students' ability of getting the meaning of recording at once. There are students who get nervous when recording played only once, because at first time it cannot be understandable for everyone. Students feel worry when they have a little time to think what has been said The next fifth subscale "the lack of vocabulary", students can be nervous when they listen the recording and do not

know the meaning of the words. Students face with unfamiliar words, because they are lack of vocabulary. It also can be obstacle for being anxious in listening English recording. The last sixth subscale "lack of concentration", students often do not concentrate what is said in English recording, because they do not concentrate and focus on recording. When they listen the recording, many students do not focus on the speakers' speech, and that's why they can feel anxious and worry [5].

This study used 4 scale of Likert scale 1= "strongly agree", 2= "agree", 3= "disagree", 4= "strongly disagree". The answer neutral was not included in this questionnaire. The results of Cronbach's Alpha are given in Table 1.

T a b l e 1

The results of Cronbach's Alpha

Reliability Statistics	
Cronbach's Alpha	N of Items
,774	14

The Cronbach's Alpha value of the scale was 0.774, which shows that the Foreign Language Listening Anxiety Scale (FLLAS) is a reliable instrument.

Data collection procedure and analysis. The questionnaire was carried out among 10th and 11th grade students from №2 Hamza general secondary school and №17 Ataturk gymnasium school in the end of the first term of the 2022-2023 academic years. The questionnaire was formed using Google forms. The questionnaire was sent through "WhatsApp" application. The samples were chosen randomly. Firstly, the aim of the research was explained and then asked students to complete the questionnaire. The data was analyzed using Statistical Package for Social sciences (SPSS) version 23.0. and descriptive statistics was conducted in the present study as well as inferential statistics in the form of Mann-Whitney U-test by the researchers.

Results and Discussion

Test of normality. Firstly, a test of normality was performed. According to the Kolmogorov-Smirnov test significant value showed that distribution is non-normal p<0.05. Thus, in the study were implemented non-parametric tests during the analysis.

Preliminary descriptive statistics was employed to obtain the answer to the first research question "What level of listening anxiety do EFL learners have?"
The results are related to first research question are demonstrated in Table 2.

T a b l e 2

Descriptive statistics of the Foreign Language Listening Anxiety Scale

	N	Minimum	Maximum	Mean	Std. Deviation
Unable to Catch the Word	109	1,00	4,00	2,6881	,57377
Pronunciation Speaker	109	1,00	4,00	2,8349	,68737
Rapid Rate of Speech	109	1,00	4,00	2,6514	,97540
The Limited Time	109	1,00	4,00	2,7217	,61282
The Lack of Vocabulary	109	1,00	4,00	2,6972	,68387
The Lack of Concentration	109	1,00	4,00	2,7064	1,00280
Total	109	1,07	4,00	2,7163	,47205

The total mean ($\bar{x}$=2.71) and Std. Deviation *SD*= .47205) showed that EFL learners have moderate level of listening anxiety. Since the maximum score is deemed 4.00. Results revealed, the highest mean score was found on the "pronunciation speaker" among all the subscales ($\bar{x}$ =2.83). Mean score of the limited time was found ($\bar{x}$=2.72). According to the results, on the "the lack of vocabulary" mean score of participants was found ($\bar{x}$=2.69); on the "the lack of concentration" $\bar{x}$ (= 2.70). Results indicated that mean score of participants on the "unable to catch the word" subscale was ($\bar{x}$ =2.68). Among all other subscales' mean score on the "rapid rate of speech" subscale was found the lowest mean score ($\bar{x}$=2.65).

To receive the answer for the second research question "Does listening anxiety in learning English differ according to the learners' grades?" was employed Mann-Whitney u-test. The results are shown in Table 3.

Mann-Whitney U-test results for the comparison 10th and 11th grade students' listening anxiety

	Grade	N	Mean Rank	Sum of Ranks	U	P
Unable to Catch the Word	10th grade	52	56,33	2929,00	1413,000	,673
	11th grade	57	53,79	3066,00		
Pronunciation Speaker	10th grade	52	56,41	2933,50	1408,500	,647
	11th grade	57	53,71	3061,50		
Rapid Rate of Speech	10th grade	52	57,21	2975,00	1367,000	,464
	11th grade	57	52,98	3020,00		
The Limited Time	10th grade	52	53,66	2790,50	1412,500	,664
	11th grade	57	56,22	3204,50		
The Lack of Vocabulary	10th grade	52	60,15	3128,00	1214,000	,095
	11th grade	57	50,30	2867,00		
The Lack of Concentration	10th grade	52	57,95	3013,50	1328,500	,330
	11th grade	57	52,31	2981,50		
Total	10th grade	52	58,05	3018,50	1323,500	,335
	11th grade	57	52,22	2976,50		

Table 2 demonstrates that according to the total outcome there was no statistically significant difference between 10th and 11th grade students according to their results concerning the listening anxiety (U=1323.5, p=.335). However, results showed that mean rank of 10th grade students was MR=58.05 whereas the mean rank was MR=52.22 for 11th grade students, which was lower as compared with 10th grade students. There was no statistically significant difference between 10th and 11th grade students according to the results concerning the first subscale "unable to catch the word" (U=1413.0, p=.673). Anyhow, results showed that 11th grade students mean rank was MR=53.79, while the mean rank was MR=56.33 for 10th grade students, which was higher as compared with 11th grade students. It was observed that there was no statistically significant difference between 10th and 11th grade students according to the outcomes regarding the second subscale "pronunciation speaker" (U=1408.5, p=.647). Nonetheless, the mean rank of 10th grade students was higher than 11th grade students (10th grade students, MR=56.41; 11th grade students, MR=53.71). According to the results regarding the third subscale "rapid rate of speech", there was no statistically significant difference between 10th and 11th grade students (U=1367.0, p=.464). It was found that mean rank of 10th grade students was higher than 11th grade students (10th grade students, MR=57.21; 11th grade students, MR=52.98). Statistically significant difference was not found on the fourth "the limited time" subscale between 10th and 11th grade students (U=1412.5, p=.664). Surprisingly, mean rank of 11th grade students was higher than 10th grade students (10th grade students, MR=53.66; 11th grade students, MR=56.22). According to their results regarding the fifth subscale "the lack of vocabulary", there was no statistically significant difference between 10th and 11th grade students (U=1214.0, p=.095). Nevertheless, the mean rank result of 10th grade students was higher than 11th grade students (10th grade students, MR=60.15; 11th grade students, MR=50.30). Finally, there was not discovered statistically significant difference between 10th grade and 11th grade students according to their results regarding the last sixth subscale "the lack of concentration" (U=1328.5, p=.330). Nonetheless, mean rank of 10th grade students was higher than 11th grade students (10th, MR=57.95; 11th grade students, MR=52.31).

To obtain the answer for the third research question "Is there any difference between students' listening anxiety levels according to their schools?" Mann-Whitney U-test was applied. The results are given in Table 4.

Mann-Whitney U-test results for comparison two schools students' listening anxiety

	School	N	Mean Rank	Sum of Ranks	U	P
Unable to Catch the Word	№2 Hamza	46	48,13	2214,00	1133,000	,051
	№17 Ataturk	63	60,02	3781,00		
Pronunciation Speaker	№2 Hamza	46	51,71	2378,50	1297,500	,340
	№17 Ataturk	63	57,40	3616,50		
Rapid Rate of Speech	№2 Hamza	46	48,60	2235,50	1154,500	,058
	№17 Ataturk	63	59,67	3759,50		
The Limited Time	№2 Hamza	46	47,84	2200,50	1119,500	,038*
	№17 Ataturk	63	60,23	3794,50		

The Lack of Vocabulary	№2 Hamza	46	51,70	2378,00	1297,000	,338
	№17 Ataturk	63	57,41	3617,00		
The Lack of Concentration	№2 Hamza	46	47,79	2198,50	1117,500	,033*
	№17 Ataturk	63	60,26	3796,50		
Total	№2 Hamza	46	44,75	2058,50	977,500	,004*
	№17 Ataturk	63	62,48	3936,50		

*$p < 0,05$

As demonstrated in Table 3, total outcome showed that there was statistically significant difference between Hamza and Ataturk school students according to their results concerning the listening anxiety (U=977.5, p=.004). Since, p-value is .004 which is lower than <0,05. There was statistically significant difference between Hamza and Ataturk school students' mean rank results (Hamza, MR=44.75; Ataturk, MR=62.48). It was noted that there was no statistically significant difference between Hamza and Ataturk school students according to their outcomes regarding the first subscale "unable to catch the word" (U=1133.0, p=.051). Nonetheless, there was statistically difference between Hamza and Ataturk school students mean rank results (Hamza, MR=48.13; Ataturk, MR=60.02). It was found that there was no statistically significant difference between Hamza and Ataturk school students according to the outcomes concerning the second subscale "pronunciation speaker". Even so, according to their mean rank results concerning the second subscale there was statistically significant difference between Hamza and Ataturk school students. Mean rank of Hamza school students was MR=51.71, whereas the mean rank was MR=57.40 for Ataturk school students, which was higher as compared with Hamza school students. Results showed that there was no statistically significant difference between Hamza and Ataturk school students according to their outcomes regarding the third subscale "rapid rate of speech" (U=1154.5, p=.058). Though, there was statistically significant difference between Hamza and Ataturk school students mean rank results (Hamza, MR=48.60, Ataturk, MR=59.67). According to the Mann-Whitney U-test results there was statistically significant difference between Hamza and Ataturk school students regarding the fourth subscale "the limited time" (U=1119.5, p=.038). There was high difference between Hamza and Ataturk school students mean rank results, mean rank of Ataturk school students was higher than Hamza school students (Hamza, MR=47.84; Ataturk, MR=60.23). However, there was no statistically significant difference between Hamza and Ataturk school students according to their results regarding the fifth subscale "the lack of vocabulary" (U=1297.0, p=.338). According to mean rank results, there was significant difference between Hamza and Ataturk school students (Hamza, MR=51.70; Ataturk, MR=57.41). It was discovered that there was statistically significant between Hamza and Ataturk school students according to results regarding the last sixth subscale "the lack of concentration" (U=1117.5, p=.033). According to results Hamza school students mean rank was MR=47.79, whereas the mean rank was MR=60.26 for Ataturk school students, which was higher as compared with Hamza school students.

The present study aimed to analyzing listening anxiety levels of learners in the EFL classrooms. The Foreign Language Listening Anxiety Scale (FLLAS) was employed to assess participants' level of listening anxiety.

According to the findings of descriptive statistics it was found that EFL learners' level of listening anxiety is high, as the results showed medium level of mean scores. Mean score of the second subscale "pronunciation speaker" was higher than other subscales. It means that while EFL students listen to recording it is challenging for them to distinguish one word to another word. Earlier research about the listening anxiety in English showed the same results. Z. Lili in her study investigated the freshmen students' listening anxiety level. According to the results, it was found that freshmen of English majors have a little higher listening anxiety level [16]. In addition, the findings of the present study are in line with S.R. Annisa, A. Adnan and L. Marlina's study results, which found that students have a high listening anxiety level. The study was conducted to English Department students at Universitas Negeri Padang who were taking Basic Listening class [4]. M.N. Tahsildar and Z.S. Yussof in their study investigated L2 students' listening anxiety. Participants were undergraduate university students from Malaysia. According to the results they found that 58% of the learners have high level of listening anxiety [17].

Moreover, it was found that there was no statistically significant difference between 10th and 11th grade students according to their results concerning the listening anxiety. However, mean rank of 10th grade students was higher than 11th grade students. It denotes that 10th grade students feel more anxious in listening than 11th grade students.

Anyhow, there was statistically significant difference between Hamza and Ataturk school students according to their results concerning the listening anxiety. According to the findings it was found that mean rank of Ataturk school students was higher than Hamza school students. It explains that Ataturk school students have higher level of anxiety than Hamza school students. Among subscales there were only statistically significant differences between Hamza and Ataturk school students according to their results concerning "the limited time" and "the lack of concentration" subscales. Both subscales mean score results showed that mean score of Ataturk school students was higher than Hamza school students. It means that Ataturk school students feel more anxious when they listen recording only once than Hamza school students. Ataturk school students feel more worry and anxious when they have a little time to think after recording than Hamza school students. Ataturk school students feel more worry when they cannot understand every word in recording than Hamza school students.

Conclusions

Listening anxiety levels of learners in the EFL classrooms was analyzed in this present study. According to the results, it was found that EFL learners have a high listening anxiety level. The reason of this may be that English is not their native language, that's why they face difficulties in English listening classes. There was no statistically significant difference between 10th and 11th grade students concerning their listening anxiety level. Anyhow, there was statistically significant difference between №2 Hamza general secondary school and №17 Ataturk gymnasium school regarding their listening anxiety level.

Anxiety can be factor which ruins the success of learning, if teachers do not overcome it. Teachers need to recognize the problems in learning, even if the problems do not cause them anxiety. Then, teachers need to know what kind of anxiety is commanding learners' mind in order to create the great teaching plan and lending support. Students also should realize that anxiety is normal in learning process. Students should face listening anxiety boldly and try to decrease the worry and fear in English listening classes. In order to increase listening proficiency is suggested to students to learn listening strategies.

For future researchers there are given some suggestions by the researchers. It is recommended to find out the factors which influence listening anxiety. For subsequent researchers, it is suggested to investigate the influence of anxiety on students' speaking and reading skills. It will be interesting to explore difference between young and adult language learners' listening anxiety level. It will be interesting to discuss and compare public and private school students' listening anxiety.

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Д.Н. Бабаханова, М.Е. Сейтова

Ағылшын тілін шет тілі ретіндегі оқитын сыныптарда оқушылардың тыңдаудағы мазасыздық деңгейін талдау

Тыңдау қиын дағды болып саналады, сонымен қатар басқа дағдылармен, атап айтқанда оқу, жазу және сөйлеу дағдыларымен салыстырғанда жиі назардан тыс қалады. Тыңдау — екінші немесе шет тілін меңгерудің маңызды дағдыларының бірі, ол басқа ана тілінде сөйлейтіндермен сөйлесуге мүмкіндік береді, өйткені тыңдаусыз қарым-қатынас толық бола алмайды. Ауызша қарым-қатынаста тыңдау маңызды рөл атқарады және мазасыздық оқушылардың есту қабілетінің түсінуіне әсер етеді. Мазасыздық бұл оқушылардың есту қабілетіне кедергі келтіретін күшті фактор. Зерттеудің мақсаты ағылшын тілін шет тілі ретіндегі оқитын сыныптарда оқушылардың тыңдау кезіндегі мазасыздық деңгейін талдау. Зерттеуге Түркістан қаласындағы екі мектептен 109 оқушы қатысты. Олар Хамза атындағы №2 жалпы орта мектебінің (с=46) және Ататүрік атындағы №17 мектеп-гимназиясының (с=63) 10-11 сынып оқушылары. Бұл зерттеуде сандық сипаттамалық зерттеу дизайны қолданылған. Қажетті деректерді жинау үшін сауалнаманы қолдана отырып, сауалнама әдісі қолданылды және ол деректер Әлеуметтік ғылымдарға арналған статистикалық пакеттің (SPSS) 23.0. нұсқасын пайдалану арқылы сипаттамалы түрде талданды. Осы зерттеудің нәтижелеріне сәйкес, ағылшын тілін шет тілі ретінде үйренушілердің тыңдау кезінде мазасыздық деңгейі жоғары екендігі анықталды. Дәлірек айтқанда, ағылшын тілін шет тілі ретінде үйренушілер әртүрлі айтылымдарды естігенде көбірек қиындықтарға тап болатыны айқындалды.

Кілт сөздер: тыңдаудағы алаңдаушылық, мазасыздық, тыңдап түсіну, шет тілі, сандық зерттеу, сауалнама, ағылшын тілін үйрену, түсіну.

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Анализ уровня тревожности в аудировании учащихся в классах английского языка как иностранного

Аудирование считается трудным навыком, а также им часто пренебрегают по сравнению с другими навыками, а именно навыками чтения, письма и разговорной речи. Аудирование — один из важнейших навыков владения вторым или иностранным языком, который дает возможность общаться с другими носителями языка, поскольку без слушания общение не может быть полным. В устном общении аудирование играет значительную роль, и тревога оказывает влияние на понимание учащимися на слух. Тревога является мощным фактором, который блокирует понимание учащимися на слух. Цель настоящего исследования состояла в том, чтобы проанализировать уровни беспокойства при прослушивании учащихся в классах английского как иностранного языка. Участниками этого исследования были 109

учащихся из двух разных школ Туркестана. В нем приняли участие учащиеся 10–11 классов Общеобразовательной средней школы № 2 имени Хамзы (к=46) и Школы-гимназии №17 имени Ататюрка (к=63). В работе использовался количественный описательный дизайн исследования. Для сбора необходимых данных был применен метод опроса с использованием вопросника, который был проанализирован с помощью Статистического пакета для социальных наук (SPSS) версии 23.0. По результатам было обнаружено, что изучающие английский как иностранный язык имеют высокий уровень тревожности при прослушивании. Точнее, было обнаружено, что студенты, изучающие английский как иностранный, сталкиваются с большими трудностями, когда слышат разные виды произношения.

Ключевые слова: тревога слушания, тревожность, понимание на слух, иностранный язык, количественные исследования, опрос, изучение английского языка, понимание.

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Education in the VUCA world through formation hard and soft skills in students

The article is devoted to the actual problem of developing the professionalism of future teachers-psychologists through the formation of hard and soft skills. The authors attach great importance to the formation of these skills, calling them a necessity in the modern world. The authors conducted a theoretical analysis of psychological and pedagogical literature on the topic of the study. The article touches on an equally relevant topic, to which they also paid great attention – this is education in the VUCA world. The relationship of the formation of hard and soft skills and adaptation in the VUCA world was carried out, the main components of the world of transformations were determined: Vision, Understanding, Clarity, Agility. To achieve success in each of the components, teachers need to focus on the formation of students' professional skills. The authors conducted a survey among students of the educational program 6B01101 – Pedagogy and Psychology, the basis of the study was the pedagogical faculty of the Karaganda Buketov University. The article presents the results of an empirical study conducted by the authors. The results of the study allowed the authors to conclude that it is necessary to form not only theoretical knowledge, but also practical skills that will contribute to the creation and development of a competitive and competent society of teachers in the modern VUCA world.

Keywords: skill, competence, vision, understanding, clarity, agility, future teachers, VUCA world, professional sphere, theoretical knowledge, practical skills.

Introduction

Success in the labor market depends mainly on two components – developed soft and hard skills. Various industrial changes that have taken place in the world contribute to the creation of a new industry, where the main source of success becomes a person. The object of research of various sciences is a person with his certain set of qualities. In our study, we want to reveal the need for the formation of soft and hard skills among university students. The Industrial Revolution has become a challenge for the education system, revealing the need to create certain conditions for the harmonious development of the student's personality. The revolution in the field of the education system requires the preparation of high-quality human resources adapted to changing conditions.

University graduates need to be more qualified, flexible, professional and adaptive specialists. All this can be achieved by changing the training format. Changes in the training format mean a training policy that will focus on the formation of soft and hard skills.

The modern world is characterized as an economic era where all activities are focused on the competitiveness of the global labor market. And the market, in turn, needs personnel with highly developed intelligence, the level of development of which is directly related to the skills formed.

The question of orientation to the needs of the market is raised in the Message of the Head of State Kassym-Jomart Tokayev to the people of Kazakhstan "A just state. One nation. A prosperous society" dated September 1, 2022 [1], which indicates the need to focus on the real needs of the labor market and compliance with the objectives of the new economic course of the country.

The need to prioritize the formation of skills was mentioned back in the 90s of the last century, when the concept of VUCA — a world based on instability, uncertainty, complexity and ambiguity was first mentioned (deciphering the abbreviation by capital letters) [2]. According to the creators of this concept, it is impossible to prepare in advance for any changes, it is difficult to make forecasts and make plans. In the VUCA world, it is necessary to focus on the formation of skills and competencies that will be the key to success in modern society. The formed hard skills and soft skills of students will make it possible to make a positive interpretation of VUCA to the world as Vision, Understanding, Clarity, Agility.

Literature review

The terms "hard" and "soft" skills were proposed back in the 50s of the 20th centuries, then they were considered as separate units. After some time, the two terms began to be considered as complementary skills, which together play an important role in the formation of each person's personality.

Dennis R. Laker and Jimmy L. Powell consider it is necessary to distinguish between the two concepts. In their research, the authors analyze the need for students to study information both in the field of "hard skills" (professional) and in the field of "soft skills" (intrapersonal and interpersonal) [3].

By distinguishing between the two types of skills, it becomes clear that these skills are given special attention by scientists. Due to the fact that the skills we study have become popular in the current century, and the interest in them is new and innovative. For example, Achmad Fajar Hendarman & Uwe Cantner analyzed the literature on the issue of studying this problem and noted the importance of the formation of individual innovativeness of the individual along with hard skills and soft skills, due to the fact that the skills themselves are innovative [4].

Masduki Asbari believes that the formation of soft and hard skills among lecturers of higher educational institutions directly affects the innovative abilities of the lecturer because these abilities allow developing the organizational culture of the teacher [5].

Pieterse, V., & Van Eekelen, M. in their study describe the technical and personal skills necessary for students to successfully find employment, the authors conducted a study in which they examined the problems of students in the formation of these skills and gave recommendations on how to eliminate gaps in students' knowledge [6].

Dora Abidi, in turn, considered strengthening the organizational capabilities necessary to build training sessions using soft skills and designated this as a strategy for the VUCA of the world [7].

In their book "Managing in a VUCA World", Mack, O., Khare, A., Krämer, A., & Burgartz, T., speaking about the need to manage the VUCA world, make an argument about the independence of learning based on personal and professional experience gained on skills [8].

Riyanti, B.P.D., Sandroto, C.W., & DW, M.T.W. analyze the impact of hard skills and soft skills on students' ability to become entrepreneurs. The authors believe that hard skills will allow students to start a business, and soft skills will make their business successful [9].

Having analyzed the psychological and pedagogical literature on the subject of the study, we believe that hard skills cannot be considered separately from soft skills because the formation of both skills leads to success not only in professional activity, but also in the changing VUCA world.

Experimental

In this article, using the analysis of scientific psychological and pedagogical literature on the problem of research, generalization of pedagogical experience and survey methods, an attempt was made to determine the level of students' awareness of the differences in the terms Hard skills & Soft skills using the questionnaire method.

As part of the work on our research, we considered it was necessary to clarify the students' degree of awareness of the studied skills. If students do not distinguish between the two skills, then this may become a certain difficulty in their future professional activities.

To conduct the survey, we used a Google form, which ensured the scale, speed and minimum time spent on data processing. The questionnaire consisted of 20 questions, each of which contained a certain characteristic, after reading which, students had to determine what kind of skill it was. Table 1 shows the questions used in the questionnaire.

T a b l e 1

Questions within the framework of the survey

№	Question
1	If you are a great communicator, is it hard skill or soft skills?
2	Qualification — is it hard skill or soft skill?
3	Certificates of completed courses — is it hard skill or soft skill?
4	If you are extremely motivated, is it hard skill or soft skills??
5	If you are proficient in HTML, is it ...
6	Proficiency in a foreign language is …

7	Being a team player is …
8	Being a qualified carpenter is …
9	Organization is …
10	Soft skills are usually related to your personality and your communication skills with people - yes - no
11	Hard skills will help you get a job, and soft skills will allow you to keep your job - yes - no
12	Soft skills do NOT help to determine the type of person you have to work with - yes - no
13	Hard skills are specific professional abilities - yes - no
14	Once you acquire a hard skill, it usually stays with you throughout your career - yes - no
15	Hard skills are usually not quantifiable and teachable, such as accounting strategies, computer programming, etc. - yes - no
16	A good CV will NOT have a good balance of your soft & hard skills - yes - no
17	Despite the fact that hard & soft skills are equally valuable, in some professions the demand for soft skills is higher than for hard skills - yes - no
18	Which of the following is not a soft skill? - problem solving - flexibility - teamwork - degree / diploma
19	Which of the following skills is not a hard skill? - typing speed - machine operation - time management - computer programming
20	Unlike hard skills, it is difficult to point to concrete evidence that you possess soft skills - yes - no

This survey was the ascertaining stage of our experiment. The link to the questionnaire was sent to the 2nd year students of the educational program 6B01101 – Pedagogy and Psychology of the Karaganda Buketov University, in total 38 students were involved. This sample is explained by the fact that 2nd-year students have already studied disciplines according to the work curriculum from the cycle of GD (general disciplines), PD (profile disciplines) and BD (basic disciplines), therefore they have a certain amount of knowledge in the direction of their profession and also 2nd-year students have the opportunity and time to eliminate gaps in knowledge and the formation of hard and soft skills.

Results and Discussion

A general analysis of the responses showed that the students who took part in the survey are aware of the terms hard skills and soft skills. In the course of the survey, low results were revealed when students found it difficult to choose the right answer. According to the results of the survey, it can be concluded that only 23.6% of students scored high results by answering questions on a scale from 15 to 20 points. The average level of students' awareness of the studied skills is 26.3%, and the low level of students' awareness on the scale of

correct answers from 0 to 10 points was 50%. The results of the survey are presented in Table 2. The visual result is shown in Figure.

Survey results

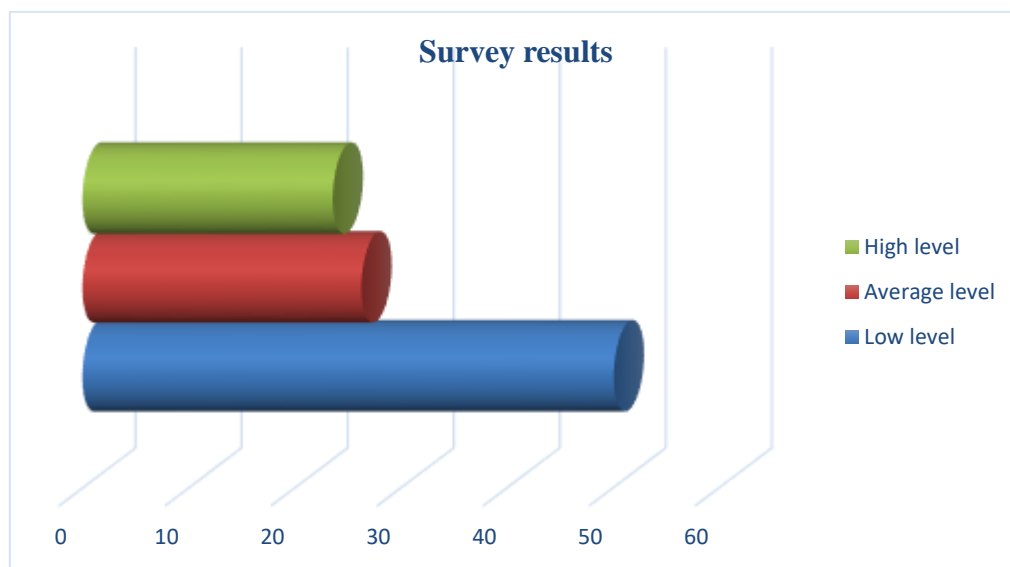| №	Awareness level (by levels)	Number of respondents (people)
1	Low level (0–10 points)	19
2	Average level (10–15 points)	10
3	High level (15–20 points)	9

Figure. Survey results

Students note that the hardest questions were given to them, in which it was necessary to choose between hard and soft skills. Questions where it was possible to answer "yes" or "no" were given to them easier due to a random choice. At the end of the survey, the students were interested in the difference between the two terms and many of them showed great interest in studying the problem we are investigating.

So, for example, to the question: "If you are a great communicator, is it hard skill or soft skill?" the majority of respondents answered that it is hard skill, explaining that communication skills are developed only by professionals. And to the question: "If you are good at HTML, this is ..." most students answered soft skills, explaining that they do not fully understand the meaning of this term.

Analysis of the results of the control section allowed us to conclude that the existing level of awareness of the terms hard and soft skills has a number of disadvantages:

- the theoretical material that students study within the framework of the disciplines provided for in the curriculum, affecting the professional skills of future teachers, sufficiently fully reveals the pedagogical activity itself, without affecting the professional and pedagogical skills necessary for successful career growth;

- students do not form complex ideas about the terms hard and soft skills, because many students do not understand their difference;

- most students do not think about the importance of the formation and development of skills due to the lack of theoretical and practical knowledge in the field of this issue;

- there is no specialized knowledge, as well as practical skills for the formation of hard and soft skills.

This stage of the experiment allowed us to identify the experimental and control group for the subsequent stages of the experiment — the formative and control. Thanks to the conducted control section, we were able to identify the problems associated with the study of professional skills, as well as to develop a special course aimed at the formation of hard and soft skills for future teachers-psychologists in the modern VUCA world.

Conclusions

Summing up the results of the survey, we can draw the following conclusions: skills are a necessity not only for society, but also for the education system. Certain skills are no worse or better than each other, each skill in itself is something complete and important. The skills complement each other, forming students with various skills they need to adapt to the modern world of innovation and digitalization.

As mentioned above, skills are the key to success in professional activities. The VUCA world dictates new rules within which it is necessary to build your professional activity according to the demands of this world. The results of the study show that there is a huge interest among students to master certain types of skills, but they lack knowledge in this area. The teaching profession requires constant development, and development, in turn, will lead to results.

It is not very easy to acquire skills, therefore, if teachers notice during the years of study that students lack certain skills, and then this factor should be improved. Any skill, regardless of whether it is formed quickly or slowly, stable or weakened, depends on the desire, determination and receptivity of the subject; practice depends on the complexity of the skill itself.

In conclusion, we believe that the results of the study will be useful for the teaching staff of higher educational institutions. As soon as teachers will focus their attention on the issue of the formation of professional skills, competitive specialists will appear on the labor market, which VUCA world needs. It is difficult to overestimate the importance of hard and soft skills in the VUCA world, and we suggest starting to form these skills already in the learning process, while choosing the best of them that will be universal and applicable in various fields of activity. They will be useful both in a crisis situation and in a quiet time. It is valuable that you can and can apply, and not just know. Therefore, education in the VUCA world through the formation of hard and soft skills in students is the surest solution.

Acknowledgments

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Т.Г. Исхакбаева, К.Т. Аналбекова, К.Т. Кошкумбаев

Студенттерде hard skills және soft skills қалыптастыру арқылы VUCA әлеміндегі білім

Мақала hard және soft skills қалыптастыру арқылы болашақ педагог-психологтердің кәсібилігін дамытудың өзекті мәселесіне арналған. Авторлар бұл дағдыларды қалыптастыруға үлкен мән береді, оларды қазіргі әлемдегі қажеттілік деп атайды. Зерттеу тақырыбы бойынша психологиялық-педагогикалық әдебиеттерге теориялық талдау жүргізілген және VUCA әлеміндегі білім туралы өзекті мәселелерді қарастырған. Hard және soft skills-тің қалыптасуы мен VUCA әлеміндегі бейімделу арасындағы байланыс жүргізілген, трансформация әлемінің негізгі компоненттері анықталған, олар: Vision, Understanding, Clarity, Agility. Белгілі бір жетістікке жету үшін педагогтер студенттердің кәсіби дағдыларын қалыптастыруға баса назар аударуы керек. Авторлар «6В01101-Педагогика және психология» білім беру бағдарламасының студенттері арасында сауалнама жүргізді. Зерттеудің негізі академик Е.А. Бөкетов атындағы Қарағанды университетінің педагогика факультеті болды. Мақалада авторлар жүргізген эмпирикалық зерттеудің нәтижелері келтірілген. Зерттеу нәтижелері авторларға теориялық білімді ғана емес, сонымен қатар қазіргі VUCA әлемінде бәсекеге қабілетті және құзыретті педагогтер қоғамын құруға және дамытуға ықпал ететін практикалық дағдыларды қалыптастыру қажет деген қорытынды жасауға мүмкіндік берді.

Кілт сөздер: дағды, құзыреттілік, пайымдау, түсіну, айқындық, икемділік, болашақ мұғалімдер, VUCA әлемі, кәсіби сала, теориялық білім, практикалық дағдылар.

Т.Г. Исхакбаева, К.Т. Аналбекова, К.Т. Кошкумбаев

Образование в VUCA мире через формирование жестких и мягких навыков у студентов

Статья посвящена актуальной проблеме развития профессионализма будущих педагогов-психологов через формирование *hard* и *soft skills*. Авторы уделяют большое значение формированию данных навыков, называя их необходимостью в современном мире. Ими проведен теоретический анализ психолого-педагогической литературы по теме исследования. В статье затронута не менее актуальная тема — образование в VUCA мире. Проведена взаимосвязь сформированности *hard* и *soft skills* и адаптации в VUCA мире, определены основные составляющие мира трансформаций: *Vision, Understanding, Clarity, Agility.* Чтобы достичь успеха в каждом из составляющих, педагогам необходимо сделать акцент на формировании у студентов профессиональных навыков. Авторы провели опрос среди студентов образовательной программы 6В01101 — «Педагогика и психология», основой исследования послужили анкеты обучающихся педагогического факультета Карагандинского университета имени академика Е.А. Букетова. В статье представлены результаты эмпирического исследования, проведенного авторами. Результаты исследования позволили авторам сделать вывод о том, что необходимо формировать не только теоретические знания, но и практические навыки, которые будут способствовать созданию и развитию конкурентоспособного и компетентного общества педагогов в современном VUCA мире.

Ключевые слова: навык, компетентность, видение, понимание, ясность, гибкость, будущие учителя, мир VUCA, профессиональная сфера, теоретические знания, практические навыки.

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ChatGPT as the linguo-creative resource for teaching English language

This scientific article explores the potential of ChatGPT, a language model based on AI, as a linguo-creative resource for teaching English language in Kazakhstan. The authors conducted a mixed-methods study that included semi-structured interviews with 25 language teachers and learners, as well as an online survey that received 250 responses. The study aimed to provide a contextual understanding of the potential use of ChatGPT in language education in Kazakhstan, taking into account the unique cultural and linguistic features of the country. The authors analyzed the data using thematic analysis and descriptive statistics and chi-square tests. The results of the study showed several benefits and challenges associated with using ChatGPT, potential applications of ChatGPT in language education in Kazakhstan, and positive perceptions of language teachers and learners towards AI-powered tools in language education. The mixed-methods approach provided a more nuanced and comprehensive analysis of the potential use of ChatGPT in the context of Kazakhstan and contributes to the growing body of knowledge on the use of AI-powered tools in language education in diverse cultural and linguistic settings. The findings of the study can provide insights for language teachers and educators of Kazakhstan and other countries on the use of ChatGPT and other AI-powered tools for language learning and teaching.

Keywords: technology, artificial intelligence, ChatGPT, teaching English, Kazakhstan, mixed-methods study, language teachers, learners, potential applications.

Introduction

Language learning has undergone significant transformations with the advent of technology and artificial intelligence (AI), expanding its horizons beyond traditional methods such as books, audio tapes, and face-to-face interactions [1]. Natural Language Processing (NLP) technology has played a pivotal role in this revolution, leading to the development of ChatGPT, a large language model created by OpenAI [2]. ChatGPT has emerged as a valuable resource for language learning and teaching, offering new possibilities and opportunities for learners [3].

The purpose of this literature review is to explore the use of ChatGPT as a linguo-creative resource for teaching the English language. This research investigates the potential of ChatGPT in various aspects of language learning and teaching, including enhancing learners' engagement, motivation, creativity, writing and speaking practice, promoting learner autonomy, and cultural awareness. It seeks to build upon existing studies that have examined the benefits and challenges of incorporating ChatGPT into language education.

Previous research has demonstrated the potential of ChatGPT in language learning and teaching. Weng et al. (2021) found that ChatGPT can enhance language learners' engagement, motivation, and creativity, while also improving their language production skills through the generation of natural-sounding responses [3]. Similarly, Xu et al. (2021) reported that ChatGPT facilitates writing fluency and creative idea generation in English writing classes [4]. Toda and Yamamoto (2021) discovered that ChatGPT contributes to learners' speaking practice and increases their confidence in English conversation classes [5].

Moreover, ChatGPT can promote learner autonomy by providing opportunities for independent language skill practice [6]. Gülşen and Şahin (2021) demonstrated that ChatGPT serves as a valuable self-study tool, assisting learners in improving vocabulary and grammar skills outside of the classroom [6]. Additionally, Vásquez et al. (2021) argued that ChatGPT can be programmed to impart cultural knowledge, fostering cultural awareness and deeper understanding of the target language and its associated culture [7].

Building upon this body of literature, our study focuses on exploring the potential of ChatGPT as a linguo-creative resource for teaching the English language in Kazakhstan. To achieve this, we conducted a mixed-methods study utilizing semi-structured interviews with language teachers and learners, alongside an online survey. A total of 25 participants were interviewed, and 250 responses were collected through the survey. By

employing thematic analysis for the interview data and descriptive statistics and chi-square tests for the survey data, we aimed to provide a contextual understanding of ChatGPT's potential use in language education in Kazakhstan, taking into account the unique cultural and linguistic features of the country.

The results of our study reveal the benefits and challenges associated with using ChatGPT, potential applications of ChatGPT in language education in Kazakhstan, and the positive perceptions of language teachers and learners towards AI-powered tools in language education. By employing a mixed-methods approach, we offer a comprehensive and nuanced analysis of ChatGPT's potential use in the Kazakhstani context, contributing to the growing body of knowledge on the application of AI-powered tools in language education in diverse cultural and linguistic settings.

The subsequent sections present the findings of our study. We begin with the qualitative study, highlighting the benefits and challenges of integrating ChatGPT into language education in Kazakhstan, as well as potential applications of ChatGPT in language teaching and the perceptions of language teachers and learners towards AI-powered tools in language education. Subsequently, we present the results of the quantitative study, including tables displaying the frequencies and percentages of responses to the survey questions pertaining to the perceptions of language teachers and learners regarding the use of ChatGPT in language education in Kazakhstan. These findings offer valuable insights for language teachers and educators in Kazakhstan and other countries, shedding light on the effective utilization of ChatGPT and other AI-powered tools for language learning and teaching.

Experimental

To explore the potential of ChatGPT as a linguo-creative resource for teaching English language in Kazakhstan, we conducted a qualitative study using semi-structured interviews with language teachers and learners from different parts of the country. Participants were recruited through purposive sampling, and the interviews were conducted both in-person and online.

The study aimed to provide a contextual understanding of the potential use of ChatGPT in language education in Kazakhstan, taking into account the unique cultural and linguistic features of the country. We analyzed the interview data using thematic analysis, focusing on the benefits and challenges of using ChatGPT in language education, the potential applications of ChatGPT in Kazakhstan, and the perceptions of language teachers and learners towards AI-powered tools in language education.

Additionally, we conducted a survey to gather quantitative data on the perceptions of language teachers and learners towards the use of ChatGPT in language education in Kazakhstan. The survey was distributed online to a sample of language teachers and learners from various regions of the country, and the data was analyzed using descriptive statistics and chi-square tests.

The methodological approach used in this scientific article is a mixed-methods study, which combines both qualitative and quantitative methods to provide a comprehensive understanding of the potential use of ChatGPT in language education of Kazakhstan. By using both qualitative and quantitative data, we aimed to provide a more nuanced and comprehensive analysis of the benefits and challenges of using ChatGPT in the context of Kazakhstan, and to contribute to the growing body of knowledge on the use of AI-powered tools in language education in diverse cultural and linguistic settings.

Results and Discussion

Qualitative Study

Table 1 presents the details of the qualitative study conducted to explore the benefits and challenges of using ChatGPT in language education in Kazakhstan, as well as the potential applications of ChatGPT and the perceptions of language teachers and learners towards AI-powered tools.

T a b l e 1

Qualitative Study Details

Participants	Sample Size	Recruitment Method	Interview Format	Duration
Language Teachers	15	Purposive Sampling	In-person and Online	30-60 minutes
Learners	10	Purposive Sampling	In-person and Online	30-60 minutes

Thematic Analysis

Thematic analysis was employed to analyze the interview data. The analysis focused on the benefits and challenges of using ChatGPT, potential applications of ChatGPT in Kazakhstan, and the perceptions of language teachers and learners towards AI-powered tools in language education.

Benefits and Challenges of Using ChatGPT

Table 2 presents the benefits and challenges associated with using ChatGPT in language education in Kazakhstan.

T a b l e 2

Benefits and Challenges of Using ChatGPT

Benefits	Challenges
1. Enhanced Language Learning: Provides natural and engaging language practice.	1. Technical Issues: Slow response times and unreliable internet connections.
2. Increased Access to Resources: Offers a wide range of language resources.	2. Cultural Differences: Concerns about cultural appropriateness in the context of Kazakhstan.
3. Personalized Learning: Customizable to meet individual learner needs.	3. Overreliance on Technology: Potential negative effects on face-to-face interaction and communication skills.
4. Time Efficiency: Provides immediate feedback and correction.	

Potential Applications of ChatGPT in Kazakhstan

Table 3 presents the potential applications of ChatGPT in language education in Kazakhstan.

T a b l e 3

Potential Applications of ChatGPT

Applications
1. Language Assessment: Provides automated scoring and feedback on language proficiency.
2. Language Practice: Offers natural and engaging language practice opportunities.
3. Language Teaching: Provides access to a wide range of language resources.

Perceptions of Language Teachers and Learners towards AI-powered Tools

Table 4 presents the perceptions of language teachers and learners towards AI-powered tools, specifically ChatGPT, in language education.

T a b l e 4

Perceptions of Language Teachers and Learners

Participants	Positive Attitude towards AI-powered Tools
Language Teachers	80%
Learners	70%

The results of the qualitative study provide valuable insights into the benefits, challenges, potential applications, and perceptions of language teachers and learners regarding the use of ChatGPT and AI-powered tools in language education in Kazakhstan. These findings inform the subsequent sections of this research, which include a quantitative study and further analysis of the data collected.

Quantitative study:

The survey was distributed online to a sample of language teachers and learners from various regions of Kazakhstan, and a total of 250 responses were received. Of these, 150 were from language learners and 100 were from language teachers. The majority of respondents were female (65%), and the average age was 27 years old.

Descriptive statistics were used to analyze the survey data. Table 5 shows the results of the survey questions related to the perceptions of language teachers and learners towards the use of ChatGPT in language education in Kazakhstan.

Table 5

Results of survey questions related to the perceptions of language teachers and learners towards the use of ChatGPT in language education in Kazakhstan

Question	Response	Frequency	Percentage
Q1: Are you familiar with ChatGPT?	Yes	210	84%
	No	40	16%
Q2: Have you used ChatGPT in language learning or teaching?	Yes	30	12%
	No	220	88%
Q3: Do you think ChatGPT can improve language learning and teaching?	Yes	180	72%
	No	70	28%
Q4: Do you have concerns about using AI-powered tools in language education?	Yes	120	48%
	No	130	52%
Q5: Do you think ChatGPT can be customized to suit the unique linguistic and cultural features of Kazakhstan?	Yes	200	80%
	No	50	20%

Table 5 provides a breakdown of the responses to the survey questions related to the perceptions of language teachers and learners towards the use of ChatGPT in language education in Kazakhstan. The results show that 84% of respondents were familiar with ChatGPT, while only 12% had used it in language learning or teaching. When asked whether ChatGPT could improve language learning and teaching, 72% of the respondents answered positively. However, 28% of the respondents expressed concerns about using AI-powered tools in language education. On the other hand, 80% of the respondents believed that ChatGPT could be customized to suit the unique linguistic and cultural features of Kazakhstan.

Chi-square tests were used to analyze the relationship between the responses to the survey questions and the demographic variables of gender and age. The results showed no significant relationship between gender or age and the responses to the survey questions ($p > 0.05$).

Table 6 presents the results of the chi-square tests for each survey question and the demographic variables of gender and age. The table displays the chi-square statistic, degrees of freedom, and p-value for each test.

Table 6

Chi-Square Tests for the Relationship between Survey Questions and Demographic Variables of Gender and Age

Survey Question	Demographic Variable	Chi-Square	DF	P-value
Q1: Are you familiar with ChatGPT?	Gender	0.47	1	0.49
	Age	0.13	1	0.72
Q2: Have you used ChatGPT in language learning or teaching?	Gender	0.01	1	0.91
	Age	0.04	1	0.84
Q3: Do you think ChatGPT can improve language learning and teaching?	Gender	0.02	1	0.89
	Age	0.03	1	0.86
Q4: Do you have concerns about using AI-powered tools in language education?	Gender	0.00	1	0.99
	Age	0.26	1	0.61
Q5: Do you think ChatGPT can be customized to suit the unique linguistic and cultural features of Kazakhstan?	Gender	0.01	1	0.94
	Age	0.00	1	1.00

As shown in Table 2, none of the chi-square tests were significant ($p > 0.05$), indicating that there was no significant relationship between gender or age and the responses to any of the survey questions.

Overall, the survey results indicate that there is a positive perception towards the use of ChatGPT in language education in Kazakhstan, with the majority of respondents believing that it could improve language learning and teaching and could be customized to suit the unique linguistic and cultural features of the country.

However, there are also concerns about the use of AI-powered tools in language education that need to be addressed.

Conclusions

In conclusion, the use of ChatGPT, a large language model developed by OpenAI, has emerged as a valuable resource for teaching and learning the English language. With the advancement of Natural Language Processing (NLP) technology, ChatGPT has the potential to enhance learners' engagement, motivation, creativity, writing and speaking practice, promote learner autonomy, and cultural awareness. The scientific article presented a mixed-methods study that explored the potential use of ChatGPT in language education in Kazakhstan, taking into account the unique cultural and linguistic features of the country. The study found that ChatGPT has several benefits and challenges associated with its use in language education, and it has potential applications in language education in Kazakhstan. Moreover, language teachers and learners have a positive perception of AI-powered tools in language education.

The study's findings have significant implications for language educators and teachers, particularly in diverse cultural and linguistic settings. ChatGPT can provide learners with opportunities to practice language skills independently and improve their vocabulary, grammar skills, and language production skills. Additionally, ChatGPT can help learners to develop a deeper understanding of the target language and its associated culture by providing learners with information about different cultures and customs.

Generally, the study contributes to the growing body of knowledge on the use of AI-powered tools in language education, and the mixed-methods approach provided a more nuanced and comprehensive analysis of the potential use of ChatGPT in the context of Kazakhstan. The results of the study can provide insights for language teachers and educators of Kazakhstan and other countries on the use of ChatGPT and other AI-powered tools for language learning and teaching.

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ChatGPT ағылшын тілін оқытуға арналған лингвошығармашылық ресурс ретінде

Мақала Қазақстанда ағылшын тілін оқытуға арналған лингвошығармашылық ресурс ретінде жасанды интеллект негізіндегі тілдік модель ChatGPT-тің әлеуеті зерттелген. Авторлар ағылшын тілінің 25 оқытушысымен және білім алушылармен жартылай құрылымдалған сұхбаттарды, сондай-ақ 250 жауабы бар онлайн-сауалнаманы қамтитын аралас әдістемелік зерттеу жүргізген. Зерттеудің мақсаты еліміздің бірегей мәдени және тілдік ерекшеліктерін ескере отырып, Қазақстанда тілдік білім беруде ChatGPT-тің әлеуетті қолданылуын контекстік түсінуді қамтамасыз ету. Сонымен қатар тақырыптық талдау мен сипаттамалық статистиканы, сондай-ақ хи-квадрат сынақтарын қолдана отырып, деректерді талдаған. Зерттеу нәтижелері ChatGPT қолданумен байланысты бірнеше артықшылықтар мен сын-қатерлерді, Қазақстандағы тілдік білім беруде ChatGPT-тің әлеуетті қолданылуын және оқытушылар мен

оқушылардың тілдік білім берудегі жасанды интеллектке негізделген құралдарға оң көзқарасын көрсетті. Аралас әдістерге негізделген зерттеу Қазақстан контекстінде ChatGPT әлеуетті қолданылуын анағұрлым терең және жан-жақты талдауға мүмкіндік берді және әртүрлі мәдени және лингвистикалық орталарда тілдік білім беруде жасанды интеллектпен жұмыс істейтін құралдарды пайдалану бойынша білімнің өсуіне ықпал етті. Зерттеудің мақсаты елдің бірегей мәдени және лингвистикалық ерекшеліктерін ескере отырып, Қазақстандағы тілдік білім беруде ChatGPT-ті әлеуетті пайдалану туралы контекстік түсінік беру.

Кілт сөздер: технология, жасанды интеллект, ChatGPT, ағылшын тілін оқыту, Қазақстан, аралас зерттеу әдістері, тіл оқытушылары, білім алушылар, әлеуетті қосымшалар.

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ChatGPT как лингвокреативный ресурс для преподавания английского языка

В статье исследован потенциал ChatGPT, языковой модели на основе искусственного интеллекта, в качестве лингвокреативного ресурса для преподавания английского языка в Казахстане. Авторы провели микс-методическое исследование, которое включало полуструктурированные интервью с 25 преподавателями английского языка и учащимися, а также онлайн опрос, на который поступило 250 ответов. Цель исследования заключалась в обеспечении контекстуального понимания потенциального использования ChatGPT в языковом образовании в Казахстане, с учетом уникальных культурных и языковых особенностей страны. Авторы проанализировали данные, используя тематический анализ и описательную статистику, а также тесты *хи-квадрат*. Результаты исследования показали несколько преимуществ и вызовов, связанных с использованием ChatGPT, потенциальные применения ChatGPT в языковом образовании в Казахстане и положительное отношение преподавателей и учащихся к инструментам, основанным на искусственном интеллекте, в языковом образовании. Микс-методический подход обеспечил более тонкий и всесторонний анализ потенциального использования ChatGPT в контексте Казахстана и способствовал растущему объему знаний о применении инструментов, основанных на искусственном интеллекте, в языковом образовании в различных культурных и языковых средах. Результаты исследования могут дать преподавателям языков и педагогам в Казахстане и других странах представление об использовании ChatGPT и других инструментов, основанных на искусственном интеллекте, для изучения и преподавания языков.

Ключевые слова: технологии, искусственный интеллект, ChatGPT, обучение английскому языку, Казахстан, смешанные методы исследования, преподаватели иностранных языков, обучающиеся, потенциальные приложения.

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Pedagogical heritage of ethnic values in the process of self-education

Modern ethno-pedagogical education is aimed at solving a number of problems: the entry of a future teacher, a university graduate into society, his productive adaptation and successful self-realization in a multicultural space; promoting the development of his professionalism and self-trait; ensuring the continuity of generations in the transmission of ethnic value system. This, in turn, requires the content filling of future teacher`s professional training by the formation of the professional and pedagogical self-educational competence of future teachers with special knowledge, that contributes to the professional and ethical development of his personality, the formation of ethno-pedagogical competence, his readiness for activities based on ethical norms of relationships in a particular ethno and a multicultural environment. Today, in public consciousness and activity, the human factor is justified as the determining factor in solving modern problems, and therefore the idea of a person's intrinsic value, the need to respect his personal dignity, spiritual experience, ethnicity, ethno-social role, rights to uniqueness, and to choose the path of cognition and life is discussed.

Keywords: professional pedagogical self-education, ethno-pedagogical competence, ethnic competence, pedagogical competency, "qualifications", self-education, ethnic values, the worldview of an ethnic group, life activity and inherent value.

Introduction

In modern Kazakhstan, a new education system, focused on the global educational space, is being formed. The transformations taking place in the modern rapidly changing world, due to scientific and technological progress, predetermined the emergence of a trend to a dynamic change in requirements for a person as the main productive power, that is, for a person as a worker. "In its turn, changes in the social relations system affect education and require to be mobile and meet challenges of a new historical stage, and it must correspond to the needs of the economy as a whole". In the context of the growing tendencies of globalization process of the world community and modern education openness, there is a problem of the erosion and devaluation of traditional values system of ethnic groups, the collapse of the existing mechanism of ethnic socialization of generations, and as a result, the displacement and oblivion of ethnic traditions, history, and culture.

The desire of Kazakhstani society to stabilize interethnic relations, to strengthen friendship between peoples, and to improve educational work on preparation the young generation for social interaction with representatives of different nationalities is dictated not only by its multi-ethnic and multi-confessional composition, but also by the integration of a sovereign state into the global educational space.

The orientation of the educational policy of the Republic of Kazakhstan to the democratic development of a multiethnic state, to the formation of competencies linked with solving specific problems, including the training of a multicultural personality, sets for the system of professional training of pedagogical staff some socially important tasks: saving and transmission of national, spiritual and moral foundations of society. The solution to the problem of training a multicultural personality is directly dependent on the level of ethno-pedagogical competence of teachers, who are due to train new generations of the future society.

Experimental

It is determined by a set of general (description, content analysis, comparative and system analysis, generalization) and special (historical, pedagogical, cultural, literary) methods. The complex of these methods

within the framework of an interdisciplinary approach to the study of the problem made it possible to fully reveal the specifics of ethnic values formation in the training of future primary school teachers through self-education.

Results and discussion

Reforming the higher education system in a democratic Kazakhstan requires a competency-based approach to solving the problems of training future primary school teacher. At the moment, the education system in Kazakhstan is considered as the most important structural element in the process of revival, saving and further development of the ethnic group`s culture. In the conditions of our republic, the strategy for the development of the state education system is aimed at the formation of a trilingual ethno-cultural school, functioning in the context of personality-centered educational paradigm, with an intention to universal human values through ethnic culture.

According to M.G. Kharitonov, ethno-pedagogical knowledge helps future teachers to become familiar with the accumulated collective experience, its ideals, which forms cultural memory, folk memory, historical memory and, ultimately, an active life position. This knowledge is also necessary for the formation of life plans, the preservation and development of national traditions, the use of its spiritual values in the educational process of the school. According to the author, ethno-pedagogical knowledge is perceived not only as knowledge of traditional pedagogical culture, although the latter is their most important component, but also as knowledge in the field of other disciplines necessary for the implementation of full-fledged ethno-pedagogical training of primary school teachers of the national school [1].

According to Kozhakhmetova K.Zh., ethno-pedagogical knowledge is such knowledge, the essence of which has cognitive and educational value in the pedagogical culture of a particular ethnic group. It is largely a reflection of the refracted, experienced, meaningful content of the ethnic picture of the world in the structure of individual consciousness. It became with a human society, when there was a need to pass on the hard-won experience of survival to the nascent generations. We find the author's opinion about "educational influence taking into account ethnic specificity", which determines the specific essence of the "ethno-pedagogical" phenomenon as the closest for us.

Developing this idea, Kozhakhmetova K.Zh. in the composition of ethno-pedagogical knowledge, notes the objective presence of folk knowledge, where she distinguishes irrational knowledge (beliefs, omens, etc.), along with rational ones. Consequently, ethno-pedagogical knowledge in its totality is represented not only by theoretical (scientific and professional), but also by individual and collective empirical experience. Refracting in the problem of our research, ethno-pedagogical, in the sense of educational, give the content of ethno-pedagogical competence a huge semantic meaning, which lies in the fact that the phenomenon under study is fully realized through educational influences and interactions between a teacher and a student, taking into account the polyethnic specifics of the educational environment.

Consequently, one of the indicators of ethnic values is professional knowledge, where a special place is given to ethno-pedagogical knowledge that is achieved through self-education. Therefore, there is every reason in the structure of ethno-pedagogical competence, considered in the context of professional education theory, to single out a criterion: knowledge of the theoretical foundations of pedagogy and other related sciences.

A focus on self-learning activity is an indicator of a cutting-edge, high-quality education system. According to L.N. Barenbaum (1997), it is impossible to teach a student self-learning activity — it is something they must do on their own, based on their internal needs [2].

The need for self-education is a personal property of a person. The category of "self-educational culture of personality" refers to systemic, integrative concepts. Self-educational culture can be interpreted as the most important component of the spiritual and professional culture of a specialist in the social sphere, which includes the "culture of professional and cognitive activity", "culture of dialogue", "information and computer culture" of a specialist. It should be emphasized that vocational education has not only a social, but also a deeply personal nature. No matter how the teaching staff of the university or its individual representatives want to transfer knowledge, experience, skills, and techniques of professional activity to students, this process can be successful only on the basis of a personal desire for a goal — to receive an education, profession, or specialty. In this sense, vocational education acts primarily as professional self-education, the willingness of a particular person to master and "appropriate" the world of the profession, to make it his own individual property [3].

Self- education leads to self-development. Self-development is already a specific activity for changing and transforming oneself, when the initiative comes from the person himself, with him assuming full responsibility for the transformations that are being made, which can be both positive and negative. The ability to

self-development is a sign of a person's subjectivity, in foreign psychology — agentiveness. It is based on arbitrary volitional actions to change one's personality, one's relationships, one's behavior [4].

Ethno-pedagogical skills and abilities are formed from already acquired ethnic, simple and complex skills, and testify to the developed ability of the future teacher to use the available ethno-pedagogical knowledge and skills in the most correct way in accordance with the prevailing circumstances. Ethno-pedagogical skills are based on ethno-pedagogical knowledge, knowledge from the field of ethno-pedagogy (traditional pedagogical culture and folk experience of education).

And this means that another criterion of ethnic values is a set of corresponding skills, manifested in the possession of methods of managing ethnopedagogical activities. As we understand that it is not a simple analogy with the structural components of professional readiness, since its content requires a specially organized training in the vocational education system, while ethno-pedagogical skills, as their practical application in practice, are also conditioned by the real social environment where different cultures interact. And this component determines the nature of ethno-pedagogical activity, where the totality of knowledge in the form of signs, schemes, theories, concepts is reflected in the process of activities of those to whom they are transmitted.

The creative activity experience, as one of the characteristics of ethnopedagogical competence, is an indicator of a future teacher's readiness to search for solutions to new problems, to creative transformation of reality.

The experience of human relations is a system of motivational-value and emotional-volitional relationships. Its specificity consists of an evaluative attitude to the world, to activities, to people of different nationalities, different religions, different views and beliefs. The culture of feelings is a special phenomenon that is a consequence of the ethnosocial development of a person. The experience of human relations, together with knowledge and skills, is a condition for the formation of a system of values, ideals and a person's worldview, which, ultimately, affect the performance of a particular activity.

All these characteristics of ethnic values are interconnected. Skills do not develop without knowledge, creative activity is carried out on the basis of certain knowledge and skills, experience presupposes knowledge about the reality with an established particular attitude, and about the activity that causes certain emotions, provides behavioral skills and abilities.

The integrating link of the ethnic values of the future teacher, contributing to the implementation of the totality of knowledge, skills and experience, is his professionally significant personal qualities, which create the basis for successful pedagogical activity by manifesting his needs and motives, and reflecting views, ideals and beliefs. To such significant qualities of a future teacher, we include pedagogical humanism, pedagogical optimism, kindness and love for children; responsibility and conscientiousness, honesty and justice, mercy and compassion, tolerance and respect for people, and others.

Thus, the theoretical analysis of the problem under study and the definition of the essence of ethnic values and its features allows us to consider the ethno-pedagogical competence of future teachers as an important part of professional competence.

For the next step, it is necessary to disclose the essence of the concept of "professional pedagogical self-educational competence", we consider the definition "professional pedagogical self-education".

A.M. Matyushkin considers self-education as a productive process of human development, which is based on cognitive needs. They cause in a person the need for constant, purposeful self-education, which does not end upon achieving the result (the goal of self-education), but continues each time on a new round of productive activity, forming new motives, generating new problems and searching for solutions. Productive activity is an indicator of a person's ability to self-development and self-education, moreover, "... opportunities for human's self-development, acting as readiness for self-education, arise when a sufficiently high level of theoretical development is reached and in the presence of motivation. A general indicator of the opportunity for self-development and self-education is the formulation of a question and problem that determine the need for a search, independent discovery or acquisition of new knowledge in the form of a self-educational system" [5].

G.M. Kodzhaspirova notes that self-education should be understood as "specially organized, independent, systematic, cognitive activity aimed at achieving certain personal or socially significant educational goals. Self-education is a system of mental and ideological self-education, which entails volitional and moral self-improvement" [6].

Having studied in detail and conducted an analysis of all the above data, we came to the conclusion that various researchers, giving a definition of the concept of "self-education", almost unanimously, although often using distinctive terminology, note that "self-education" is a cognitive activity carried out independently. And

this is true, since "self-reliance is the most important psychological prerequisite for the implementation of self-education" [7].

In the Great Modern Encyclopedia, self-reliance is considered as "one of the leading qualities of a personality, expressed in the ability to set a goal, persistently achieve its fulfillment on his own, take a responsibility to his activities, and act consciously and proactively, not only in a familiar environment, but also in new conditions requiring non-standard decisions" [8].

By the interpretation of D.M. Grishin: "Self-reliance is a personality trait, which includes the readiness to set a goal for the work, to determine its plan and content, to anticipate self-control and correction. Self-reliance is formed and manifested in unity with self-confidence, self-control, decisiveness and responsibility". According to E.B. Yastrebova, self-reliance is a personality trait, which is manifested by the desire and ability to master knowledge and methods of activity on his own and apply them in educational and practical work, the purpose of which is to be prepared for professional activity. Thus, based on all the above data, in our study we consider "self-education" as an independently carried cognitive reproductive-productive activity of a person.

Analyzing the categories of professional and pedagogical competence, we found that a number of researchers define it in close relationship with the concept of "readiness" for professional pedagogical activity. So, for example, A. Khutorskoy notes that this concept includes a set of interrelated personality traits (knowledge, abilities, skills, methods of activity), set in relation to a certain range of objects and processes, and necessary for high-quality productive activity in relation to them. The formation of competencies occurs by means of educational content. Thus, the author understands by competence, first, the general ability to carry out practical activities; secondly, the readiness of the individual for activity, what needs knowledge, skills, and abilities.

Determining professional competence as the professional readiness of the subject of labor (specialist or staff) to perform tasks and duties of daily activities, K.A. Abulkhanova-Slavskaya named followings among the structural components of the competence: objectively necessary knowledge, abilities, skills; professional positions, where the orientation of the personality is important for its formation, uniting the system of dominant needs, values, aspirations, prevailing systems of meaning-forming motives, fixed life-goals, attitudes, prospects, intentions, aspirations and active work to achieve them; individual psychological characteristics (qualities) of a person that predetermine his personality, style of activity, behavior of a specialist, which, being internal stimuli, determines his need for active self-development, productive realization of creative potential in work.

These theoretical conclusions indicate that their authors consider pedagogical competence as a result of vocational training and reveal its content as the content of the "readiness" category, which includes knowledge, abilities, skills in organizing various types of activities, as well as professional and personal qualities necessary to solve the tasks assigned to him.

Professional training is a "process of specialist forming a for one of labor activity areas, linked with the mastery of a certain profession. The purpose of vocational training is the acquisition of vocational education, which is the result of the assimilation of systematized knowledge, skills and abilities and the necessary personal and professional qualities. That is, problems related to determining what a specialist should know in accordance with the terms of reference, how he applies this knowledge in his professional activities, what personality traits he should possess, so that knowledge and skills give the maximum result, are solved in the process of professional training".

During a professional training, if the teacher does not have certain knowledge, what could help him achieve the new, previously unsettled, goals, then, most likely, the success of his professional and pedagogical activity may be in doubt. The validity of this statement is determined by the fact that any subject area of human activity, one way or another, is reflected in the knowledge system. The successful activity of the subject is impossible without the formation of integral objects of consciousness of a synthetic nature. Integral objects of consciousness, formed as a result of mastering knowledge about a certain area of reality, are a way of combining external requirements for the activity of the subject and the subjective-personal value orientation of a person.

In the formation of the educational services market, every teacher should have the right to build his own strategy for professional growth, then it is likely that there was a situation, when the only form of advanced training that fully satisfies the educational needs of a teacher would be self-education.

The study of pedagogical literature on the problem of self-education in school shows that secondary school students, after graduation, still have little knowledge of the skills and abilities of self-education. For

successful self-education, a certain level of mental development, cognitive activity and independence is required. In school conditions, the process of self-education proceeds under the guidance and control of a teacher and, basically, involves the formation of a person's skills of independent cognitive activity [6].

Preparation for professional and pedagogical self-education should be an integral component of training future teachers in the process of acquiring higher pedagogical education. In turn, the result of preparation for professional pedagogical self-education, we believe, should be the formation of a traditional ethnic culture in future teachers. The successful formation of an ethnocultural personality includes student research work of ethical orientation, which increases the effectiveness of the relevant training of specialists. A variety of extracurricular educational work will help the formation of ethnic values of future teachers.

Conclusion

Thus, the formation of "professional and pedagogical self-educational ethnic competence" should become one of the main goals, what we need to strive to in the process of professional training of future teachers with higher education.

Methodological training of a teacher is one of the essential and necessary conditions for achieving success in professional pedagogical self-education. On this basis, we include "knowledge of methodology fundamentals" among the criteria for the meaning component of the structure of professional and pedagogical self-educational competence that we have developed.

The procedural component of the structure of professional and pedagogical self-educational competence includes the following criteria and their indicators:

- the ability to work on the information (the ability to search, collect and process information for the assimilation of knowledge, as well as their storage and transfer);

- the ability to solve problems (the ability to identify the stages of problem solving; the ability to solve problems using analytical and heuristic methods);

- the ability to see an invariant in each pedagogical phenomenon (the ability to determine in each pedagogical phenomenon: the components of the pedagogical process and to characterize them);

- the ability to understand the information at different levels of methodology (the ability to identify methodological accents in various sources of information, the ability to expound the same information from different methodological positions);

- organizational skills (the ability to outline the goal of the activity; the ability to determine the ways to achieve the set goal; the ability to plan the process of activity; the ability to control the results of activities and, according to control data, to outline the course of further self-educational activities).

A theoretical analysis of the indicated problem and the results of experimental work allowed us to conclude the followings:

- based on the analysis of the literature, in the system of key concepts of our research, the central place is given to the categories of "pedagogical competence", "qualifications", "self-education", "ethno-pedagogical competence", "ethnic values", the essence of which is fully disclosed on the basis of cultural, ethno-pedagogical, axiological, person-centered activity, system-activity approaches, since the core idea that unites their content and determines their definition are the concepts of "professionally significant personal traits", as well as "knowledge", "abilities" and "skills";

- on this basis, in the scientific analysis we came to the conclusion, that the ethno-pedagogical competence of future teachers is a set of integrative, professionally significant personal qualities, that contribute to the implementation of relevant knowledge, abilities, skills and experience in professional activity in a multiethnic educational environment;

- an expanded analysis of reference sources, official materials and documents, as well as an analysis of studies on the preparation of future teachers for professional and pedagogical self-education, allowed us to come to the conclusion that preparation for professional-pedagogical self-education should be an integral and mandatory component of the training of future teachers at the university, and its result should be the formation of ethno-pedagogical competence.

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Өздік білім алу үдерісіндегі этникалық құндылықтардың педагогикалық мұрасы

Қазіргі этнопедагогикалық білім болашақ мұғалімнің, университет түлегінің қоғаммен араласуы, табысты бейімделуі және көпмәдениетті кеңістікте өзін-өзі жүзеге асыруы; оның кәсібилігі мен өзін-өзі бағалауын дамытуға жәрдемдесу; этникалық құндылықтар жүйесінде қызмет атқаруда ұрпақтар сабақтастығын қамтамасыз ету міндеттерін шешуге бағытталған. Бұл өз кезегінде болашақ мұғалімнің кәсіби дайындығын оның жеке басының кәсіби-этикалық дамуына, этнопедагогикалық құзыреттілігін қалыптастыруға, белгілі бір этномәдени ортадағы қарым-қатынастың этикалық нормаларына негізделген іс-әрекетке дайын болуына ықпал ететін арнайы білімі бар болашақ мұғалімдердің кәсіби-педагогикалық өздік білім алу құзыреттілігін қалыптастыру арқылы мазмұнды түрде толтыруды талап етеді. Бүгінгі таңда қоғамдық сана мен іс-әрекетте адам факторы қазіргі заманғы мәселелерді шешуде шешуші фактор ретінде негізделген, сондықтан ішкі идея құнды.

Кілт сөздер: кәсіби педагогикалық өздік білім алу, этнопедагогикалық құзыреттілік, этикалық құзыреттілік, педагогикалық құзыреттілік, «біліктілік», өздік білім алу, этикалық құндылықтар, этникалық топтың дүниетанымы, өмірлік белсенділігі және ажырамас құндылығы.

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Педагогическое наследие этнических ценностей в процессе самообразования

Современное этнопедагогическое образование направлено на решение ряда задач: вхождение будущего учителя, выпускника университета, в общество; его продуктивная адаптация и успешная самореализация в мультикультурном пространстве; содействие развитию его профессионализма и самооценки; обеспечение преемственности поколений в передаче этнической системы ценностей. Это, в свою очередь, требует содержательного наполнения профессиональной подготовки будущего учителя путем формирования профессионально-педагогической самообразовательной компетентности будущих учителей, обладающих специальными знаниями, что способствует профессионально-этическому развитию его личности, формированию этнопедагогической компетентности, его готовности к

деятельности, основанной на этических нормах взаимоотношений в определенной этнокультурной среде. Сегодня в общественном сознании и деятельности человеческий фактор оправдан как определяющий фактор в решении современных проблем, а следовательно, и идеи внутренней ценности человека, необходимости уважать его личное достоинство, духовный опыт, этническую принадлежность, этносоциальную роль, право на уникальность и выбор пути.

Ключевые слова: профессиональное педагогическое самообразование, этнопедагогическая компетентность, этническая компетентность, педагогическая компетентность, квалификация, самообразование, этнические ценности, мировоззрение этнической группы, жизнедеятельность и неотъемлемая ценность.

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The main features of the application of the "Case study" method in chemistry lessons

One of the priorities of the modern education system of the Republic of Kazakhstan in recent years is the formation of functional literacy of students and finding new methods of teaching subjects of the natural and mathematical cycle. Along with traditional teaching approaches, new pedagogical technologies such as collaborative learning, interactive teaching methods, the project method, online learning, and the situational analysis method known as Case-study (case study method) are gaining popularity. The essence of this method is the division of the trainees' educational material into tasks of various types, and information is learned as a result of their active investigation and creative activity in producing answers. In this paper, the main features of the use of the Case-study method are identified and described, which contribute to increasing the activity of students and the effectiveness of the learning process in secondary school, the main advantages and types of the method of concrete situations (Case-study), as well as examples of various chemistry cases for 9th-grade students are developed. The study was limited by a small sample size, but the findings provide valuable information for teacher professional development and the development of current chemistry curricula. The results of the survey of students indicate that the use of the method of specific situations (Case-study) when studying individual topics in chemistry increases the success of the assimilation of educational material by students.

Keywords: Case-study, problem-solving, science literacy, chemistry, lower-secondary school, questionnaire, 9th grade.

Introduction

The main methodological innovations today are the use of modern learning technologies, involving each student in the learning process, i.e. in the process of cognition. As a result, there is a need to increase the quality of training sessions as well as chemistry teaching techniques by introducing current modern teaching methods [1]. The case-study technique is frequently used in economics classrooms across the world. It was employed in the educational process for the first time at Harvard University's Law Faculty. The first versions of the cases were published in 1926 in the Harvard University Business Reports. In the United States, the technique was the most closely connected with The University of Chicago Department of Sociology. From around 1925 to 1935, The Chicago School was the dominant institution in the discipline and the source of much of the literature [2; 22]. Campbell (1975) identified the "case-study approach" as an effective method for connecting evidence to ideas. According to Campbell (1975), pattern-matching is a circumstance in which numerous bits of information from the same instance may be connected to some theoretical concept [3].

According to Yin (1994), a case study investigator must be competent to function as a senior investigator throughout data collection. There should be a training phase that begins with an analysis of the problem definition and construction of the case study design. This may not be essential if there is only one investigator. The training would address topics that the investigator should be aware of such the purpose of the research, the sort of evidence sought, and what variances could be expected [2; 58].

There are now two case-study schools: Harvard (American) and Manchester (European). Harvard University is now at the forefront of scientific and practical breakthroughs in case-oriented techniques. Harvard's purpose is to teach the approach of discovering only one correct solution; their examples are 15–20 pages long, with 5–7 pages of drawings. Manchester's purpose is to find a multivariate solution to the problem; their cases are 5–10 pages long [4].

The method of specific situations (case-study method) is a type of active problem-situational analysis that involves tackling specific difficulties (solving cases). The primary goal of this strategy is to study numerous circumstances in groups and then suggest and select the best algorithm to solve the problem. The case technique or method of specific scenarios should be attributed to active problem-based, heuristic learning

approaches [5]. It is essential that students are urged to analyse and solve a situation that is relevant to real-life challenges and whose description represents a practical assignment. The construction of a crisis situation based on real-life facts is a distinguishing element of this strategy. At the same time, there are no unequivocal answers to the problem. To deal with such a circumstance, the educational task must be carefully specified, and to accomplish it, a "case" containing various information items must be prepared (articles, literary stories, Internet sites, statistical reports, etc.) [6].

The case method has the following advantages:

- a strong focus on gaining knowledge in the disciplines, the lack of an unambiguous answer to the question posed (multiple possible answers);
- concentration is not on ready-made knowledge, but on their development;
- democracy in the process of acquiring knowledge (student and teacher are equal in the process of discussing the problem);
- formation of practical skills, development of students' value system (professional positions, life attitudes);
- overcoming the problem of traditional instruction, since a well-organized case discussion resembles a theatrical performance [7].

Types of Case study

1. The practical case depicts incidents from numerous life situations in detail. The primary goal of this case is to teach students and help them solidify their information, abilities, and decision-making in specific scenarios. Typically, such scenarios are detailed in-depth, and the goal of learning life events and obtaining the skills to engage in genuine professional action is assigned.

2. The educational case first and foremost handles educational tasks. The setting, problem, and narrative in this story are not true, but they may be in real life. They are distinguished by artificiality, the "assembly" of the most crucial components.

3. The research case serves as a model for gaining new knowledge about the circumstances and its participants' behaviour. The solution to such a problem is to improve scientific research skills through the use of modelling. As a result, it is better to utilise it not as a general education technique, but as a means of professional growth, i.e. as a method of specialty training and retraining [8–10].

To summarize the above material can be in the form of Table 1 [11; 200].

T a b l e 1

Types of Case study

	Content	Purpose	Educational task of the case
Practical case	Situations in life	Cognition and life knowledge	Behaviour training
Case study	Situations for (conditional) training	Recognizing common situational qualities	Analysis, comprehension
Research case	Situations for investigation	Developing Situation Models	Research, design

General recommendations for the development of a case task

At first impression, the technology of the case preparation approach for students appears to be extremely easy, but it takes some preparation. A model of a certain situation (Case study) is constructed following a specified style, which can occur in real life and illustrates the complex information, abilities, and connections that students must acquire. Other sources of information are related to the case, including news articles, papers, images, video applications, and so on. Participants do preliminary research on the case, gathering material from several sources. Following that, the material is thoroughly discussed. Simultaneously, the teacher produces questions, records responses, and facilitates the conversation [12; 100].

Before beginning to design tasks for a training case, a teacher or methodologist should usually answer the following questions [13]:

- Who will be the participants of the events? (full name, age, description of the role of the participants of the case).
- What will occur? That is, who says what and writes what.
- Why do pupils require this? Establish a goal for the case's participants, describing the outcome they should achieve.

- When should the solution be prepared? This is a matter of virtual time. By attempting the case, you may calculate how much time should be allocated to solve it. If we want to create engaging answers to real-world problems, we should devote as much time as possible to the case, so that creativity is not stifled.
- How should the issue be resolved? This is frequently incorporated in the case's task, i.e. discovering the solution is part of the case's assignment for the participant/participants. But it is critical that you, as a compiler, take care of the technique for executing the case. Your query is, "How?" ― A description of the method or regulations for dealing with the situation [14].

Methods and materials

Case study evaluation criteria

In the literature, you can find various criteria for evaluating ready-made case-study tasks. We created our own case assignment system based on Yin's scientific work [15], which is presented in Table 2.

T a b l e   2

Case task evaluation criteria

Criteria	Advanced	Medium	Basic	Not Attempted
Identification of main issues / problems	*3 points* – identifies and displays a deep knowledge	*2 points* – identifies and displays an appropriate comprehension	*1 point* – identifies and displays a lack of grasp	*0 points*
Analysis and evaluation of issues / problems	*3 points*– provides a detailed and insightful analysis of all identified issues / problems	*2 points* – provides a cursory examination of some of the highlighted difficulties	*1 point* – provides an insufficient examination of several of the identified difficulties	*0 points*
Recommendations on effective Solutions / strategies	*4 points* – strong reasoning and well-documented data support diagnoses and conclusions; gives a balanced and critical viewpoint; interpretation is both rational and objective. *3 points* – arguments and facts are used to support the diagnosis and opinions; average interest in the concepts given	*2 points* – the case study's challenges were addressed with little action and/or incorrect remedies.	*1 point* – no action was advised, and incorrect solutions to the challenges in the case study were given.	*0 points*

Examples of developed case study chemistry tasks for 9th grade
1. Alkali metals
Case type: practical case.
The contents of the case*:* On June 4, 2020, a tragedy involving an 18-year-old Karaganda resident occurred on the 40th bus. The man sat down on the bus seat as if nothing had occurred, yet it was soaked. He sprang up right away, but it was too late. The strange substance was quickly absorbed by the pants and began to burn the flesh to a crisp. The man got off the bus with a third-degree chemical burn (Fig. 1).

Figure 1. Case study task on the topic: "Alkali metals (chemistry)"

An unknown individual spilt a mysterious liquid on the seat, which functioned like acid. The fabric of the pants and knickers quickly became saturated with a caustic chemical and adhered to the skin. The man felt a

severe burning feeling followed by pain. The patient was taken to the hospital with the following diagnosis: the chemical burn of both buttocks, 3 A, B degrees, with a 4% area. The situation is currently steady, with no negative dynamics. The vehicle fleets administration maintains that if it was acid, it would destroy the seat fabric.

Questions to the case:
- What was the material that produced the burns?
- What is your opinion on the effect of alkalis on living tissues? What about weaved materials?
- Why should acids and alkalis in glass containers be transported in vehicles designed for this purpose from the point of unloading to the warehouse and from the warehouse to the point of use?
- What first-aid procedures should be available in the event of an alkali burn?

2. Chlorine in human life

Case type: research

Case contents: The National Institute of Health and Shizuoka Prefectural University collaborated on a research in Japan. Natural organic molecules react with chlorinated tap water, generating hazardous chemicals that might cause cancer, according to scientists. Such chemicals are referred to as MX, which stands for "Mutagen x" or "Unknown mutagen" (Fig. 2).

Figure 2. Case study task on the topic: "Chlorine in human life (chemistry)"

Questions to the case:

• Investigate several home chemical goods. Create a list of chlorine-containing substances and identify safety precautions while handling them.

• Calculate how much-chlorinated water you consume during the day and for what uses based on your daily habits.

• Which human organs are the most vulnerable to chlorine exposure?

• How does bathing in chlorinated water effect a person?

3. Properties of benzene

Case type: practical.

Case contents: A chemical factory in the city of Atyrau disposed of industrial waste in the Caspian Sea. According to the government, benzene compounds can be found in industrial waste (Fig. 3).

Figure 3. Case study task on the topic: "Chlorine in human life (chemistry)"

The polluted area is currently roughly five kilometres long. So far, the report states that the pollution was kept under control owing to emergency measures implemented by local authorities, and no particular pollution occurred in general. The immediate construction of a specific barrier dam was initiated in particular, and

activated carbon is utilised as an adsorbent for water filtration. According to media accounts, the pollution was found by local people who reported the red colour of the water and froth in the sea to local officials. Environmentalists feel that if the first data on the scale of discharges is credible and the area of the spot does not exceed 5 kilometres, the contamination zone may be obscured.

Questions to the case:

• Can you identify the major issue from the text?

• What is the structure, formula, and physical characteristics of benzene?

• What are the dangers of benzene poisoning?

• Consider if this is an environmental disaster, and what repercussions the residents of the region will endure.

• Is it possible to protect residents from the harmful effects of benzene compounds?

4. Natural gas

Case type: practical.

The contents of the case: An explosion of a gas cylinder (volume of 5 litres) without burning occurred in a 2-story residential building, resulting in the collapse of the wooden floor and partitions in apartment No. 6 (on the 2nd floor) and partially in apartments No. 4, 5 (on the 2nd floor), and 3 (on the 1st floor) on a preliminary area of 36 sq. m.", according to the press service of the Emergency Department Karaganda region (Fig. 4).

Figure 4. Case study task on the topic: "Natural gas (chemistry)"

A man born in 1970 and a woman born in 1971 were injured in the explosion and hospitalized with burns in Karaganda's Regional Medical Center. The incident's circumstances are being investigated.

Questions to the case:

• What is the composition of natural gas?

• What caused the explosion in the apartment building?

• What should you do if there is a smell of gas at the entrance or the apartment?

• The use of natural gas and its constituent marginal hydrocarbons?

• Offer residents of apartment buildings their own ways to prevent such tragedies?

Result and discussion

The experiment was carried out on the specialized school of Specialized school-internat "Murager" (Karaganda), in the period from 27.02.2023 to 22.04.2023. Students of the 9th grade took part in the approbation of the developed case-study chemistry tasks, there are a total of 24 students (11 girls and 13 boys).

Lessons in the 9 "A" class (control group) were provided in a traditional style. Traditional instruction entails passively obtaining information that the teacher possesses. Lessons in the 9 "B" class (experimental group) were provided using case-study tasks in chemistry.

The same final test was designed for all classes, taking into account the students' ages and desired knowledge. The exams were given out on A4 pieces of paper. Students in ninth grade had 30 minutes to complete the final test, which consisted of 15 questions. That is, every task took around 2 minutes to complete. Topics included in testing: Alkali metals, Chlorine, Properties of benzene, and Hydrocarbons. Diagrams 1-2 show the average score and grades for the final test in grades 9 "A" (control group) and 9 "B" (experimental group).
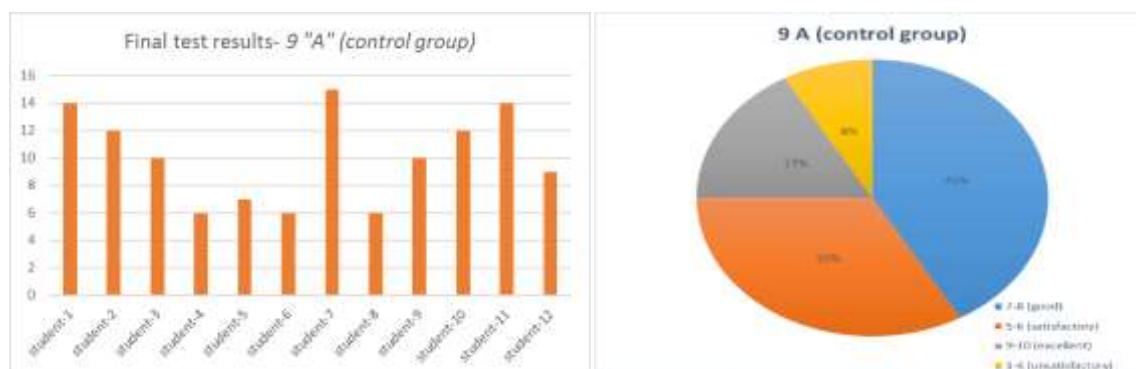
Diagram 1. Results of final testing in grade 9 "A" (control group)

1 student – unsatisfactory (8%);
4 students – satisfactory (33 %);
5 students – good (42%);
2 students – excellent (17%).
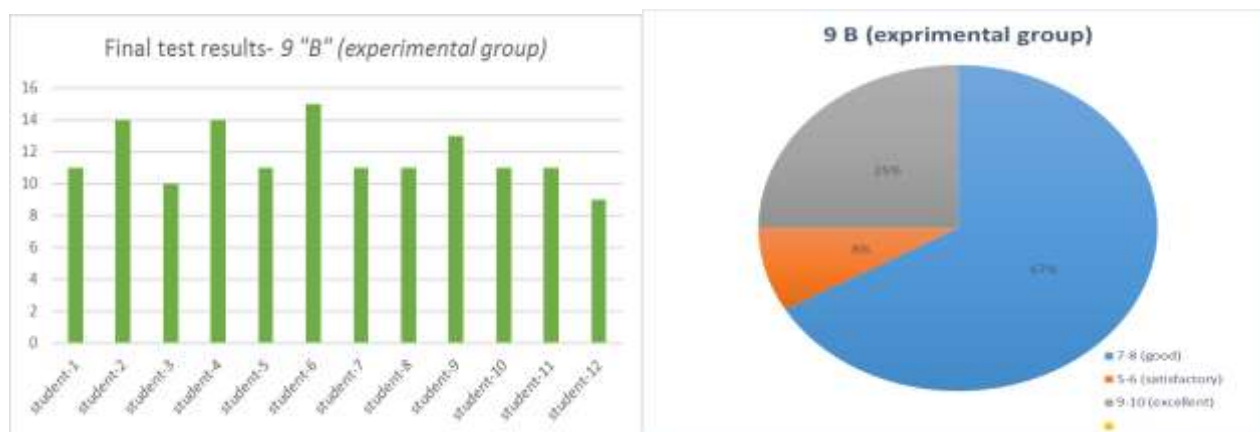Based on the final testing data, the quality of knowledge was 58,33%. The average score was 10.08 points.

Diagram 2. Results of final testing in grade 9 "B" (Group 2 – experimental)

1 student – satisfactory (8,3 %);
8 students – good (66,7%);
3 students – excellent (25 %).
Based on the final testing data, the quality of knowledge was 91,7%. The average score was 11.75 points. There was only a slight difference in the degree of knowledge, skills, and abilities between the two groups 9 "A" (control group) and 9 "B" (experimental group). 9 "B" (experimental group) scored 1.67 more points than the second 9 "A" (control group).

Survey results

We have developed our questionnaire to study the students' opinions based on application case-study tasks during eight chemistry lessons. The questionnaire used in this research consisted of ten closed-ended questions:

1. Do you like lessons using case-study tasks?
2. Do you think that lessons with case-study tasks are more interesting than traditional ones?
3. Was the explanation in the lesson clear enough to understand the topic well?
4. Do you think that the knowledge gained in case-study tasks will be useful to you in life?
5. Have the knowledge gained in case-study tasks been applied in real life?
6. Would you like such lessons to be held more often?
7. Were you interested in solving problems using a mobile phone or tablet?

8. Do you think that solving problems in this way is more interesting than the traditional method?

9. Would you like such case-study tasks in chemistry and biology to be solved more often?

10. Do you feel that case-study tasks help to memorize and assimilate new concepts?

A three-level rating scale from 1 to 3 (1 – Agree, 2 – Neutral, 3 – Disagree) was chosen as the most appropriate for measuring participants' opinions (Diagram 3).
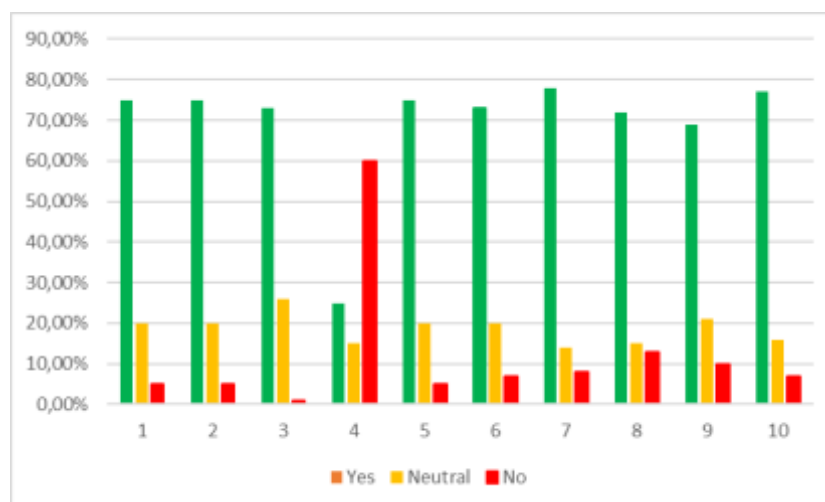

Diagram 3. The results of the survey (9 "B" – experimental group)

As can be seen in Diagram 3, the majority of respondents 72 % rated positively and think that case-study lessons are more interesting than the traditional ones, only 9 % prefer the traditional form of the lessons (questions 1-2). 75% of students answered "agree", 20% ― "neutral" and 5% ― "disagree" the question 5 "Do you think that the knowledge that was obtained in a case-study task can be applied in real life?". Questions 7 and 8 were asked to find out whether students like to solve case-study tasks using a mobile phone and tablet. The respondents rated this method of learning mostly positively (73%), and only 10% of respondents believe that it is not suitable for learning.

In questions 6 and 9, respondents were asked if they would like solving tasks with the case-study method carried out more often, 66% of respondents answered positively.

Conclusion

In summary, case study methodology serves to provide a framework for the evaluation and analysis of complex issues. Although case studies offer some advantages, like the capacity to provide data from real-life circumstances and provide greater insights into the precise actions of the subjects of interest, they are often condemned for their inability to generalise their findings.

The use of the case-study method not only stimulated students' learning activities and increased basic professional competencies, but it also reduced the gap between their theoretical understanding of environmental issues and the application of environmentally friendly behaviour principles in the lives of both groups of students.

We observed that students are performing better after analysing the experiment's data. Twelve students responded positively to a survey administered as part of this study when asked how they felt about case method classes and whether they would like to take them more frequently. Students' mental capacities improved after using the case technique, and autonomous activity was also stimulated. The case method, a technology of interactive learning, inspires a favourable attitude on the part of students who see in it an opportunity to demonstrate and improve analytical and evaluative skills, learn to work in a team, put theoretical knowledge into practice, see the ambiguity of solving problems in real life, find the most logical solution, and more.

The introduction of up-to-date teaching methods is anticipated to heighten the urgency of this educational system reform. However, it is difficult to predict how these changes will affect established institutions that were created to bring together researchers, students, and teachers.

It would be advantageous to do studies with students from different populations. Additionally, in most instructional design studies, participants are only exposed to a few bits of instruction over a short period. It is

also necessary to study the link between performance during instruction and performance on criteria assessments. It is unknown if performance during teaching can be generalised to performance on criteria tests.

Further research on the subject might focus on improving the use of the case study technique in the context of natural education. This line of inquiry will help eliminate the gap between students' theoretical and activity-practical attitudes towards their professional and general education, under environmental trends that are now in the spotlight in scientific and journalistic discourse.

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Т.М. Садыков, Г.Т. Кокибасова, А.Г. Жақсыбаева

Химия сабақтарында «Case-study» әдісін қолданудың негізгі ерекшеліктері

Қазақстан Республикасының қазіргі білім беру жүйесінің соңғы жылдардағы басым міндеттерінің бірі — оқушылардың функционалдық сауаттылығын қалыптастыру және жаратылыстану-математикалық пәндерді оқытудың жаңа әдістерін табу. Оқытудың дәстүрлі әдістерімен бірге жаңа педагогикалық технологиялар танымал бола бастады, олардың арасында ынтымақтастықта оқыту, оқытудың интерактивті әдістері, жобалау әдісі, онлайн оқыту, сондай-ақ Case-study (кейстер әдісі) деп аталатын жағдаяттық талдау әдісі бар. Бұл әдістің мәні оқушылардың оқу материалын әртүрлі типтегі тапсырмаларға бөлу болып табылады, ал білім олардың шешімдерді әзірлеу бойынша белсенді зерттеу және шығармашылық қызметі нәтижесінде алынады. Мақалада оқушылардың белсенділігі мен орта мектептегі оқу процесінің тиімділігін арттыруға ықпал ететін Sase-study әдісін қолданудың негізгі ерекшеліктері, нақты жағдаяттық әдістің негізгі артықшылықтары мен түрлері (Case-study) анықталған және сипатталған, сондай-ақ 9-сынып оқушыларына арналған химия бойынша әртүрлі жағдаяттық мысалдар әзірленген. Бұл зерттеу

салыстырмалы түрде шағын іріктеу көлемімен шектелді, дегенмен нәтижелер мұғалімдердің кәсіби дамуы және қазіргі химия сабақтарын дамыту үшін маңызды деректерге ие. Оқушылардың сауалнамасының нәтижелері химия бойынша жекелеген тақырыптарды зерделеу кезінде нақты жағдаяттық әдісті (Case-study) қолдану оқушылардың оқу материалын игерудегі табыстылығын арттыратынын көрсетеді.

Кілт сөздер: Case-study, есептерді шешу, жаратылыстану сауаттылығы, химия, орта мектеп, сауалнама, 9-сынып.

Т.М. Садыков, Г.Т. Кокибасова, А.Г. Жаксыбаева

Основные особенности применения метода «Case-study» на уроках химии

Одной из приоритетных задач современной системы образования Республики Казахстан в последние годы является формирование функциональной грамотности учащихся и нахождение новых методов обучения предметов естественно-математического цикла. Совместно с традиционными методами обучения всё большую популярность приобретают новые педагогические технологии, среди которых обучение в сотрудничестве, интерактивные методы обучения, метод проектов, онлайн обучение, а также метод ситуационного анализа, получивший название «Case-study» (метод кейсов). Сущность данного метода заключается в разделении учебного материала обучаемых на задания различного типа, а знания приобретаются в результате их активной исследовательской и творческой деятельности по разработке решений. В данной работе определены и описаны основные особенности применения метода «Case-study», способствующие повышению активности учащихся и эффективности процесса обучения в средней школе, основные преимущества и типы метода конкретных ситуаций, а также разработаны примеры различных кейсов по химии для учащихся 9-х классов. Это исследование было ограничено относительно небольшим размером выборки, однако полученные результаты имеют важные данные для профессионального развития учителей и разработки современных уроков по химии. Результаты анкетирования учащихся говорят о том, что применение метода конкретных ситуаций («Case-study») при изучении отдельных тем по химии способствует повышению успешности усвоения учебного материала учащимися.

Ключевые слова: Case-study, решение задач, естественнонаучная грамотность, химия, средняя школа, анкетирование, 9 класс.

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