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# DE LOS FINES Y PROPÓSITOS DE EDUWEB, REVISTA DE TECNOLOGÍA DE INFORMACIÓN Y COMUNICACIÓN EN EDUCACIÓN

Eduweb, la revista de Tecnología de Información y Comunicación en Educación, es una publicación de carácter nacional e internacional de divulgación del conocimiento, del uso, aplicación y experiencias de las Tecnologías de la Información y Comunicación (TIC) en ambientes educativos. Con la revista se pretende divulgar las innovaciones que en materia de TIC están siendo implementadas y ensayadas en los diferentes niveles y modalidades del sistema educativo venezolano e iberoamericano. De igual manera contribuir a proyectar las experiencias de estudiantes de pre y postgrado, docentes, investigadores y especialistas en TIC en educación en la Universidad de Carabobo y en otras universidades de Venezuela y de otros países de Iberoamérica. Es una revista arbitrada e indexada adscrita al programa de la especialización en Tecnología de la Computación en Educación, de la Facultad de Ciencias de la Educación de la Universidad de Carabobo, registrada bajo el ISSN 1856-7576. Editada en formato impreso y digital.

## Visión

Ser un espacio académico-científico de difusión y divulgación de las distintas tendencias del pensamiento universal ubicadas en el área de TIC en ambientes educativos, con altos niveles de calidad académica.

## Misión

Promover y facilitar la difusión y divulgación de los productos de las investigaciones y experiencias de los docentes e investigadores de la Universidad de Carabobo y otras universidades del país y del mundo en el área de TIC en ambientes educativos; motivar la participación en redes comunes de información y publicación nacional e internacional; coordinar esfuerzos y velar por la calidad de las publicaciones a fin de procurar elevar el nivel académico del personal docente y de investigación mediante el desarrollo de trabajos de investigación como función esencial en su crecimiento académico.

## Objetivos

Servir como órgano de divulgación de las TIC y su influencia en ambientes educativos. Estimular la producción intelectual no solo en los docentes e investigadores de la Universidad de Carabobo, sino también en otros centros de educación e investigación nacional e internacional.

Propiciar el intercambio cultural, académico, científico y tecnológico con otros centros de educación superior en Venezuela y el mundo.

## EDITORIAL

La Revista Eduweb se complace en presentar este número con el mismo propósito de divulgar los trabajos de investigación en Educación y tecnología, en este sentido insistimos en la necesidad de divulgar las investigaciones en sus distintos paradigmas a los fines de compartir y formar parte importante de los referentes centrados en esta temática que nos ha ocupado por más de dieciséis años. En este sentido, exhortamos a los docentes e investigadores a enviar sus artículos para que formen parte del histórico Eduweb.

Nuestros asiduos lectores iniciarán la lectura con el tema cuyo análisis condujo a la caracterización de fuentes científicas en el tópico de actividades deportivas en aspirantes a la educación superior. Así también, las nociones de transdisciplinariedad y sociedad son entrelazadas en el título de la *Ciudad en la era de sociedad red*. De acuerdo con las exigencias actuales se divulga la investigación sobre organización de gestión de la educación inclusiva. Una categorización ha sido fundamento para desarrollar aspectos vinculados a *La cultura digital en el currículo de la escuela telesecundaria*. Las tecnologías digitales en el proceso educativo de médicos ucranianos son consideradas para identificar los desafíos que tiene e-learning y a partir de allí proponen posibles mejoras. En la misma senda del conocimiento, otro trabajo se centra en la tecnología de información y comunicación y como a partir de allí las mismas pueden contribuir en la formación de la competencia digital en estudiantes de educación superior.

En la rama del lenguaje emerge un interesante estudio cuyo análisis se basa en la formación de la competencia sociolingüística de estudiantes en situaciones de comunicación. Desde la perspectiva metodológica, las cualidades profesionales de maestros de educación primaria se convierten en un objetivo de investigación enfocado en la calidad del trabajo docente. Por su parte, el aprendizaje dialógico es empleado como medio para la formación de habilidades comunicativas en estudiantes de educación superior. Privilegiando la lingüística, el lector podrá indagar en un documento que resalta la importancia de la competencia comunicativa en lenguas extranjeras, específicamente en el campo del derecho. En cuanto a la metodología otro trabajo plantea el uso de herramientas digitales para difundir la calidad de la política de educación patriótica, esto en el contexto que supone la geopolítica.

Fascinante tema en el que se convierte la discusión de principios básicos en la formación de futuros educadores en el campo de la educación ambiental ya que se profundiza en un conjunto de conocimientos innovadores sobre ecología. En el contexto histórico contemporáneo que nos identifica, resulta importante leer el trabajo sobre el proceso de formación del bienestar psicológico de un educador en tiempos de guerra, pues emplean métodos científicos para delinearlos conceptualmente. En el mismo orden temático, se privilegian principios clave para estimular el desarrollo y uso de tecnologías en la construcción de competencias interculturales en las prácticas de las instituciones de educación superior. Otra contribución destaca en este número

y es el estudio concluyente sobre las prácticas de socialización en instituciones educativas de preescolar y su importancia para el desarrollo de las habilidades sociales. De la mano de la Educación, otra investigación presenta el aprendizaje abierto como unidad de componentes tecnológicos, pedagógicos y de contenido para ser utilizados en el presente y en el futuro como una clave de éxito. Como componente de la Didáctica se suma una investigación sobre el uso de métodos de enseñanza y aprendizaje en la escuela moderna. Así también, encontramos el artículo cuya aplicación de métodos condujo a la identificación de principios filosóficos para el trabajo educativo moderno. Otro aporte se puede consultar en la promoción de la implementación de una estructura innovadora de lecciones de educación física para estudiantes en instituciones educativas rumanas. En la temática tecnología avistamos un artículo dedicado a determinar el equilibrio entre los principios sociales tradicionales y las tecnologías digitales. Otro trabajo enfocado en la literatura científica muestra que a pesar de innumerables artículos científicos cuyo tema es la digitalización surge la necesidad de adaptar las normas educativas modernas a la sociedad digital. En el mismo orden de ideas, el análisis sobre el uso de tecnologías innovadoras en la formación pedagógica superior en los países de la Unión Europea consigue demostrar la eficacia del aprendizaje interactivo y el uso profundo de plataformas para el desarrollo del pensamiento crítico y potencial creativo.

En lo que denominamos cierre de este número presentamos también, una propuesta investigativa centrada en el desarrollo de las tecnologías modernas de información afecta significativamente en la producción de bienes y procesos educativos; profundizaremos esta lectura en el título *La crisis educativa en la actual sociedad de la información digital*. Apostamos también a la lectura de una investigación enfocada en estudiar las peculiaridades de la aplicación de la digitalización de la educación en Ucrania bajo la influencia de la integración europea. En calidad de corolario cerramos este número con un artículo que analiza el contenido filosófico de las categorías de los sistemas educativos innovadores ucranianos en el contexto de la globalización.

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# La cultura digital en el currículo de la escuela telesecundaria

## Digital culture in the Telesecundaria school curriculum

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### Resumen

Obtener un referente actualizado de elementos culturales pautados por la era digital, influyentes en el currículo de Telesecundaria, es objetivo de esta investigación; para ello se formalizó una revisión sistemática, de corte cualitativo interpretativo, en revistas especializadas de acceso abierto y calidad verificada, conforme a la metodología Prisma 2020. La revisión revela categorías de la cultura digital presentes en la metodología del nivel de secundaria y su impacto en la cultura escolar. Concluye sobre la necesidad de contar con un currículo vigente que ponga al centro las ecologías de aprendizaje, tanto de los estudiantes como del profesorado; empoderando el acompañamiento pedagógico crítico y reflexivo en el que se rescate la necesaria alfabetización digital para toda la comunidad escolar.

**Palabras clave:** Telesecundaria, Cultura escolar, Alfabetización tecnológica, Currículo, Prisma 2020.

### Abstract

The goal of this research is to get an updated reference of the cultural elements governed by the digital era, influential in the Telesecundaria curriculum; For this, a systematic review with a qualitative interpretive nature was formalized in specialized open access and verified quality journals, according to the Prisma 2020 methodology. The review reveals the categories of digital culture which take place in the secondary level methodology and their impact on school culture. It is concluded that there is a need to have a current curriculum that focuses mainly on learning ecologies, both for students and teachers; thus, promoting critical and reflective pedagogical accompaniment in which the digital literacy necessary for the entire school community is rescued.

**Keywords:** Telesecundaria, School Culture, Technological Literacy, Curriculum, Prisma 2020.

## 1. Introducción

Para esta revisión, nos referimos a cultura conforme al referente etnográfico que a decir de Morais de Souza (2022) propuso Edward Tylor, en el siglo XIX; refiriéndose a un todo complejo integrado por el total de las interacciones, conocimientos, hábitos, costumbres, creencias, leyes o cualquier otra capacidad característica del hombre como integrante de la sociedad. En adelante, tal definición mantendría largos debates; situación que permitió a Pierry Levy, en la década de 1990, participar como pionero del cuestionamiento sobre el ciberespacio; aportando el concepto de cibercultura en relación con las variadas interacciones que ocurren a través de la Web y que repercuten en las formas de relación, producción y socialización humanas. En este sentido, el término digital alude a los sistemas de manejo, producción y procesamiento de información en la red de redes mismo que se imbrica en la definición de ciberespacio al remitirse al ámbito informacional en torno a las computadoras y redes digitales globales. Diversos autores, por ejemplo Area-Moreira y Pessoa (2012) al referirse a la cultura digital precisan que en contraste con la producción cultural previa al siglo XXI, caracterizada por el enciclopedismo, la capacitación técnica y su reflejo en la organización social han surgido maneras novedosas de producir conocimiento así como espacios para compartirlo; en este tenor González-Pérez (2011) apunta que ya sea mediante el empleo de las Tecnologías de la Información y la Comunicación (TIC) o a través de conectividad a internet; se vivencian valores y contravalores que aportan elementos para una relectura del concepto de educación. Por ello, resulta relevante poner a la luz las correspondencias que se instauran en torno a la institución escolar, por las maneras de pensar, actuar y relacionarse con referencia al currículo vigente y el influjo de una comunidad ampliada; caracterizada por el uso de recursos digitales a través de la Web.

En este entorno, la creación y fortalecimiento de la Escuela Telesecundaria mexicana coincide con momentos sociopolíticos clave en la historia reciente de nuestro país. Ramón et al., (2021) señalan que desde 1966 se venían haciendo pruebas en México para utilizar la televisión como recurso educativo, mismas que permitieron la creación de Telesecundaria para atender la cobertura de educación media en las zonas rurales y marginadas. Su característica principal ha sido utilizar la televisión y programas educativos con fines de enseñanza; los documentos televisados elaborados para el alumno, durante mucho tiempo también fortalecieron la capacitación del magisterio. Esta revisión documental, es relevante en cuanto aspira obtener un referente actualizado de los elementos constitutivos de la cultura digital influyentes en el currículo de la escuela Telesecundaria, conforme a la información disponible en revistas de acceso libre publicadas en los últimos tres años; aunque se reconoce como limitante el no considerar tesis, registros de congresos así como la variedad de documentos publicados con anterioridad al año 2020, mismos que se presentan como reto un académico para próximas revisiones.

En años recientes, como apuntan Rodríguez-Malebrán et al., (2022) la evolución de dispositivos como el móvil o teléfono celular han colocado literalmente a la punta de los dedos la cultura digital, la inmensa mayoría de los docentes se familiarizaron en unos años con su uso y, ante la emergencia de suspensión de clases presenciales, como anota Gourlay (2021), durante la reciente pandemia Covid-19, fue posible utilizar los recursos tecnológicos gracias a la experiencia de la comunidad escolar para navegar en las plataformas digitales y hacer frente a los retos académicos. En este sentido, para Bonilla-Santamaría y Ferra-Torres (2021) trascender la zona de confort pedagógica es un imperativo escolar, el docente requiere acompañamiento y fortalecimiento institucional, dedicación constante para una alfabetización tecnológica en medios digitales, espacios para planear y compartir con los colegas los hallazgos y áreas de oportunidad, espacios para ser tomado en cuenta y evaluadas sus propuestas.

## 1. Metodología

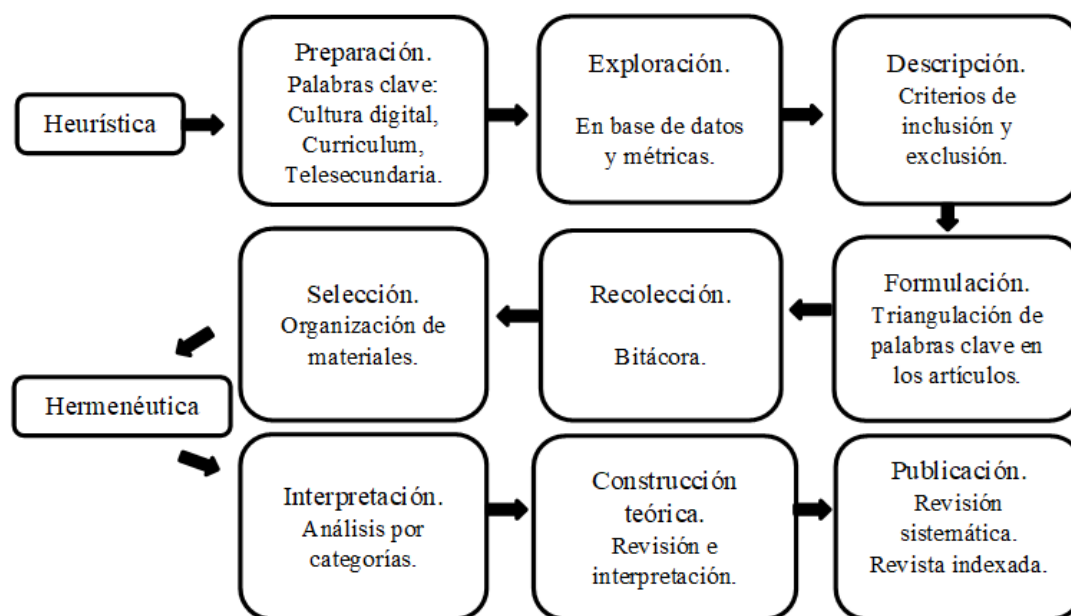
Para dar respuesta a la pregunta ¿Cuáles son los elementos que caracterizan a la cultura digital en el currículo de la escuela Telesecundaria? Se realizó una revisión sistemática, de corte cualitativo interpretativo, a propósito de obtener un referente actualizado de los elementos constitutivos de la cultura digital presentes en el currículo de la escuela Telesecundaria, con miras a clarificar aportes y desafíos en la cultura escolar vigente. Se tomaron como referente las recomendaciones de Londoño Palacio et al., (2014); las cuales refieren estado del arte como la apropiación ética para trascender el conocimiento vigente, mediante una revisión sistemática responsable, considerando que el trabajo de revisión implica reflexionar sobre la relación de las actividades humanas, tomando en cuenta la cultura precedente; de suerte que amplíe nuestra manera de aprehender el presente. Asimismo, como recomiendan Monsalve-Lorente & Aguasanta-Regalado (2020), fue necesario documentar de forma transparente el proceso de revisión documental, poniendo central atención a las directrices de la metodología Prisma 2020 referidas por Page et al., (2021).

### Instrumentos

Para la búsqueda de artículos se utilizó el navegador Chrome y como buscador Google; asimismo plataformas como Google académico; Scielo; Dialnet; Redalyc; Scopus; RLT; Springeropen; Internet. Archive scholar y bases de datos disponibles en Scimago, Scielo, Dialnet, Redib y Clasificación Integral de Revistas Científicas (CIRC). El motivo de esta elección considerando el prestigio de consultas y espacios de divulgación de tipo científico alojadas en estos sitios. Como gestor bibliográfico se empleó el programa Zotero; en cuanto a la compilación y gestión de contenidos la paquetería de Microsoft Office 2022 y respecto al análisis de palabras clave, el programa linguakit en línea (<https://linguakit.com>). Para el almacenamiento y ordenación de la información se utilizó una bitácora de trabajo, elaborada con el programa Excel, consistente en diversas matrices que concentraron la información relevante.

### Procedimiento

Se atendieron los procesos básicos insustituibles en el análisis documental: heurísticos y hermenéuticos propuestos por Londoño Palacio et al., (2014) pues permiten explicar e interpretar de manera sistemática las intrincadas relaciones entre diversos textos. Figura 1.



**Figura 1.** Ruta de investigación.

Fuente: Adaptada de Londoño Palacio et al., (2014). Elaboración propia.

La fase heurística consistió en realizar la búsqueda de datos, compilación y sistematización de la información mediante la revisión en ocho plataformas electrónicas. Se determinaron como palabras clave: cultura digital, currículo, Telesecundaria y palabras afines. Criterios de inclusión: Revistas de acceso libre indexadas en repositorios confiables; publicadas en naciones de Iberoamérica y Estados Unidos en el período de 2020 a 2022, pertenecientes al ramo educativo con preferencia a nivel secundaria o formación docente, en idioma español, inglés o portugués. Como criterios de descarte: tesis; libros; resúmenes de artículos; documentos audiovisuales, blogs, sitios de internet, así como CIRC grupo D.

Se revisaron en la Web aquellos manuscritos que cumplieran con criterios para selección. De este primer conjunto, mediante la lectura de cada título de publicación y su probable relación con la temática, se realizó una criba gruesa; dos de los artículos considerados incumplen con el período de publicación, pero el acercamiento a la temática y su fortaleza académica potencian aportes a la investigación, por lo cual formaron parte de este nuevo subconjunto de artículos. A continuación, se realizó una criba media, consistente en lectura del título, resumen y palabras clave con énfasis en la fortaleza académica de estos elementos; seleccionándose un nuevo subconjunto de textos. Acto seguido se procedió a realizar la lectura general de cada artículo, revisión de la aparición de palabras clave en el contenido del documento e identificación de conceptos primordiales. A la par, se realizó un proceso de validación de fuentes y vigencia de vínculos digitales, encontrando algunos artículos con potencial de ser incluidos. A continuación, se valoró el origen y calidad de las revistas en que se encuentran alojados los reportes de investigación seleccionados. Después, se aplicó a cada estudio el formato de discernimiento para valoración de la calidad de los manuscritos, presentado por Colin en 2007 y referido por García-Castellanos (2016), con adaptaciones, para evaluar su fortaleza académica en una matriz de Metaanálisis y seleccionar aquellos con calificación superior a 75%.

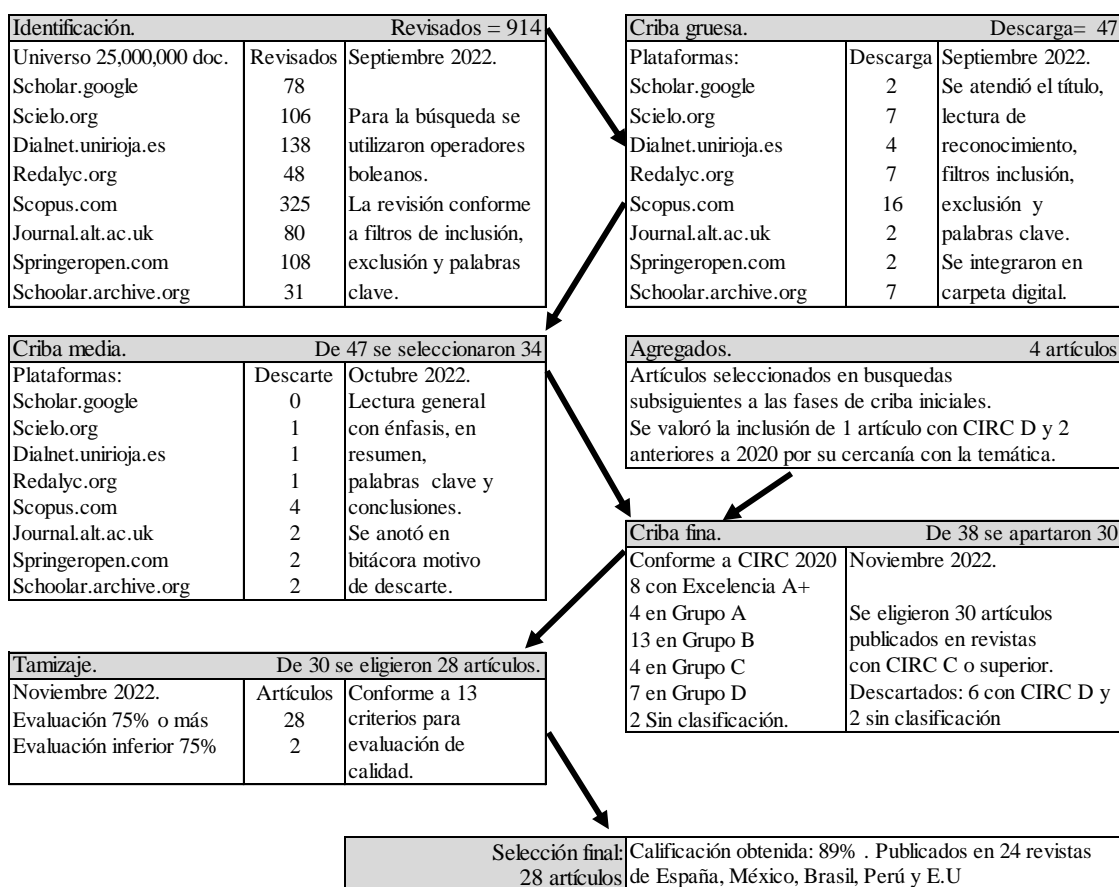
En cuanto al proceso para la sistematización de los artículos descargados; partiendo de la bitácora de trabajo, se organizó una matriz de referencias con el apoyo del gestor bibliográfico Zotero; para la revisión de palabras clave de artículos en formato .pdf se utilizó el buscador del programa Adobe Acrobat Reader (64-bit); también para establecer redes semánticas y categorías de análisis, conforme al análisis de palabras clave, se utilizó el programa Linguakit.

## 2. Resultados

Se seleccionaron 28 artículos, con criterio superior a 39 puntos y calificación promedio de 89%. Conforme a su tipo encontramos: 11 Reportes de diagnóstico o evaluación; 6 Revisiones, síntesis o metaanálisis; 5 Reportes de investigación empírica; 4 Artículos teóricos o conceptuales y 2 Reportes descriptivos. El gráfico del proceso se representa en la Tabla 1.

**Tabla 1.**

*Diagrama de flujo de Prisma 2020, adaptado.*



Fuente: Page et al., (2021). Elaboración propia.

Como auxilio al proceso para establecer redes semánticas y categorías de análisis, atendiendo una revisión exhaustiva de palabras clave, se utilizó el programa Linguakit, el lector de documentos PDF Adobe Acrobat Reader (64-bit) y para concentrar la información el programa Excel; situación que

permitió establecer como categoría transversal la frase: Instituciones educativas pues vertebró la temática de los artículos y demás categorías; permitiendo aproximarnos a dilucidar la pregunta de investigación.

## **Análisis**

En adelante, se exhiben los resultados de la revisión sistemática de los 28 artículos seleccionados. Se exponen los hallazgos en cada una de las categorías y de manera integradora como recursos para consolidar diálogos comprensivos que permitan responder a la pregunta de investigación.

## **Instituciones educativas**

Aquellas organizaciones que atienden el derecho e interés público por la educación son conocidas como instituciones educativas, ya sea en espacios formales e informales, pueden depender del Estado o de iniciativas particulares o comunitarias. Retomando los aportes de López de la Madrid et al., (2021); la Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (UNESCO); anticipó en la década de 1970 la importancia que tendría, en particular en las áreas de salud y educación, el desarrollo tecnológico. En el informe publicado en 1996 por la Comisión Internacional sobre la Educación del Siglo XXI, se recomienda utilizar las TIC en el sector educativo de los países miembros, con el propósito de disminuir las diferencias y promover una educación de calidad. Situación que se atendió mediante investigaciones, documentos y foros internacionales realizados en años subsecuentes; auspiciados por organizaciones como el Banco Interamericano de Desarrollo, el Programa de las Naciones Unidas para el Desarrollo, el Banco mundial y la Comisión Económica para América Latina y el Caribe, la Organización para la Cooperación y el Desarrollo Económicos; así como instituciones de Educación Superior Públicas y Privadas (Espejo-Villar et al., 2022). Al respecto Díaz-Barriga & Barrón (2022) advierten que el Estado requiere desandar la acción tecnocrática y burguesa tradicional que está provocando una crisis ideológica a punto de estallar; ser respetuoso de los acuerdos internacionales en materia de educación, en especial en disminuir la brecha digital, promover el acceso a la tecnología para toda la población. Siguiendo esta línea Morales-López (2020) establece la posibilidad de coordinación entre los gobiernos e instituciones locales con las Organizaciones No Gubernamentales; el llamado al gobierno federal para asumir los acuerdos internacionales para disminuir las desigualdades estructurales, así como invitar a la comunidad académica a sumarse al estudio sobre el impacto del manejo de la tecnología digital con fines de enseñanza, con énfasis en los niveles más desprotegidos.

En el caso de México, los primeros esfuerzos por participar en la era digital remontan a la década de 1980, encabezados por la Universidad Nacional Autónoma de México y el Instituto Tecnológico y de Estudios Superiores de Monterrey; por su parte la Secretaría de Educación Pública (SEP), incursionó al finalizar esa década con el programa Computación Electrónica a la Educación Básica (COEBBA-SEP), auspiciada por el Instituto Politécnico Nacional y el Instituto Latinoamericano de la Comunicación Educativa; siguiendo este línea se han realizado diversas acciones para promover e implementar las TIC al Sistema Educativo Nacional, empero, no todos los planteles han implementado los programas ni las reformas propuestas; los resultados han sido dispares, profundizándose en la mayoría de los casos la brecha digital por carencias en el acceso a internet, en la dotación, mantenimiento y actualización de equipos así como una capacitación eficaz para el magisterio nacional (López de la Madrid et al., 2021).

Al respecto Hoffmann & Fagundes (2008) nos comparten resultados de una prueba piloto, realizada en 2007, en Brasil; misma que puso a la luz el debate sobre las posibilidades de una transición del

paradigma educativo, considerando el influjo de la cultura digital en puerta. Asimismo, generó reflexiones e interrogantes que aún hoy carecen de respuesta definitiva, relacionadas tanto al desarrollo de las clases, a la reestructuración del currículo, al uso de los recursos tecnológicos y la epistemología del conocimiento digital; así como retos para profesores, padres de familia y el sistema educativo.

### **Dimensiones de alfabetización**

De acuerdo con Herrero-Curiel & La-Rosa (2022); los adolescentes tienen similares posibilidades de acceso, participación y exposición al contenido que la Web ofrece como cualquier adulto. Gran parte de ellos disponen por varias horas a la semana, tanto de teléfono móvil como de conectividad a internet. Diversos estudios como los de González-Pérez (2011) y Ballesta-Pagán et al., (2020) revelan que los usuarios en su papel de consumidores y productores de contenidos; usualmente asumen de forma acrítica la información disponible; situación que demuestra la necesidad de una educación en medios que potencie el análisis sistemático de la información, así como la creación responsable de contenidos e interacción virtual.

Al referirse al concepto de alfabetización tecnológica Pangrazio & Sefton-Green (2021) precisan que, en la década de los años 70, se empezó a utilizar el término alfabetización mediática para enmarcar los cambios derivados del desarrollo de las comunicaciones; abundan señalando que la alfabetización tecnológica digital e informacional es un referente que implica desarrollar las capacidades para actuar y participar en las nuevas relaciones propiciadas por los cambios en el empleo de las TIC y entrada al internet; de suerte que el sujeto empodere su participación de manera informada, autónoma y crítica.

En los albores del siglo XXI (González-Pérez, 2011) la Comisión Europea dictaminó diversas resoluciones que reconocen y fomentan la alfabetización mediática con miras a minimizar los riesgos de exclusión y fortalecer una ciudadanía plena y activa. Al respecto, Area-Moreira & Pessoa (2012) retomando a Bauman, señalan que lo digital es una experiencia donde la información prácticamente fluye y se imbrica en todas partes, promoviendo desde hace unas décadas cambios relevantes en el tejido social, situación que requiere reconceptualizaciones inherentes a la emergencia de tecnologías novedosas, nichos de mercado y pautas de interacción social.

Algunas propuestas dirigidas a la educación formal por González-Pérez (2011) son: Una revisión renovada del concepto de educación en la que ocurra un despertar pedagógico. Una revisión del acceso al conocimiento y su conceptualización con miras a una alfabetización digital plena. Consolidar la ciudadanía audiovisual, con el propósito de robustecer la participación democrática y el acatamiento a los derechos humanos por medio de la mediación de los recursos tecnológicos. Dimensión ética, para atender asuntos inherentes a la globalidad, pero sin sustraerse de la acción emancipatoria. En la misma década Area-Moreira & Pessoa (2012) propusieron un modelo integrador para promover la alfabetización tecnológica de la sociedad digital; el cual atiende dos planos básicos: El primero, con relación a seis dimensiones de la alfabetización, referidas a la Web (2.0): la gran librería de datos y sus registros, el mercado de servicios, los argumentos micro acoplados, la esfera pública de información, las posibilidades de comunicación multimedia y audiovisual, al igual que los medios virtuales interactivos. En cuanto al segundo plano, atiende competencias instrumentales, cognitivo-intelectuales, socioculturales, axiológicas y emocionales a potenciar en el sujeto alfabetizado.

Por su parte Pangrazio & Sefton-Green (2021) abundan sobre la manera en que las relaciones cibernéticas se imbrican en las producciones y relaciones humanas; cuyo influjo está provocando un

continuum de cambios en la sociedad. Profundiza como el concepto de ciudadanía en la era digital amplia los horizontes de participación allende las fronteras. En el caso de Fussero & Occelli (2022) los autores retoman el concepto de agencia digital, para referirse a las capacidades para controlar y adaptarse con éxito al mundo digital si bien advierte que se ha popularizado su uso en el terreno educativo, de suerte que faltan estudios para conocer como están incidiendo en este contexto las empresas tecnológicas globales.

Conforme a los aportes de Herrero-Curiel & La-Rosa (2022) los alumnos de secundaria presentan diversas deficiencias con relación a la formación perteneciente e informacional, lo cual los hace vulnerables ante la difusión de noticias falsas y dificultades para discriminar positivamente la información. Al respecto Ramón et al., (2021) consideran crucial poseer capacidades tanto de consumo crítico de contenidos digitales como referidas a la comprensión del impacto disruptivo de la tecnología digital.

### **Ecologías de aprendizaje**

El sentido metafórico de ecología de aprendizaje se ha ampliado para referirse a las mediaciones incorporadas por la tecnología digital; misma que promueve en entornos tanto físicos y virtuales, un conjunto de relaciones entre componentes sociales, materiales, tecnológicos y culturales que potencian oportunidades de aprendizaje (Monsalve-Lorente & Aguasanta-Regalado, 2020).

Con la agregación de las TIC, nacieron los ambientes de aprendizaje personales caracterizados tanto por contextos cercanos como lejanos; por nuestras relaciones con personas, objetos y herramientas virtuales; por los recursos que utilizamos para aprender; por la administración de procesos propios donde intervienen el tiempo y acciones definidas, así como por la voluntad y capacidad para automotivarnos para mantenernos aprendiendo. Al respecto, González-Fernández et al., (2021) establecen que las habilidades digitales, características de la cultura global tecnológica desafían el pensamiento computacional de nuestros estudiantes considerando que estimulan la creatividad, la colaboración, la resolución de problemas en diversidad de estadios de abstracción los cuales mediante la interacción con juegos, programas y herramientas tecnológicas potencian competencias de orden superior.

Una manera de organizar la enseñanza tiene que ver con tomar en cuenta la ecología de aprendizaje personal; de tal suerte que los diversos procesos cognitivos se ven mediados con los materiales disponibles, la discusión de ideas, así como en las interacciones con los demás; surgen nuevas concepciones, formas diversas de enfrentar el motivo de estudio, que por su naturaleza inacabada se construye y reconstruye en los espacios de socialización. De esta forma, precisan Carvalho & Yeoman (2021) nuestras interacciones y vivencias van más allá del empleo de la memoria al recombinarse con nuestra cultura, historias, afectos y el entorno material.

De acuerdo con Gourlay (2021), lo virtual se presenta como una apariencia, producto de las interacciones de las personas con la tecnología; lo virtual viene aparejado con lo concreto, también con las ideas e interacciones propias del ser humano; en contraposición a la noción cotidiana de cierta liberación de las limitaciones físicas y temporales inherentes a la cultura digital con tintes neoliberales que diluye usualmente el compromiso de interactuar en línea. Por tanto, la participación en el entorno concreto es permanente, la manipulación de las herramientas tecnológicas y sus procesos corren de nuestra cuenta, hay un compromiso al convertir nuestras ideas en bites y difundirlas en internet, hay una gestión permanente de recursos que van y vienen desde el nivel cuántico a nuestra vida cotidiana. Al mismo tiempo, como lo refiere Morais de Souza (2022) conviene estar atentos en relación con las



barreras presentes en las metodologías en torno a la educación en línea; entre ellas el racismo. De esta manera, con este halo por develarse, el aprendizaje virtual o en línea se nos estaría escapando de lo cercano, del aquí y ahora. En suma, cabe reflexionar sobre la materialidad de los procesos línea, el currículo, los instrumentos tecnológicos e implementación de estrategias didácticas para que ocurra el trabajo virtual.

### **Incorporación de tecnologías**

En 1968, Telesecundaria se presentó como un modelo educativo innovador con el empleo de programas audiovisuales televisados (Bonilla-Santamaría & Ferra-Torres, 2021), referente obligado en el imperio de la alfabetización audiovisual. Al respecto, la UNESCO a partir de 1970 adelantó la importancia referida a las TIC y la alfabetización mediática en educación. A partir de la década de 1990 se empieza a considerar la cultura digital como un fenómeno de abordaje necesario dentro del trabajo pedagógico. En México, refieren López de la Madrid et al., (2021) la incorporación del programa COEBBA-SEP, inició la sensibilización del magisterio sobre el advenimiento de un nuevo orden escolar. En 1994, se puso en operación la Red satelital de Televisión Educativa (EDUSAT), retomando al inicio la programación de Telesecundarias que contó con un canal propio; difundándose la señal televisada a gran parte del continente americano. Una vez publicado, en 1996, el informe de la Comisión Internacional sobre la Educación del Siglo XXI, se generalizó el empuje institucional para promover el empleo de las TIC en educación, como lo refiere Espejo-Villar et al., (2022) la intervención de diversos organismos internacionales y regionales fructificó, por ejemplo, con la emisión de Estándares de competencia en TIC para docentes en 2008 y su posterior actualización como Marco de Competencias en TIC para docentes, en 2019; la puesta en marcha, en 2011, del currículo de Alfabetización Mediática e Informativa (Mil) 2020; así como revisiones anuales, a partir de 2021 a través de la Semana Mundial de la Alfabetización Mediática e Informativa.

Por su parte Renés-Arellano (2021) nos advierte que el uso de las tecnologías no es neutral, pues atiende escenarios diversos, por ejemplo en la producción de conocimiento y en las estrategias de mercadotecnia; situaciones que influyen sobre nuestra manera de pensar y actuar ante los mensajes, ya sea como consumidores o productores de ellos; de esta manera los valores y contravalores existentes en la cultura digital se hacen presentes en la esfera pública; en congruencia con ello vemos como los países Iberoamericanos al estar afiliados a diversos organismos internacionales y haber suscrito acuerdos relacionados con la implementación de las tecnologías de la información, en el ramo educativo; instauraron cambios en sus sistemas escolarizados; desde el diseño de planes y programas de estudio; elaboración de materiales, dotación de herramientas digitales y acceso a internet (Ballesta-Pagán et al., 2020) así como sistemas de actualización docente (Casillas-Martín et al., 2020). En todos los casos las aspiraciones de articular las TIC al sistema educativo reconocen avances, aunque estos no han logrado consolidarse, en parte por la naturaleza misma de los materiales, a decir de Carvalho y Yeoman (2021) visualmente deslumbrantes que apoyan al profesor en su tarea pero que retan el establecimiento de teorías de aprendizaje digital aún en construcción. Al respecto; Cruz et al., (2021) abordan y analizan como retos para incorporación de la cultura digital en los centros escolares, categorías relacionadas con: compartir conceptos, compromiso académico, administración del tiempo, especializar el conocimiento y la vivencia en TIC. Entre sus hallazgos destacan cierto desapego de quienes pueden influir en la toma de decisiones para formalizar el currículo. Sostienen que la implementación de las TIC como apoyo al trabajo transversal, requiere una transición cualitativa, sistemática en todo el currículo.

En el caso de México, programas como EDUSAT, Enciclomedia, Habilidades Para Todos, México conectado y Escuelas de Calidad, fueron bien recibidas, en su momento, por el magisterio nacional pero no lograron integrarse a un verdadero Plan Nacional quizá por carencias estructurales como la capacitación eficaz al magisterio la dotación suficiente y equitativa de recursos, a la vez de una certera logística y mantenimiento del equipo tecnológico (López de la Madrid et al., 2021).

### **Construcción de conocimientos**

La institución escolar mantiene vigente su razón de ser cuando enseña a cómo aprender, a distinguir entre lo relevante y lo accesorio, a fortalecer la convivencia en el conocimiento de las propias diferencias individuales. Como señalan Halpern et al., (2021) las relaciones con los padres de familia y la comunidad escolar no pueden obviarse pues intervienen como mediadores en la socialización de los saberes.

Al mismo tiempo, una condición necesaria para el ejercicio de la libertad personal y el pleno desarrollo de la democracia, según Area-Moreira & Pessoa (2012) es el conocimiento; a decir de González-Pérez (2011) la institución escolar ha de proporcionar, dentro del currículo, múltiples oportunidades que potencien el análisis de producciones digitales auténticas a fin de desarrollar competencias de análisis críticas de la información cotidiana. Los autores López Gil & Bravo (2016) enfatizan la importancia de eliminar la brecha digital, más allá de la dotación de artefactos pues no se está aprovechando al máximo el potencial de las TIC, situación que requiere reconsiderar la formación tanto de profesores como de estudiantes en este renglón. A la par de señalar que los cambios en las escuelas se encuentran a la zaga en comparación con los de la sociedad actual; situación que impacta en la calidad de las respuestas requeridas para participar de manera asertiva. La labor del profesorado no es hacer más de lo mismo al utilizar las TIC, sino cobrar conciencia de que la manera de acercarse al conocimiento se ha reconfigurado, que el desempeño del profesor es trascendente para propiciar nuevas maneras de producir y compartir el conocimiento. Por su parte Fussero & Occelli (2022); así como Usart-Rodríguez et al., (2020) abogan por la importancia de la modelización en el ejercicio de prácticas científicas. En esta línea tanto González-Fernández et al. (2021) como Zárate-Moedano et al., (2022) proponen el aprovechamiento del modelo de aprendizaje en Ciencia, Tecnología, Ingeniería y Matemáticas (Steam) toda vez que partiendo del abordaje de las ciencias y matemáticas también se potencia el desarrollo de competencias y habilidades que abonan a la formación integral. Al respecto Monsalve-Lorente & Aguasanta-Regalado (2020) puntualizan que, en el diseño de ecologías del aprendizaje, deberán estar al centro tanto los adolescentes como sus intereses más allá de la implementación de las TIC, el reto para los docentes e instituciones educativas está constituido por facilitar a los estudiantes el aprovechamiento de sus propias formas de interactuar, físicas o virtuales, individuales o en grupo, en el proceso de construcción de conocimiento. En la revisión sobre el impacto de la pandemia Covid-19, (Díaz-Barriga & Barrón, 2022) anotan la importancia de que las instituciones educativas trasciendan la enseñanza de contenidos en aras de fortalecer la identidad del alumno, sus valores y formas de convivir en sociedad. Para ello Casillas-Martín et al., (2020) refiere la importancia de la inclusión tecnológica y el acceso a internet para desarrollar en los estudiantes sus competencias de aprendizaje para participar en el mundo globalizado de manera equitativa. Respecto al diseño para el aprendizaje Carvalho & Yeoman (2021) señalan que éste debe atender lo que consideramos importante, así como la comprensión teórica del proceso de aprender, los cuales deberán reflejarse en la interacción de las tareas, el uso de herramientas y los espacios de socialización, en sus diferentes niveles de complejidad. En cuanto al proceso de formación docente Espejo-Villar et al., (2022) aportan que el conocimiento referido al desarrollo de competencias tecnológicas, entre los países miembros de la Organización para la Cooperación y el Desarrollo Económicos (OCDE), compite en estatus con las áreas tradicionales como formación pedagógica y disciplinar, así como la especialización de

contenidos; se observa en educación básica un aumento en las cuotas de formación docente en tecnologías; no obstante los avances y la oferta curricular para desarrollar competencias tecnológicas, la alfabetización digital docente aún tiene mucho camino por recorrer.

### **Evaluación de competencias**

A decir de Area-Moreira & Pessoa (2012), la Web se afianza cada vez más como un espacio virtual donde los usuarios, las empresas, así como las instituciones de servicios necesitan contar con recursos humanos calificados. Participar de manera efectiva en este ecosistema digital precisa individuos alfabetizados que desplieguen las competencias necesarias. En la renovación de paradigmas educativos (López de la Madrid et al., 2021) la implementación de las TIC y el acceso a internet, han tomado un espacio visible en las tendencias políticas, para atender el reto de la inclusión digital. En este aspecto, a partir de 2015, las competencias para el siglo en curso pasaron a ser referente académico; a decir de Almerich et al., (2020) enmarcan las destrezas, conocimientos y actitudes requeridas para interactuar de manera exitosa en esta época, así como su impacto en el aprendizaje e interacción social. Para Casillas-Martín et al., (2020), la evaluación de dichas competencias conlleva centrarse en la acción, para valorar en el ejecutante su desempeño, durante un proceso que incluye resolver situaciones concretas en contextos diversos; en el entendido que la competencia muestra un saber hacer. Por su parte Ramón et al., (2021), al referirse a las competencias digitales señalan que implica desarrollar habilidades específicas partiendo de una alfabetización en la lectura del hipertexto, en la selección y discriminación de información, en el conocimiento básico de hardware y software educativo, conocimientos elementales de códigos y estándares internacionales, actualización de pedagogías centradas en el alumno y el uso de nuevas tecnologías, diversificación en la presentación de evidencias de trabajo y su colegiación así como apertura para potenciar el aula ampliada para participar en diversos encuentros culturales. Al respecto Valverde-Crespo (2020) establece que desarrollar las competencias digitales requiere de procedimientos para el análisis crítico de la información, tomando en cuenta que los participantes del estudio de referencia presentan severas incongruencias en la práctica las cuales se muestran al estar expuestos diariamente al uso de la tecnología, pero con escaso sentido crítico de sus interacciones en internet.

Algunos autores, refieren la importancia de que los futuros docentes inicien su autovaloración sobre el desempeño como paso necesario para optimizar la implementación de las tecnologías digitales en el entorno escolar. En su disertación Usart-Rodríguez et al., (2020) aplican, analizan y proponen como herramienta un cuestionario de autoevaluación destinado a evaluar la competencia digital de profesores. Por su parte Almerich et al., (2020) validan un modelo referido a las competencias del siglo en curso que el alumnado universitario, del ámbito educativo, debe desempeñar. Con referencia al tema de mediación parental y escolar en Chile, en contraste con el uso de tecnologías para potencializar la dinámica escolar, Halpern et al., (2021) sostienen que la mediación realizada por los padres, en casa, en comparación con la que llevan a cabo los colegios, tiene un impacto más relevante, anotan también que los escolares al emplear YouTube para estudiar reflejan menor rendimiento en comparación con quienes utilizan el cuaderno; en aparente contradicción con los resultados obtenidos; en esa categoría, en el contexto mexicano conforme a las investigaciones de Ramón et al., (2021) quienes destacan la incorporación de internet en las estrategias didácticas; en especial la proyección de audiovisuales provenientes de YouTube; recomendaciones para estrategias didácticas de la plataforma oficial de Telesecundaria, exploración de información en diversas páginas de la Web; compartir contenidos académicos mediante Facebook, subrayando las restricciones institucionales para intercambios por correo electrónico, teléfonos celulares y WhatsApp.

## Actualización docente

El avance de las TIC, a la par del aprendizaje en línea han puesto al profesorado y a las instituciones de actualización docente en un nuevo rol (Ramón et al., 2021), caracterizado por el desarrollo de competencias para el aprendizaje en red, mismo que involucra nuevos desafíos tanto en el conocimiento de nuevas herramientas tecnológicas como la interacción en espacios virtuales que están sustituyendo a las alternativas pedagógicas tradicionales. Una de las primeras acciones del gobierno mexicano para la capacitación y actualización del magisterio (López de la Madrid et al., 2021) a partir de 1994, fue la implementación de EDUSAT que inició con programas educativos de Telesecundaria y amplió su oferta hasta el postgrado. En adelante vendrían espacios dedicados a la actualización en cada uno de los planes y programas educativos, reconociéndose que los resultados no han sido los esperados. Al respecto, Ramón et al., (2021) precisan que, en Telesecundaria, las herramientas tecnológicas digitales utilizadas por los profesores incluyen televisión, internet, laptop y proyectores; la antena parabólica, no presta servicio y la programación audiovisual encuentra desfasada, apuntando que trabajan con el plan de estudio 2011 y materiales del Plan y Programas 2006; en severa contradicción con los Planes y Programas de Estudio vigentes. Por su parte Espejo-Villar et al., (2022) se adentran a examinar las políticas de formación de futuros docentes de secundaria, concluyen estableciendo la necesidad de un consenso institucional que sustente y mantenga vigentes las políticas de formación del profesorado. Retomando el papel del docente dentro de las ecologías del aprendizaje Monsalve-Lorente & Aguasanta-Regalado (2020) aseguran que partiendo de esta perspectiva; las instituciones educativas obtendrían un entendimiento más asertivo sobre la manera en que los profesores se actualizan y la forma en que la generación actual de estudiantes aprende. Al respecto Bonilla-Santamaría & Ferra-Torres (2021) comparten los resultados del establecimiento de comunidades virtuales de aprendizaje e innovación (CVA), obtenidos en Veracruz, México; con el apoyo de la figura de asesoría Técnico-Pedagógica en Telesecundaria. Entre sus resultados destacan: El ser parte de una CVA representa poner a prueba la estructura educativa para reformularla, en este proceso, la mayoría de los docentes presentaron actitudes comprometidas y algunas participantes actitudes de resistencia; fue evidente el efecto positivo en la intervención didáctica, en planeación de clases, recursos didácticos y proceso de evaluación. En cuanto a la enseñanza de las ciencias Usart-Rodríguez et al., (2020) advierten: el uso de dispositivos móviles no se encuentra normado ni hay políticas claras sobre su empleo como recurso didáctico; ocurriendo contradicciones en el entorno escolar; mediadas cuando menos, por la pericia docente para potenciar el uso de dichos dispositivos, así como creencias limitativas, de una parte, del profesorado que actúan como impedimentos para promover experiencias virtuales. En esta misma línea, una revisión sistemática con referencia a estrategias didácticas y experiencias en la enseñanza de las ciencias realizada por Zárte-Moedano et al., (2022) destaca que la orientación del trabajo docente debe ser práctica permitiendo a los alumnos indagar e involucrarse en la resolución de problemas de manera creativa conforme a la metodología científica.

### 3. Conclusiones

Esta revisión sistemática confirma la existencia de una amplia injerencia institucional en la promoción de la cultura digital y el fomento de la alfabetización mediática e informacional en educación; subrayando que diversas iniciativas presentan avances en la práctica, pero no forman parte de un modelo consolidado. Asimismo, no se encontraron datos referidos al abordaje de las neurociencias, la medicina o la psicología para entender cómo participan los usuarios en procesos de acopio, producción y distribución de información utilizando las TIC y el acceso a internet. Retos académicos para futuras investigaciones se refieren a determinar los procesos biológicos y cognitivos que detona el estudiante

al interactuar en espacios virtuales; asimismo la fisiología de los procesos de stress laboral en la capacitación y actualización docente para el manejo de herramientas y programas digitales.

En cuanto al currículo formal de la escuela Telesecundaria, encontramos incorporados la mayoría de los elementos de la cultura digital. Respecto a su reflejo en la vida escolar, existen divergencias que refieren una brecha digital en crecimiento; caracterizada por escuelas con acceso a las TIC y conexión a internet, centros escolares con deficiencias al respecto y planteles sin conectividad a la Web e infraestructura digital obsoleta o sin mantenimiento; amén del distanciamiento entre quienes disponen de recursos tecnológicos y los emplean con un bajo rendimiento; en comparación con sus pares que usan el potencial de las herramientas, los espacios para socialización de saberes y la conectividad Web. Los estudios realizados en México refieren que gran parte de los alumnos han desarrollado competencias y habilidades digitales, fuera de la escuela, con énfasis al interactuar en las redes mediante el teléfono celular y en menor grado con tabletas electrónicas o computadoras; otra parte no ha tenido acceso y requiere alfabetizarse. En la práctica escolar, los alumnos del nivel desarrollan competencias digitales en la medida de que los planteles disponen de tecnología y conectividad Web. En todas las investigaciones se anota que la labor docente es central y hace la diferencia en la formación de los escolares.

Esta revisión sistemática, pone a la luz, la necesidad de concretar un currículo que ponga al centro las ecologías del aprendizaje de estudiantes y profesores donde los aportes científicos propicien la integración de las TIC, el acceso a internet y una epistemología del aprendizaje digital.

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# La ciudad en la era de la sociedad red

## The city in the era of the network society

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### Resumen

El artículo se centra en parte de las conclusiones de una investigación sobre cómo concebir la ciudad en este comienzo del siglo XXI; fundamentada en las nociones de transdisciplinariedad y Sociedad Red, según Castells, M. 2003. La misma trató sobre diversas maneras, en los últimos 40 años, de aproximarse a una ciudad intermedia venezolana, generando insumos para discutir, reconstruir y proponer el presente concepto de Ciudad, inmerso en lo que las redes han impuesto y definido.

**Palabras clave:** Ciudad, Sociedad Red, Transdisciplinariedad.

### Abstract

The article focuses, mainly, on some conclusions of research made on how to conceive the city at the beginning of the 21st century; based on the notions of transdisciplinarity and the Network Society, according to Castells, M. 2003. It dealt with various ways, in the last 40 years of approaching an intermediate Venezuelan city, generating inputs to discuss, reconstruct and propose the current concept of City, immersed in what the networks have imposed and defined.

**Keywords:** City, Network Society, Transdisciplinarity.

## 1. Introducción

Los trabajos del sociólogo Manuel Castells se han centrado en desarrollar y teorizar ideas sobre la cuestión urbana especialmente, sobre los movimientos sociales urbanos, el surgimiento de la sociedad en red, y el rol de las ciudades en la economía basada en la información. El mundo contemporáneo de forma muy rápida dio un giro, las redes se apoderaron de nuestras vidas y por ende del desarrollo social, político e histórico de la ciudad. La urbe indefectiblemente evoluciona de modo creciente según lo que las tecnologías de la información actualmente imponen. Las redes de la información representan una parte importante de cómo la ciudad evoluciona actualmente, es una manera de extensión del poder, centrado en lo alto de las organizaciones verticales que configuraron la historia de la humanidad. Las tecnologías red han servido de infraestructura esencial para que las empresas ubicadas en la ciudad, el comercio, los



bancos, las escuelas, universidades y en fin todas las instituciones realizarán su reestructuración en términos de globalización, descentralización y redes, más aún en tiempos de pandemia y aislamiento. Con el COVID 19 y las TIC, la vida cambió, la ciudad cambió, y por ende las representaciones de ésta también.

Al influjo de la sociedad red, Castells Manuel (2003) le atribuye cinco características: La primera característica del nuevo paradigma es que la información es su materia prima: porque, primero son tecnologías para actuar sobre la información. El segundo rasgo hace referencia la capacidad de penetración de los efectos de las nuevas tecnologías. Puesto que la información es una parte integral de toda actividad humana, todos los procesos de nuestra existencia individual y colectiva están directamente moldeados (aunque sin duda no determinados) por el nuevo medio tecnológico. La tercera característica alude a la lógica de interconexión de todo sistema o conjunto de relaciones que utilizan estas nuevas tecnologías de la información. En cuarto lugar y relacionado con la interacción, aunque es rasgo claramente diferente, el paradigma de la tecnología de la Información se basa en la flexibilidad. No solo los procesos son reversibles, sino que pueden modificarse las organizaciones y las instituciones e incluso alterarse de forma fundamental mediante la reordenación de sus componentes. Una quinta característica de la revolución tecnológica es la convergencia creciente de tecnologías específicas en un sistema altamente integrado, dentro del cual las antiguas trayectorias tecnológicas separadas se vuelven prácticamente indistinguibles. (Castell, 2003, p. 88-89).

## **2. Desarrollo**

### **La ciudad objeto inevitable de la transdisciplinariedad.**

El concepto de transdisciplinariedad surge, en principio, como propuesta de cambio paradigmático de la educación. El concepto como tal, va más allá de una simple dialéctica entre disciplinas, y es discutido y analizado en los tiempos contemporáneos, además que su concepción y esencia se ha extendido a todos los campos científicos, ya que los estudiosos han visto con preocupación las imperfecciones de estudiar un fenómeno desde un sólo ángulo, lo que busca la transdisciplinariedad es, construir el conocimiento partiendo de la integración de varias disciplinas del saber humano. La transdisciplinariedad escoge un lugar de convergencia en el cual, desde cada mirada disciplinaria se observa el problema y se construye la solución, generándose un espacio común y nuevo, en el que se disuelven las fronteras de las áreas específicas que sirvieron para esclarecer el problema. En este sentido, revisar o pensar la ciudad desde seis casos nos obligó a ver el asunto desde la convergencia de saberes: sociológicos, físicos, naturales, antropológicos, geográficos, entre otros. Es aquí donde reside, justamente, que debamos adentrarnos en este concepto y su posible aplicación.

Los problemas fundamentales que enfrenta la humanidad contemporánea y en esencia tratar de "pensar la ciudad" tienen naturaleza compleja, se entretajan prácticamente todas las disciplinas del saber humano, demandando del concurso de todas las potencialidades que surgen de estudios inmerso en el campo de las ciencias humanas e incluso de las ciencias en general.

Los enfoques unidisciplinarios, por su estreches fallan o se quedan muy cortos a la hora de analizar a profundidad un asunto, y en nuestro caso tan complejo y enmarañado como es lo

urbano, aseguramos que cuando intentamos enfrentar problemas alusivos a la ciudad se requiere argumentos que se sostengan desde la transdisciplinariedad y el pensamiento complejo. Ahora bien, para comprender más a profundidad lo que busca la transdisciplinariedad, en especial cuando se propone como medula del asunto entender la ciudad se precisa comprender qué es el pensamiento complejo, es preciso recordar lo que el paradigma cartesiano proponía, basándose en la razón y legitimando su postura en el camino científico y su capacidad de domesticar, mancillar y conocer el medio ambiente. Esto desde luego postulaba una escisión entre el sujeto que produce el conocimiento y el medio en el que interactúa, es decir, la naturaleza.

Interesa el concepto que ofrece Carmona (2004), esta investigadora señala que:

La perspectiva transdisciplinaria se plantea estrategias de largo alcance, incluye enfoques como el marxismo, el utopismo o las teorías del conflicto, los cuales tienden a hacer énfasis en los estudios cualitativos, la teorización, el uso de la intuición, el compromiso social y la proposición de cambios profundos, buscando las variables del sistema. Desde el punto de vista etimológico del término subyace dimensionalidad, ya que su vocablo está conformado por la preposición latina "trans" y el sustantivo adjetivado "disciplinariedad". El prefijo "trans", que significa "más allá y a través de", se utiliza predominantemente para indicar eventos en los que no existen fronteras entre las disciplinas, es decir, las acciones que se mueven dentro y a través de una determinada disciplina (s/p).

Cita que permite sostener que en la actualidad el científico social, se encuentra inmerso en un proceso de separación e integración a su vez, esto promueve que las fronteras se borren o deshagan y, más que establecer cercos busquen convergencia y encuentro, es decir, que los vínculos y solidaridades entre las disciplinas deben ser los aspectos que logren cruzarse como tránsitos entre las culturas, permitiendo a los científicos sociales dar respuestas más acertadas a un fenómeno específico. Entonces, la transdisciplinariedad podría definirse como la manera más eficaz de organizar los conocimientos, como lo dijo Michel Foucault (1968) "el mundo forma una cadena consigo mismo", esto en esencia postula la imposibilidad de separar el conocimiento. Escindirlos es casi imposible, Morín (2001), en su libro *La cabeza bien puesta*, sostiene que todos los conocimientos nacen en la historia de la sociedad, por lo tanto, toda la historia de las disciplinas se inscribe en la sociología de la ciencia (p.117). Por tanto, es preciso entender qué caracteriza específicamente a la transdisciplinariedad, así se puede señalar tres puntos específicos, estos son: primero, los elementos que se encuentran entre las disciplinas y que pueden ser estudiados y analizados por éstas; segundo, los elementos que las atraviesan y las conjugan y tercero, los que sencillamente, están más allá de lo que las disciplinas postulan y que ameritan ser examinados.

Morín (2001) a la transdisciplinariedad de los campos científicos la define como "hibridación fecunda" (p.123) y coloca como ejemplo de esta afirmación la relación que se originó entre los matemáticos y los ingenieros que en la década de los cuarenta y los cincuenta lograron conjugar los saber y así pudieron aportar los primeros avances en el campo de la cibernética, la informática y la inteligencia artificial. La mayoría de los científicos sociales concuerdan en la necesidad de que los conocimientos se nutran entre sí, esto contribuye a ampliar el radio de acción de las disciplinas y a su vez les concede a los estudios una nueva forma de acercarse a los fenómenos

que interesan, haciendo del mundo una unidad y no parcelas con interdependencia entre sí. Se respeta la diferencia, pero, se busca la conciliación de éstas en las posibles confluencias, permitiendo un conocimiento más amplio y complejo, capaz de entrelazar en el diálogo de saberes humanos un tejido armonioso, esto son los elementos inherentes a la transdisciplinariedad. Según Morín (2001) no se puede crear una ciencia unitaria del hombre, pues esta osadía disolvería lo complejo de lo humano, señala este filósofo que "en un sentido todo es físico, pero, al mismo tiempo todo es humano" (p.124) y define la transdisciplinariedad como el paso de un conocimiento a otro, ayudado por la sinergia, que progresa en la medida en que se permite ir de las partes al todo y del todo a las partes, es lo que "constituye nuestra ambición común" (p. 127 y 128).

La transdisciplinariedad como mecanismo aspira un conocimiento relacional, es decir, que todas las disciplinas que sean utilizadas para dar explicación sobre un fenómeno en particular, puedan a su vez guardar relación con la cuestión, y debe también preverse que la misma nunca será acabada, se aspira que surja más bien, el diálogo, la discusión y la revisión fluctuante y permanente, pues no existe ni existirá un único punto de vista, sino múltiples caras o facetas de la realidad, pues esta es poliédrica. Resta señalar que, la transdisciplinariedad no elimina las disciplinas, solo transforma el enfoque disciplinario y expande su radio de acción permitiendo entender otras dimensiones del saber, se trata de ir un poco "más allá" de los límites disciplinares, trascender y borrar fronteras, para luego ocupar su lugar, estas disciplinas deben entenderse como buenos vecinos que aceptan leves intromisiones, convirtiendo a los investigadores en "advenedizos" que necesitan algún tipo de alimento y refugio para nutrir sus conceptos.

### **La Ciudad en clave de la sociedad red.**

Como lo desarrolla Castells M. (2003) la tendencia histórica de la época actual es que las estructuras sociales emergentes, los procesos y funciones dominantes, se están organizando en torno a redes, de ahí el concepto de sociedad de la red. Éstas constituyen una nueva morfología social de nuestras sociedades y la difusión de su lógica de enlace modifica de forma substancial los procesos de producción, la experiencia, el poder y la cultura. Nuestra propuesta de que un concepto actual de Ciudad no puede evadir el horizonte de la sociedad red no se basa solo en la constatación de que en los últimos 20 años la conexión a internet se ha vuelto mayoritaria, por ejemplo, según CONATEL, Comisión Nacional de Telecomunicaciones, organismo del estado venezolano que ejerce la regulación, supervisión y control sobre las telecomunicaciones; para 1919, el 74% de los venezolanos tienen ya acceso a internet (Nieves, 2021). Hablamos de Venezuela, cuyo estancamiento y retroceso en los últimos 20 años es notable con respecto no al mundo desarrollado, sino incluso con respecto a su entorno natural, la América Latina, entre otras desventajas Venezuela es el país que tiene el ancho de banda más bajo de Suramérica (3 Mbps contra 30 de promedio en Sur América) y sin embargo, quizás como inercia de la situación previa o más asombrosamente, como adquisición aún a pesar de la crisis, Venezuela posee condiciones propias de la universalización del uso de las TIC y del uso de las redes sociales.

Tener acceso a internet es condición de base, pero no suficiente, para que las ciudades se conviertan en digitales y/o inteligentes. Liñares (2016) argumenta sobre las condiciones para que una ciudad pueda considerarse digital, prefiere el término ciudad aumentada, tomado de Aurigi & De Cindi (2008), ahí nos propone:

...Las Ciudades Digitales son fruto de los cambios derivados del desarrollo e implantación de la Sociedad de la Información. Este tipo de ciudades comienzan a implantarse en las ciudades centrándose en el desarrollo de los elementos que la definen. Entre los componentes destacan los gobiernos los cuales abogan por las TIC para buscar la satisfacción de la ciudadanía y con ello tratar de definir el concepto de Ciudad Digital como tal. El auge de las TIC y la implantación y desarrollo de la Sociedad de la Información y el Conocimiento ha provocado cambios de diversa índole en nuestro entorno, véase los nuevos modelos en el ámbito cultural (nuevos patrones de consumo, nuevas herramientas) en distintos sectores de la sociedad. La filosofía Web 2.0 ha modificado las formas de comunicación y participación resaltando la participación ciudadana. Así son numerosos los estudios acerca de nuevas propuestas de ciudades en las que se aboga por desarrollar una cultura de ciudad inteligente fruto de una apropiación de las TIC, para llevarlo a cabo. Las Ciudades Inteligentes buscan sinergias entre las empresas, ciudadanos e instituciones que apoyándose en Internet y herramientas como las de la mercadotecnia se pretende una mayor participación directa del ciudadano en todos los ámbitos: entre ellos el político (p. 1).

Este proceso se hizo inesperadamente mucho más impositivo e intenso a raíz de la pandemia COVID 2019 pues, el aislamiento decretado les dio a los medios digitales una posibilidad única de sustituir el uso presencial de la fuerza el trabajo, impuso la educación a distancia, el comercio digital y hasta la diversión, entre muchas otras cosas; la experiencia de vivir, súbitamente, se volvió más digital que nunca durante los últimos tres años, y en lo referido únicamente a la ciudad de Mérida, Venezuela hemos identificado proyectos y propuestas específicas que buscan acelerar la condición de ciudad digital, ello en el marco de la promoción del desarrollo humano, la sustentabilidad y las llamadas Metas del Milenio.

En Venezuela en 2022 ha surgido de hecho un incipiente movimiento conformado por diversas organizaciones que tiene como objetivo la creación de la Red de Ciudades Inteligentes y Sostenibles de Venezuela, con apoyo de la Tecnología Social SAI. En la búsqueda de este propósito, la Cátedra Libre Alexis de Tocqueville, dirigida por el Ing. Guillermo Manosalva, ha celebrado tres ediciones del Simposio Venezolano de Ciudades Inteligentes y Sostenibles en las ciudades de Valencia, Ciudad Guayana y Maracaibo.

Sin embargo, a pesar de que cuatro de cinco partes de la población tenga acceso a internet y que un porcentaje muy significativo de esa población interactúe a diario en las redes sociales y pese a la existencia de propuestas, proyectos e iniciativas locales, estatales y nacionales la conversión de una ciudad moderna en una ciudad inteligente no ocurre de manera espontánea o natural.

Como nos señaló Liñares (2016):

Ciudad Aumentada, a grandes rasgos, podemos decir que se trata de un paso más allá del concepto de Ciudad Digital puesto que este concepto se quedaría obsoleto en el modelo de Sociedad de la Información actual. Para poder expandirnos en el concepto de Ciudad Aumentada son muchos los teóricos que basan sus estudios en la necesidad de superación de la ciudad digital impulsando la Inteligencia Social. La Inteligencia Social la entendemos

como la interacción con los demás como el elemento clave para la transformación de la sociedad, consolidando vínculos y redes sociales que mejoran la calidad de vida. En palabras de Goleman (2006), todos estamos programados para conectar con el prójimo y es el propio diseño del cerebro el que nos hace ser profundamente sociales. Así la inteligencia va ser el pilar fundamental en el desarrollo de la ciudad aumentada. (...). Muchas de las definiciones acerca de la ciudad aumentada giran en torno a la idea de una ciudad real, la ciudad que todos entendemos y la que habitamos combinada con medios virtuales, pero con unos matices. Entre los principios de una ciudad inteligente destacaríamos: el impulso por la quiebra de la brecha digital, es decir, todos estarían conectados con múltiples dispositivos, la inclusión social, la e-democracia donde su pilar es la participación ciudadana. Destaca así el servicio de gobierno electrónico necesario para impulsar este tipo de ciudades, el desarrollo económico sostenible, la colaboración, y buen gobierno. La implantación y aplicación de cada uno de estos principios nos llevaría a entender la ciudad aumentada tal y como la hemos definido. Es decir, no se quedaría en meramente una ciudad digitalizada, sino que iría más allá, aunque ese paso no es sencillo y en nuestro entorno parece un concepto de ciudad bastante lejano” (p. 5).

Las ciudades inteligentes, digitales y/o aumentadas constituyen, sin duda, un horizonte ineludible de la evolución de la ciudad pues deviene de la constitución de la sociedad de la información, de la sociedad del conocimiento. La sociedad red es consecuencia compleja de la actual civilización global y urbana, pero ello no escapa a las determinaciones y a los limitantes vinculados a las diferencias económicas, sociales, culturales, territoriales y al grado de desarrollo y a circunstancias particulares como la brecha digital. Desde la perspectiva de la definición de Ciudad que propusimos como consecuencia de las seis aproximaciones sobre Mérida que analizamos la sociedad red y la posibilidad de arribar a sus ventajas y a superar las limitaciones que lo dificultan o evitan es más que evidente que se corresponden con las dimensiones cognitivas y la dimensión proyectiva de la ciudad actual.

En el contexto del desarrollo de Mérida aprovechar su capacidad de producir conocimiento para superar la etapa de sociedad de la información a una fase de sociedad del conocimiento es apelando a la inteligencia social, a la participación ciudadana y a una sinergia de todos los sectores y actores de la ciudad que será posible construir una ciudad aumentada, inteligente y digital.

Como señalan Pascual Barrio, Belén & Rueda Ortiz, Rocío (2005) “...Hablar de la “sociedad red” empieza a ser un lugar común de referencia para describir las sociedades contemporáneas, y sin duda tal concepto ha generado una relativa apertura para pensar de una manera compleja el proceso de transformación cultural mediado por las tecnologías de la información. Esta relativa apertura nos ofrece la ocasión para interrogarnos por la cultura que queremos construir; tarea que no es exclusiva de la escuela, puesto que requiere de una labor concertada y conjunta de colectivos e instituciones”. De hecho y en el contexto post-pandemia queremos concluir preguntándonos más que afirmar ¿Cómo será la ciudad de los próximos años? La respuesta, aunque es imposible de precisar plenamente porque es una realidad siempre huidiza a la que deberemos volver para construir de nuevo una representación que dé cuenta de eso que pudimos señalar y de eso que siempre queda por fuera. Sin embargo, podemos afirmar sin duda, que la Sociedad Red será parte constitutiva de ella, de modo importante, aunque diferenciado por todas

las especificidades económicas, políticas y culturales que diferencian de base esa realidad que constituye la ciudad actual.

### 3. Conclusiones

A partir de la investigación que alimentó esta propuesta hemos construido una definición de la ciudad actual que diferencia diversas dimensiones de la misma. La dimensión espacial, la dimensión relacional, la dimensión histórica, la dimensión cognitiva y la dimensión proyectiva. La dimensión espacial constituye la base material, el lugar que ocupa y que sirve de soporte físico de la ciudad; hoy en día sin dejar de mantener su papel e importancia cada vez resulta más difícil conservarle los límites tradicionales estrictamente físicos y/o materiales. En buena medida porque los límites tradicionales de la ciudad han dejado de tener sentido ¿Dónde empieza y dónde termina la ciudad? Esa respuesta trasciende hace mucho los límites estrictamente físicos pues los simbólicos, los comunicacionales y los de la representación los ha vuelto insuficientes como límites. La dimensión relacional la constituyen los individuos y grupos, pero sobre todo los vínculos que estos establecen entre sí y que se corresponden a todas las relaciones y a todas las interacciones compartidas las cuales en la sociedad contemporánea han alcanzado grandes proporciones y una complejidad considerable. La dimensión histórica hace referencia al carácter dinámico y cambiante, a la noción de proceso referida a la evolución del fenómeno que su historicidad le imprime. La dimensión cognitiva referida al extraordinario desarrollo tecnológico alcanzado y a la condición de sociedad del conocimiento que caracteriza este momento, ello además es base de la llamada sociedad red. La capacidad de conocer, explicar y utilizar esos conocimientos se ha terminado configurando en una dimensión de la ciudad moderna que ninguna otra ciudad anterior tuvo.

Finalmente, la dimensión proyectiva, la ciudad no es solo un concepto, es sobre todo una realidad frente a la cual los individuos deben lidiar, deben gestionar, deben planificar y deben orientar. La capacidad de comprensión, gestión, planificación y orientación es cada vez más una demanda esencial y muy exigente para hacer de nuestras ciudades realidades mejores y no un caos destructivo. Hemos reproducido la definición construida para indicar que la Sociedad Red y la Sociedad de la información y la Sociedad del Conocimiento ofrecen en su interacción dinámica y complementaria un énfasis en el uso de las TIC para desarrollo de la dimensión cognitiva y de la dimensión proyectiva.

Hoy en día la capacidad de producir conocimientos potencia la capacidad de comprensión y la capacidad de proyección de ahí que la reducción de la brecha digital y la superación de los limitantes que las llamadas metas del milenio han identificado y que el desarrollo humano propone; nos daría ciudades aumentadas, inteligentes y capaces de mejorar nuestras condiciones de vida en sentidos muy diversos y en proporciones considerables.

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## **Analysis of the effectiveness of the implementation of digital technologies in the educational process of medical HEIs: challenges, optimization**

### **Análisis de la eficacia de la implementación de las tecnologías digitales en el proceso educativo de las IES de medicina: retos, optimización**

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### **Abstract**

The COVID-19 pandemic has led to the more intensive use of digital technologies in higher medical



education. The purpose of the study was to analyze the effectiveness of the implementation of digital technologies in the educational process of Ukrainian medical universities, to identify the current challenges e-learning faces, and to propose potential ways of optimization. General scientific methods (for example analysis, synthesis) specific pedagogical methods (specification, abstraction, comparison forecasting) were used for the research. The results outline the main advantages of using digital technologies in the medical higher school system. Attention is also drawn to the main challenges that have a certain negative impact on the educational process. Among the latter, problems with the practical training of future doctors were noted since distance learning does not provide an opportunity to fully implement skills building component. The results also highlight possible ways to solve the problems of using digital technologies in medical higher education institutions. It is proposed to introduce to use not only distance learning technologies, but to combine them with the traditional approach and independent learning. It is emphasized about further studies, as empirical measurements of the effectiveness of distance education in the medical field. And, this effectiveness still needs to be ultimately proven.

**Keywords:** higher medical education, digitalization, challenges, prospects.

## Resumen

A pandemia de COVID-19 levou ao uso mais intensivo de tecnologias digitais no ensino superior médico. O objetivo do estudo foi analisar a eficácia da implementação de tecnologias digitais no processo educacional das universidades médicas ucranianas, identificar os desafios atuais que o e-learning enfrenta e propor possíveis formas de otimização. Métodos científicos gerais (por exemplo, análise, síntese) métodos pedagógicos específicos (especificação, abstração, previsão de comparação) foram usados para a pesquisa. Os resultados destacam as principais vantagens do uso de tecnologias digitais no sistema de ensino superior médico. Chama-se ainda a atenção para os principais desafios que têm um certo impacto negativo no processo educativo. Entre estes últimos, foram notados problemas com a formação prática dos futuros médicos, uma vez que o ensino à distância não oferece a oportunidade de implementar plenamente a componente de desenvolvimento de competências. Os resultados também destacam possíveis caminhos para resolver os problemas do uso de tecnologias digitais em instituições médicas de ensino superior. Propõe-se introduzir o uso não apenas de tecnologias de ensino a distância, mas combiná-las com a abordagem tradicional e o aprendizado independente. Ressalta-se a continuidade de estudos, como medidas empíricas da eficácia da educação a distância na área médica. Ainda precisa ser finalmente provado.

**Palabras clave:** enseñanza médica superior, digitalización, retos, perspectivas.

## 1. Introduction

The modern development of information technology has a tangible impact on global social processes, dictating new conditions for the functioning of many institutions. Higher medical education is of no exception to the rule and is also being transformed in accordance with the requirements of modern information systems capabilities. The COVID-19 pandemic has had negative manifestations, but it has also stimulated some positive trends. In particular, distance education with its quality and capabilities, has for a long time been evaluated exclusively as secondary to traditional, full-time tuition. Quarantine restrictions have shown that these assessments are biased, and the benefits of distance education are also quite real.

Universities have introduced a distance form of education, which differed from the traditional model of education. This led to the emergence of certain issues, which are still little evaluated by researchers and require additional reflection in terms of practicality and the prospects for further use of the proposed methods of training. In view of the fact that medical training requires certain higher improvement of training (since it refers to an important and sensitive area of public life), the negative aspects of distance learning in this field are more pronounced and, consequently, more destructive.

The aim of the study is to analyze the effectiveness of the implementation of digital technologies in the educational process of medical institutions of higher education, identifying the current challenges facing it and suggesting potential ways of optimization. The article considers the hypothesis of the general advantages of distance learning, but it is noted that the work in the field of medical universities will require the implementation and compliance with certain conditions to comply with the effectiveness.

## 2. Literature Review

The literature base of the study consists of scientific works of American, Ukrainian and European educators. A team of Ukrainian scientists Safonov et al., (2022) believe that total digitalization has both advantages and disadvantages. They note that the Organization for Economic Cooperation and Development of the European Union pays special attention to the digitalization of education, while in Ukraine the development of digital skills of the population is one of the key priorities of the government in the system of digital transformation and plays a special role in ensuring social progress.

Jena et al., (2021) through the lens of analysis compared the traditional model of e-learning, and identified the key advantages and opportunities of distance learning. Jacob (2020), in an article entitled *The New Face of Medicine* characterized key contemporary transformations in medicine, with notable attention paid by the author to the particularities of using digital and simulation technologies in modern medicine. Raney et al., (2022) noted that as a result of the Covid - 19 pandemic, the use of e-learning has become a new and widespread principle in the implementation of educational services around the world. However, many developing countries are largely agrarian and cannot provide the necessary infrastructure for digital education.

Consequently, the aforementioned authors analyzed the key challenges and opportunities faced in providing educational services online, taking into account the views of students and teachers. Meanwhile, Salvati (2019) in a paper titled "Medical Education in the Digital Era" described the key digital transformations in medical education. Chen & Banerjee (2021) also described the main features of the use of digital platforms in medical education, in particular, the authors believe that the use of social platforms such as Twitter and Facebook to spread the latest medical advances has become the norm. In addition, according to Chen & Banerjee (2021), most educational regional societies held educational webinars that were accessible to anyone if they had Internet access. Sorg et al., (2022) described key aspects of the digitalization of the educational medical space based on the German experience with distance learning. Bader & Mereniuk (2022) identified the importance of digital literacy against the backdrop of military aggression. The authors noted the relevance of digital and information competence against the background of global changes. The main models, implementation mechanisms of digital learning were analyzed by Laufer et al., (2021). At the same time, Jenkins et al., (2021) described key innovative aspects of the "rebirth" of individual medical disciplines.

The Tsekhmister et al., (2021) team characterized the challenge of implementing virtual digital technologies in the training of medical aspirants. Succar et al., (2021) identified the impact of global

challenges (as well as the Covid-19 pandemic) on the transformation of ophthalmology student education. Ottinger et al., (2021) investigated the specifics of using virtual platforms in undergraduate medical education.

### **3. Materials**

The materials of the study were European and Ukrainian legislative acts, system of distance learning, which includes web-based platforms, applications, personnel necessary to support e-learning, students' readiness to succeed with distance learning, and results of standardized tests.

The following Ukrainian legislative acts were investigated: "Concept of digital transformation of education and science of Ukraine" and "Strategy for the Development of Higher Education of Ukraine for 2021-2031". Of high importance was the use of the European Commission strategy on the digitalization and innovative development of Europe: "A New Industrial Strategy for Europe" (European Commission, 2020).

A number of web-based platforms and applications (Zoom, GoogleMeet, etc.) were used to implement educational curricula against results of standardized test. Among soft skills necessary for students to successfully participate in distance learning motivation, technical readiness, and some other were studied.

Overall number of the students engaged into study was 120 persons. Research work with them was organized on the basis of anonymity and voluntariness.

### **4. Methodology**

The research uses theoretical general scientific methods. In particular, based on the analysis, the main subject of the study (digital technologies in medical education) is characterized through the prism of analysis of such problems as the features of digital technology use in the world, coverage of the key advantages and disadvantages of using digital platforms in the medical sphere. As a result of the use of synthesis, these problems are combined and formed their own conclusions and recommendations. Using the systematic method, the process of digitalization of training is considered as being in constant motion and transformation, so it requires analysis with the characterization of possible further results of this process.

With advantage of axiological approach the transition from general theoretical statements to the formation of research conclusions regarding the use of digital technologies in the field of medical education was carried out.

As a result of the predictive method of research we have shown further prospects for the use of digital technologies in medical education. Noteworthy was the use of systematic method of research, based on which a analysis of the advantages and disadvantages, opportunities, and threats of digital technologies in the field of education was implemented.

This theoretical study was implemented in several stages. On the first – researchers determined the relevance of the problem, carried out a content analysis of modern pedagogical literature, on the second –they characterized the features of the use of digital technology in modern education, clarified the advantages and disadvantages in the system of implementation of total digitalization, and at the

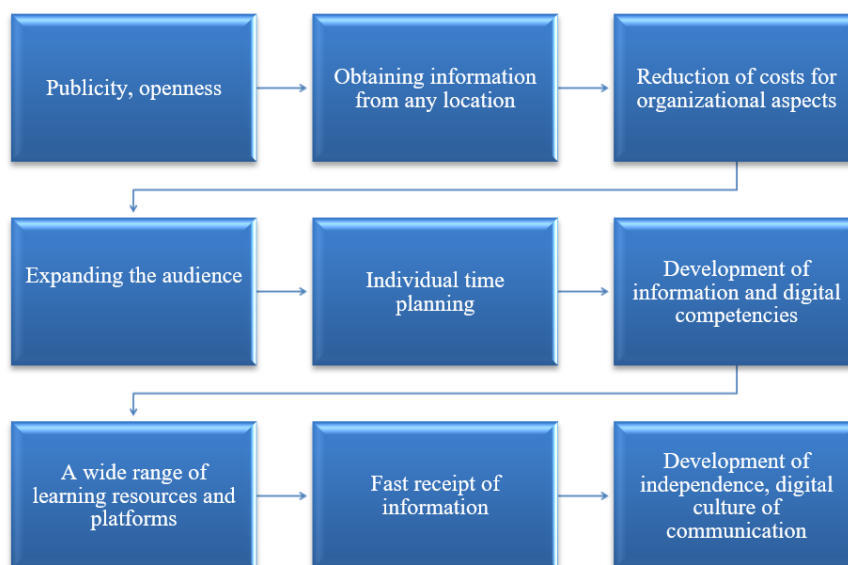
third - defined the difficulties in the process of carrying into effect of distance education in medical HEIs. At the last phase of research, the results were processed; conclusions and subsequent recommendations for the use of digital technologies in the system of training of future doctors were formed.

## 5. Results

### Digital technologies in the training of future medical specialists (theoretical review)

The Organization for Economic Cooperation and Development of the European Union pays considerable attention to the digitalization of education, which is changing through the adoption of policy documents, strategies, etc. According to the European Union Coalition, the key focus of modern digitalization is the development and implementation of national digital skills strategies and the formation of national coalitions (European Commission, 2020). At the same time, in the process of developing the e-Health platform, the digital competencies of not only doctors, technical care specialists, but also the entire population of the country are increasing, and therefore the level of digital literacy of the entire society is also increasing (Jenkins et al., 2021). Therefore, an important trend of the modern educational space is the use of digital technologies and the formation of information, digital competence of both applicants for higher education and teachers (Ministry of Education and Science of Ukraine, 2022). Active digitalization of the educational space, the increase in digital learning platforms and resources contributes to the emergence of changes in many educational fields, including medical. The current trends of informatization and digitalization of society influence that labor market trends are related to the skills of applicants for medical professions, to interpret and apply the information correctly (Salvati, 2019). For this reason, the digital competence of health professions teachers is important. At the same time, total informatization as a technological advancement allows teachers to use different digital ways to implement certain learning tasks.

Students often use digital technologies in their daily lives, and they influence the development of narrow skills related to specific platforms and technologies, such as social media and cell phones (Tsekhmister et al., 2021). The development of professional competence is a manageable process of becoming a professional in the medical field, and it is done mainly through education and self-education, acquiring of information and communication competence. Consequently, the proper use of innovative, digital, communication, and information technologies will contribute to the realization of many significant educational and social problems, which in general also relate to the sphere of preservation of human physical or mental health. According to contemporary scholars, innovative digital technology has an impact of 20-30% on improving classroom performance (Rani, Kaur & Sharma, 2022). Also, the introduction of innovative "e-learning" methods affects the reduction of costs for the organization of training (Sorg, Ehlers & Sorg, 2022). In addition researchers have great optimization potential, because facilitate training sessions for a large number of individuals, individual time planning, development of students' personal skills, etc. (See Figure 1).



**Figure 1.** Key advantages of using digital technologies in the educational process  
*Authors' development*

So, the creation of digital skills strategies with formation of national coalitions, implementation of innovative "e-learning", measures of increasing personal digital competence, and creation of digital e-learning platforms are future trends in distance learning development in European Union. Its effective use has been proven on the basis of standardized tests. The results of solving the tasks showed that the level of knowledge of medical students did not decrease.

### Steps of distance learning system implementation

The first step in the distant learning system implementation involved the creation of powerful web portals, platforms, and medical HIE resources in a holistic network of treatment facilities, medical institutions (local or global scale) (Motte-Signoret et al., 2021). They should serve as a means of processing, interpreting a large volume of training information and materials for the practical work of physicians (Jarva et al., 2022). The second step involves the formation of professional supervisor system for future doctors through the prism of web-supplemented learning. This aspect will transform traditional learning in medical schools and will develop directly digital learning. The third step implies research and study of individual medical disciplines online using special virtual simulation programs. The mentioned step will influence the formation of future doctors both on theoretical and practical planes.

It is noted that simulation technologies are obligatory in the education and training of specialists in emergency and urgent medical services - based on practical training. The key vectors of simulation training should be:

- A. aspects of cardiopulmonary resuscitation
- B. formation of emergency medical care skills,
- C. gaining skills of medical manipulation, sterilization work, etc in accordance with the specialty: simulation rendering, surgical, gynecological, therapeutic, and other care.

For example, medical manipulation with the help of simulation technology contributes to the practical training of practical skills of injections.

Gynecological simulators are based on models of the development of various gynecological examinations. In this system, computerized simulators that influence the development of practical skills for examining the cardiovascular and respiratory systems stand out. Surgical simulators are formed from digital virtual operating rooms, where the study of the operating and preoperative rooms is performed. On the other hand, virtual technologies play a prominent role in this training system to help organize the control of theoretical and practical training (Succar, Beaver & Lee, 2021).

We also suggest the development of professional medical training applications that would serve to support core training, promote a thorough mastery of practical skills for medical aspirants. A certain step should involve students using a variety of mobile apps that would be publicly available (Bakhmat et al., 2022). Such applications should function on special educational platforms of HEAs and facilitate mass distance learning courses. In the process of professional training of students, an important aspect is the use of video content of medical operations and consultations. They should be placed in a convenient electronic format on accessible resources. A separate aspect is also the development and use of special training platforms of virtual reality, technologies with virtual patients, augmented reality technologies.

In addition, the issue of forming electronic libraries with up-to-date medical information is becoming relevant. They should be placed on the portals of educational institutions.

To achieve positive results in practical training, medical universities switched to a blended learning system. This practice entails separation of the practical and theoretical classes. Theoretical knowledge was planned to be imparted remotely - using Web-based Platforms Zoom, GoogleMeet, and many other similar platforms. Distance learning platforms allowing asynchronous learning mode became important in medical education. And practical skills are proposed to form in direct work in classrooms, on stimulators, in laboratories (for medical biology, etc.), etc. Contacts with patients - work with real clinical situations - also took place. It is important for future doctors to form practical skills, work with real patients, practice manual techniques, but not all remote digital technologies can fully contribute to the implementation of the practical aspect (Jacob, 2020). Therefore, different situational tasks and algorithms of practical skills implementation should be addressed in teaching to bring students as close to practice as possible (Ottinger et al., 2021). We suggest that teachers form multimedia presentations consisting of situational tasks, with 3-4 questions at the end of each task. Each task is displayed on the screen for each student. Thus, students will be able to perform different situational tasks, which will improve their practical work skills.

Some medical universities have suggested using the "single day" methodology, where one day of training is traditionally spent - it is on this day that all practical sessions take place (Radziievska et al., 2022). Medical students have the opportunity to communicate directly with their professors, ask them questions, build hands-on skills, and review interesting topics-all of which are difficult to accomplish in distance learning mode. The rest of the days are spent in distant learning. This kind of educational form allows for more effective use of digitalization because it combines digital studios with hands-on work. In the field of medical higher education, this combination looks like a promising area of educational work that requires further optimization and adaptation for use in e-learning.

## 6. Discussion

### Distance Learning Challenges in Medical HEIs

The current criteria for the educational process are gradually distancing themselves from the changing algorithms for acquiring knowledge that were actively practiced previously (Safonov, Usyk & Bazhenkov, 2022). Due to the development of information technology, modern applicants for higher medical education are independently processing more materials from the Internet, participate in webinars, online conferences, etc.

Such conclusions required detailed systematization, analysis and logical construction. So, it reveals the need for future doctors to form independent algorithms of self-education, which requires students to form a special motivation for learning, obtaining new knowledge, mastering practical work skills, etc. Formation of soft skills is quite a complex and consistent process that needs permanent self-control, systematic updating of their own knowledge, the ability to make generalizations and think globally.

At the same time, one must agree with researchers that the problem of developing of soft skills in educational process is generally inherent in distance education (Jena et al., 2021). However, it is not as relevant for applicants to higher medical education because the vast majority of students have consciously chosen the medical profession and are willing to actively learn (Chen & Banerjee, 2021). On the other hand, medical professions are in demand in society: as the COVID-19 pandemic demonstrated, the social roles and professional status of members of the medical and health professions are extremely high.

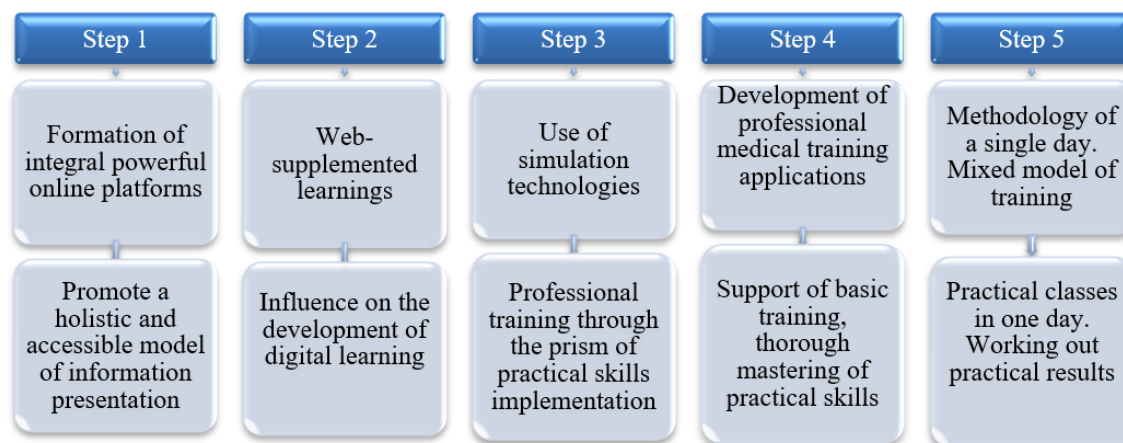
Medical students' own research work should be provided with the necessary number of educational materials of methodological and reference character, special and relevant scientific literature. In addition, these materials should be available on the Web, since the medical industry is developing quite dynamically, not all publications need a "paper" format - some of them can also be used in digital form (Bader & Mereniuk, 2022). The current capabilities of universities allow this process to be arranged (Ali, 2022). For example, at the Bogomolets National Medical University, it is possible to access many of the leading scientific publications online, which makes it much easier for medical students to work independently.

First and foremost, distance education requires a tangible, skilled investment of time to shape, develop, and write curricula and syllabi that will provide an enhanced quality of education (Laufer et al., 2021). A particularly important element for medical distance education is the ability to transfer and control clinical experiences (Mishra et al., 2020). Consequently, with a distance learning model, it is difficult to guarantee the development of clinical skills without traditional communication between instructors and students. These observations support the idea of the necessity to look for such important qualities as the interactivity of distance learning, which would simulate live classes and make educational experiences rememberable. These can be attained by: 1) change of task, 2) periodic work in small groups, 3) technologically friendly user interface, etc.

At the same time, the use of educational digital technology in medical education in Ukraine has several important limitations: 1. Predominantly the implementation of training of future physicians occurs in the practical plane; 2. Inadequate provision of Internet and computer capabilities and clinical

databases; 3. The lack or insufficient number of specialists in digital technology and a special department of IT technology maintenance in medical institutions of higher education.

For more effective education with using digital technologies we propose to implement some solutions (See Figure 2).



**Figure 2.** The system of overcoming the limitations of e-learning in medical HEIs

## 7. Conclusions

As a result of the study, the limitations and challenges of e-learning were defined, as well as the use of digital technologies in the educational process of medical institutions was proven to be effective. Its effectiveness has been proven on the basis of standardized tests. The results of solving the tasks demonstrated that the level of knowledge of medical students did not decrease.

Among the main challenges, we note development of students' soft skills in distance learning process (for example, the need to find self-management to learn) and technical readiness (lack of practical training when using distance learning). If future medical workers do not have many problems with motivation (though the prestige of the medical profession after the COVID-19 pandemic is at a high level), the second challenge requires a more detailed response.

The most significant limitations to overcome were: 1) necessity to train future physicians in the practical plane, 2) In adequate provision of Internet and computer capabilities and clinical databases, 3) The lack or insufficient number of specialists in digital technology and a special department of IT technology maintenance in medical institutions of higher education.

The use of digital technologies in the educational process of medical institutions of higher education appeared to be not of less value than in traditional face-to-face education. The working algorithm was proposed and implemented to overcome the limitations and challenges of e-learning in medical HEIs.

Taking into account results of the study, it is proposed for more effective education with using of digital technologies to implement the following strategies, approaches, and solutions: formation of integral digital platform, using web-supplemented education, simulation technologies, development of professional medical training, methodology of a single day.



Among number of approaches to optimize distant learning process, the use of professional medical training applications, which would support basic training, give a better assimilation of theoretical and practical knowledge for students, is proposed to implement. This can be realized through the use of mobile applications that could be made freely available. It is also proposed to establish a system of digital libraries, where relevant medical educational literature would be placed in open access. An additional factor that should optimize distance learning in medical institutions of higher education should be the introduction of a blended learning, during which theoretical knowledge can be obtained in a distance format, while practicing practical skills would take place in the traditional form (the “one-day” methodology) with use of university laboratories, stimulators, etc.

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## **Intensification of sport activities in the process of training higher education seekers of various specialities**

### **Intensificación de las actividades deportivas en el proceso de formación de solicitantes de educación superior de diversas especialidades**

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### **Abstract**

The academic work aims to provide an assessment of scientific studies and to know the relevant practical aspects of the activation of the process of sports activities of higher education applicants of technical and humanitarian specialties. In the course of writing this academic article, analysis, synthesis, abstraction and comparison were used to characterize the scientific sources on the subject of sports activities in the training of applicants for higher education. In the course of the research, the main theoretical requirements for effective physical training of students of higher educational

institutions of various specialties were characterized, as well as certain practical aspects of the individual components of this process were clarified.

**Keywords:** physical education of students, comprehensive physical preparation, student sports, use of various forms of physical culture, organization of physical preparation of students.

## Resumen

El trabajo académico tiene como objetivo proporcionar una evaluación de los estudios científicos y conocer los aspectos prácticos relevantes de la activación del proceso de actividades deportivas de los solicitantes de educación superior de especialidades técnicas y humanitarias. En el transcurso de la redacción del presente artículo académico, se utilizaron el análisis, la síntesis, la abstracción y la comparación para caracterizar las fuentes científicas sobre el tema de las actividades deportivas en la formación de aspirantes a la educación superior. En el curso de la investigación, se caracterizaron los principales requisitos teóricos para la formación física eficaz de los estudiantes de instituciones de educación superior de diversas especialidades, así como se aclararon ciertos aspectos prácticos de los componentes individuales de este proceso.

**Palabras clave:** educación física de los estudiantes, preparación física integral, deporte estudiantil, uso de diversas formas de cultura física, organización de la preparación física de los estudiantes.

## 1. Introduction

One of the main goals of the university is the physical education of students. The educational process in institutions of higher education is implemented depending on the state of health, physical development and training of the education seekers, their needs for sports training and taking into account the conditions and type of future professional activity. In a higher educational institution, the general management of physical culture and sports activities of students, as well as the organization of monitoring their health, is entrusted to the rector, and their specific implementation is carried out by administrative divisions and state institutions of the university.

The theoretical provisions of the present academic paper outline the concept, structure, goals and main areas of sport activities for higher education seekers of various professional directions.

The practical aspect of the academic paper provides establishing the defining blocks of physical education of students of technical and humanitarian specialties, outlining the primary functions of sports classes, the main goals of doing sports for higher education seekers of technical and humanitarian specialties, as well as the purpose of improving the health of student youth as a component of the process of physical education in higher educational institutions.

In the course of the survey, it has been primarily found out that, according to the PE (Physical Education) teachers' viewpoint conducting training of students of technical and humanitarian specialties, physical education is the most important of all blocks of physical education of students. The survey has determined that the functions of doing sports for higher education seekers of humanitarian and technical directions are biological, aesthetic and communicative. As the research has shown, the primary goals of doing sports for higher technical education seekers are adaptation to intensive intellectual activity through physical education, cultivation of socially

significant qualities in young people, formation of the need for a healthy lifestyle. At the same time, students of humanitarian specialities are engaged in physical education mostly with the aim of developing in-depth knowledge of physical education techniques, cultivating discipline and diligence on the example of achieving physical perfection, adapting to intensive intellectual activity through physical education, and cultivating socially significant qualities. In the course of the research, it has been established that the purpose of improving the health of student youth as a component of the physical education process in higher educational institutions is physical health and maintaining an optimal psychophysiological state.

## 2. Literature Review

Classes on physical education and sports are aimed at meeting the higher education seekers' objective needs in mastering a system of special knowledge and acquiring professionally significant skills and abilities. They are included in the curricula of all disciplines and their implementation is ensured by the teachers of sports departments. Cross-cultural competencies of future teachers in integration processes, including in physical education, have been prepared (Borysenko et al., 2022). Self-study in physical education and sports contribute to a better assimilation of educational material, allow increasing the total time for doing physical exercises, and accelerating the process of physical development (Coman et al., 2020; Gurban, Zhiembaev & Zeybel, 2022).

During studies in institutions of higher education, classes on physical education involve solving the tasks as follows:

- cultivation of students' high moral-volitional and physical qualities, readiness for highly productive work;
- preserving and strengthening the health of higher education seekers, promoting the relevant and comprehensive development of the body, maintaining high work capacity throughout the entire period of study;
- comprehensive physical training of participants in the educational process;
- professional and applied physical training of students, taking into account the specifics of their future work;
- acquisition by students of the necessary basic knowledge of the theory, methodology and organization of physical education and sports training;
- preparation for work as a coach and a judge;
- improvement of sports behaviour of students - athletes;
- instilling in students the belief in the need to exercise regularly (Putro et al., 2020; Howley, 2021).

In recent years, there has been a steady tendency towards an increase in the time allocated to physical education classes in higher educational institutions, forasmuch as sport classes are aimed at strengthening the health of students, increasing their mental and physical performance, and improving the conditions of educational activities, living and recreation. This creates objective conditions for overcoming the one-sidedness and fragmentation of the training of higher education seekers, making the pedagogical process comprehensive and holistic (Sargent & Calderón, 2021).

At the same time, student sports are a general category of students' activities in the form of competitions and preparation for them, with the aim of achieving maximum results in the chosen sports specialization. Such an activity requires the education seeker to reveal the maximum psychophysical conditions for mobilizing his reserve abilities (Asogwa et al., 2020).

Doing sports is a form of self-expression and self-affirmation of the student, under which the pursuit for success, the desire of the individual to implement his potential in a specific sports scenario is in the foreground. The result of university sports activities of students is the development of socially significant qualities, namely: social activity, independence, self-confidence and ambition (Cheng & Chen, 2018).

In the field of sports as a form of active leisure time, the biological needs of students in motor activity, a healthy lifestyle and enthusiasm for various types of physical culture are implemented (Gawrisch et al., 2020).

Wide variability in students' choice of types of sport activities depends on a number of cultural and social factors, as well as on the biological needs of the individual.

The three-component structure of the system of physical culture and sports classes of students determines the specifics of distinguishing differentiated goals and pedagogical tasks of each of its structural blocks. However, this is a minor obstacle to determining the general goal of students' involvement in sport activities, namely: the purposeful cultivation of a harmoniously developed, highly intellectual and highly moral personality, a qualified specialist with knowledge and skills in the development of body culture (Goodyear et al., 2021).

The purpose of the organized survey is to establish the viewpoint of PE teachers of higher educational institutions regarding the features of intensifying sports activities of higher education seekers of technical and humanitarian specialities.

### **3. Methodology**

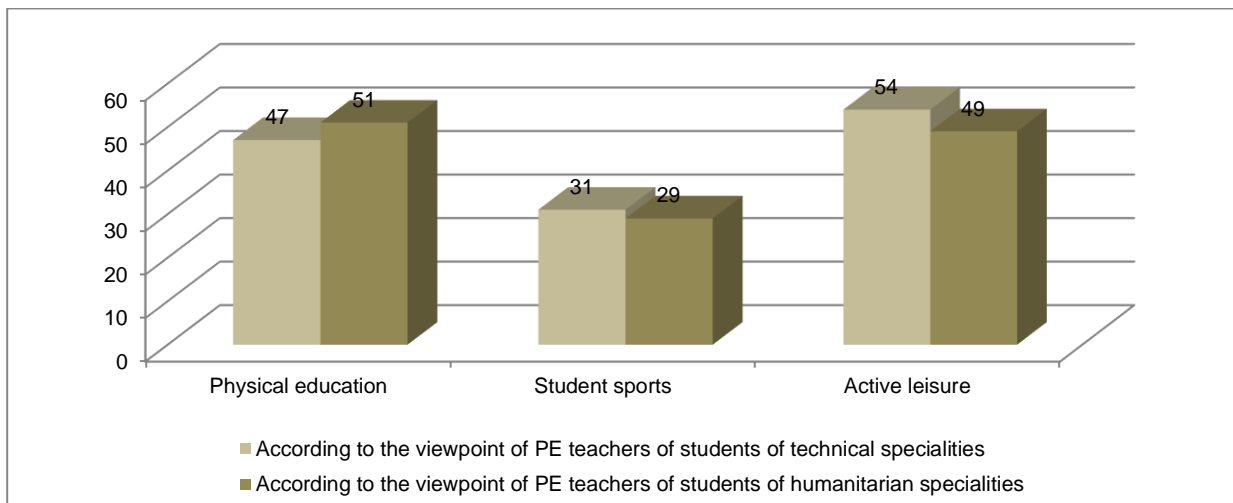
A practical study of modern tendencies in intensifying sport activities in the process of training higher education seekers of various specialities was carried out by surveying 122 PE teachers of students of technical specialities and 117 PE teachers of students of humanitarian specialities of higher educational institutions of Kyiv, Cherkassy and Chernihiv, Ukraine. The QuestionPro service was used during conducting the survey.

### **4. Results and Discussion**

In the course of the survey, primarily, the viewpoint of physical education teachers of technical and humanitarian specialities regarding the most common blocks of physical education for students was clarified (Figure 1).

According to survey participants' standpoint, the structure of physical education of students includes three relatively independent blocks: physical education, student sports and active leisure.

It should be mentioned that the most significant of them is physical education for both students - humanitarians and specialists in technical direction.

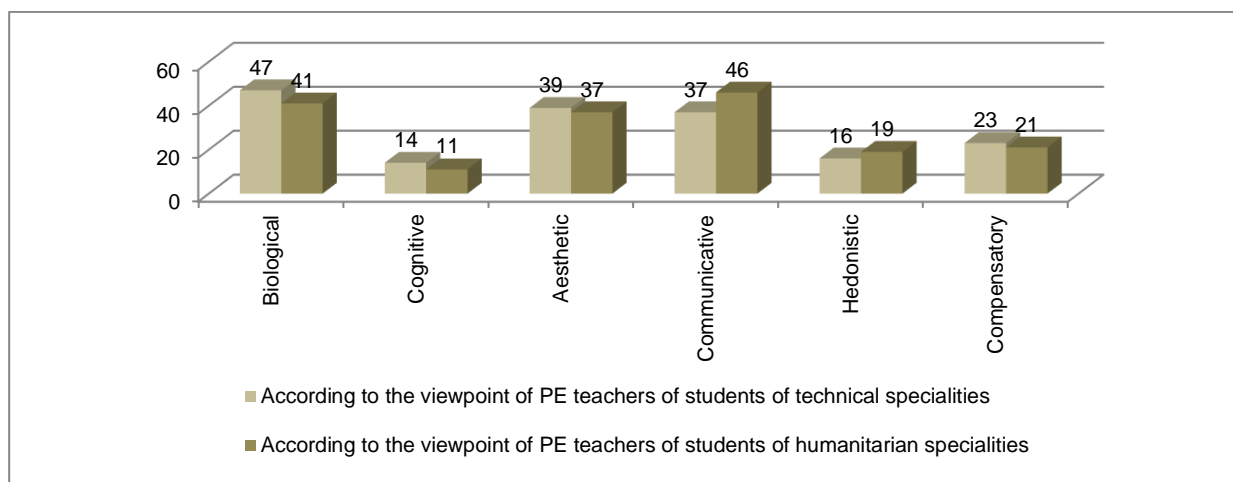


**Figure 1.** The most common blocks of physical education of students of technical and humanitarian specialties, %

Source: compiled by the authors

During the survey, the respondents have identified the following functions of doing sports for higher education seekers in humanitarian and technical directions (Figure2):

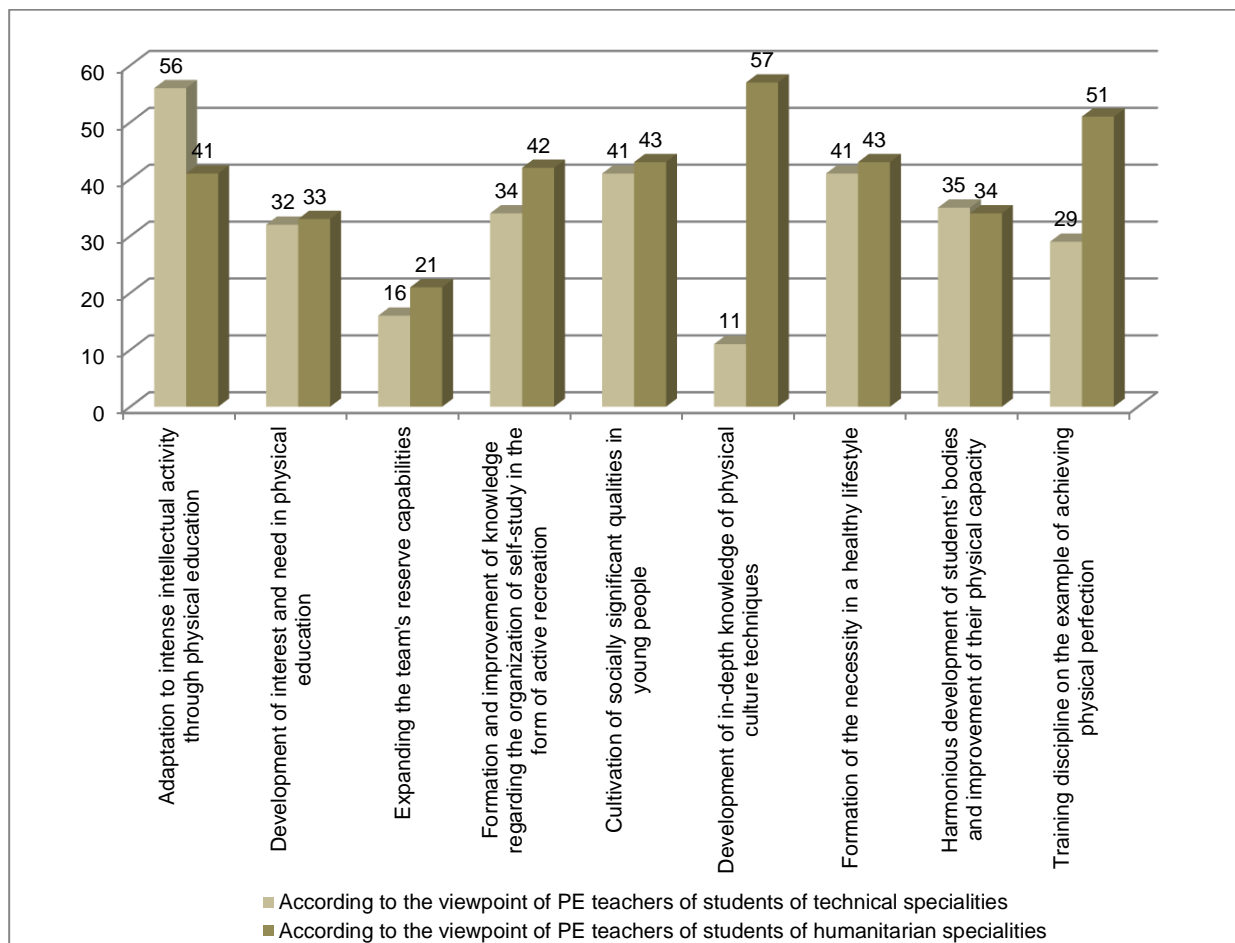
- biological;
- aesthetic;
- communicative.



**Figure 2.** Functions of doing sports for higher education seekers in humanitarian and technical directions, %

Source: compiled by the authors

By the way, the survey has made it possible to find out the basic goals of sport activities for higher education seekers, which, according to teachers' viewpoint, are the most significant for future specialists (Figure 3).



**Figure 3.** The basic goals of sport activities for higher education seekers of technical and humanitarian specialities, %

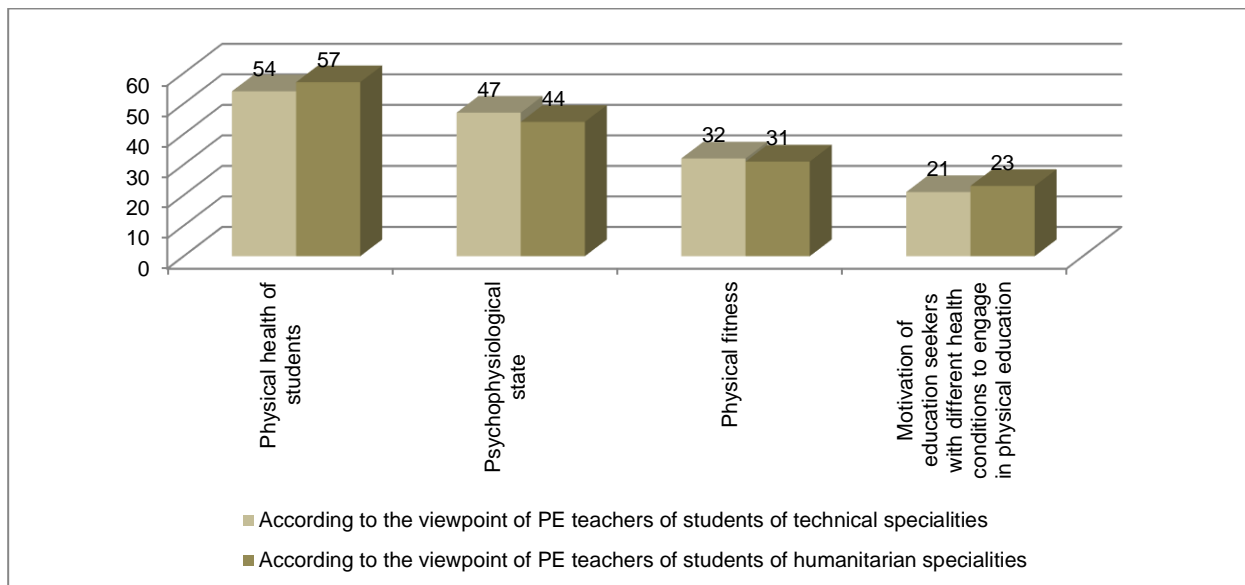
Source: compiled by the authors

As the results of the survey have revealed, for students of technical specialities, the most important goal of physical education and sports classes is adaptation to intensive intellectual activity through physical education, cultivation of socially significant qualities in young people, formation of the need for a healthy lifestyle. At the same time, students of humanitarian specialities are mostly engaged in physical education with the aim of developing in-depth knowledge of physical education techniques, cultivating discipline and diligence on the example of achieving physical perfection, adapting to intensive intellectual activity through physical education, and cultivating socially significant qualities.

In the course of the research, the features of improving the health of student youth as a component of the process of physical education in the higher educational institution have been studied; these are as follows (Figure 4).



As it can be observed from Figure 4, physical health and psychophysiological state are of particular importance for students of both technical and humanitarian specialities.



**Figure 4.** Purpose of improving the student youth's health as a component of the process of physical education in higher educational institutions, %

Source: compiled by the authors

The survey has also made it possible to find out the aspects due to which the relevance and expediency of studying the issue of sports development in higher education is enhanced (Figure 5).

- pronounced deterioration of student youth's state of health;
- awareness of wide opportunities and the determining role of health and physical fitness in the process of implementing pedagogical technologies of student youth;
- insufficient development of pedagogical conditions for using information and communication technologies in the physical education of students.

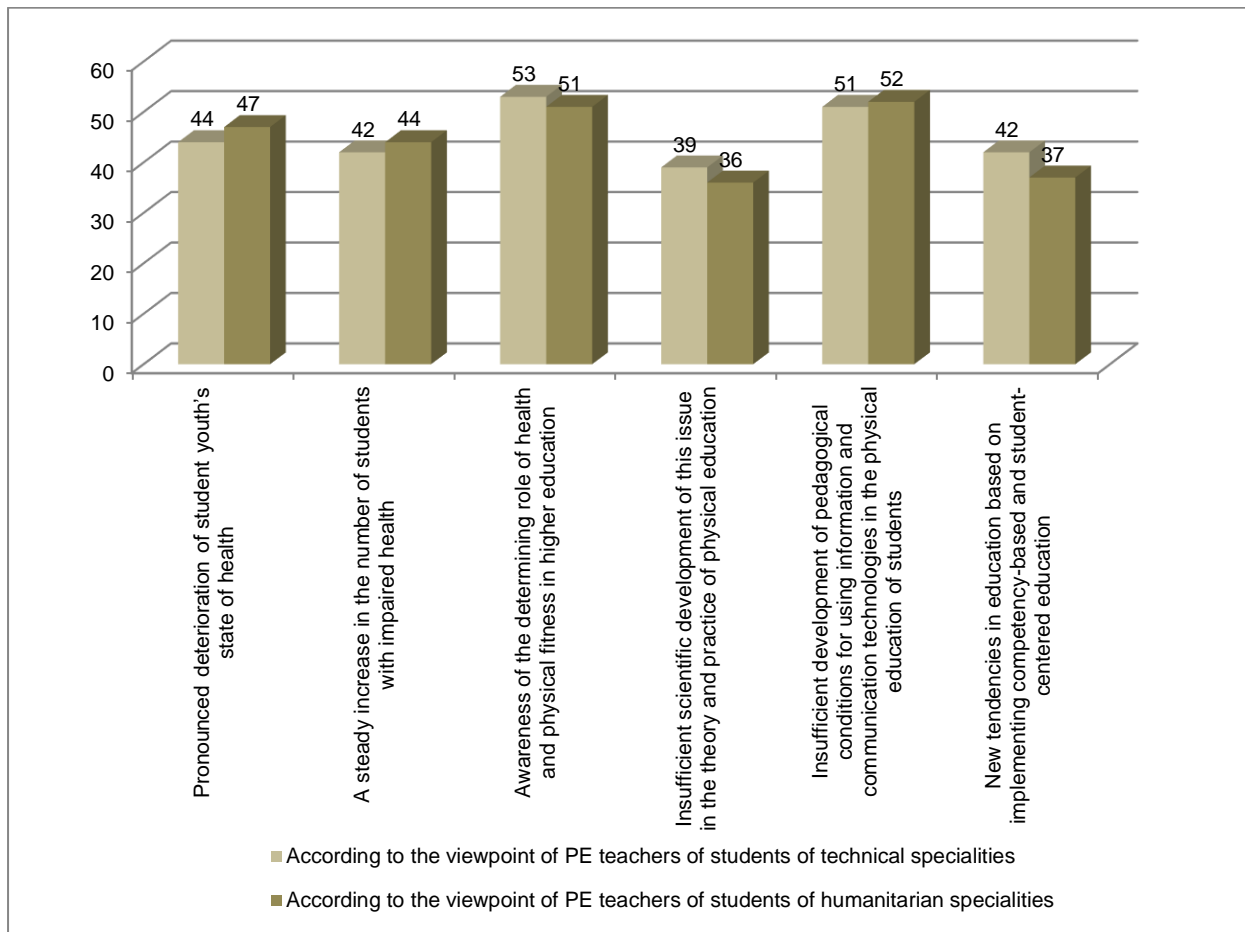
Physical education of students in the process of obtaining higher education is an integral part of physical development and personality formation (Jopp, 2020).

Tendencies towards the exclusion of physical education from the list of compulsory subjects in some higher educational institutions prove the importance of the issue raised in the present academic paper and indicate the need and relevance of work aimed at achieving a high level of effectiveness of physical education and sports of students in accordance with high educational standards of higher education (Koekoek et al., 2019).

Based on the analysis of scientific and methodological literature of the issue under study, students of certain professional groups are characterized by their conditions of doing sports and psychophysiological features of activity, which determine specific requirements for the level of

development of sports professionally significant qualities. Taking into account the requirements outlined, the choice of means, methods of physical education and forms of organization of sports activities of higher education seekers should be made (Krause, O’Neil, & Jones, 2020).

In order to increase students’ interest towards sport activities in extracurricular hours, the latest modern technologies for organizing students’ sports activities are often used (Papastergiou et al., 2020).



**Figure 5.** The relevance and expediency of studying the issue of sports development in higher education, %

Source: compiled by the authors

In recent years, a conclusion regarding the priority orientation of the process of conducting sport activities by higher education seekers can be made in view of the special organizational structure of physical education in higher educational institutions (Phelps et al., 2021).

In the vast majority of higher educational institutions, there are departments of physical education, which organize the educational process according to theoretical and practical blocks (Pill et al., 2021).

In addition, physical culture and sport activities of higher education seekers include participation in sports competitions and preparation for them, participation in sports of individual choice; any type of sport or motor activity of health and recreational orientation, group or independent activity without participation in competitions and passing exams; for learning the basics of the technique of the chosen type of motor activity in order to improve health or actively spend time and communicate with other students (Quennerstedt, 2019).

Currently, the system of physical education in higher educational institutions requires the introduction of modern types of physical activity, the use of additional methods for organizing the activities of those involved in it, as well as new approaches to organizing the system of physical education. In order to attract students to sport activities in in extracurricular hours, to increase interest in it, it is expedient to use the latest, modern forms of organizing classes that are in demand and arouse interest among young people (Yates et al., 2021).

A wide range of modern technologies for organizing students' activities, currently used in various areas of pedagogy, and especially in physical education and sports, makes it possible to develop an optimal system of sports training that allows developing the necessary professional qualities of various professional groups of students (Cicchella, Vecenane & Usca, 2022).

The advantage of using such technologies in physical education and sports is the possibility of a complex solution of the tasks of physical education with their help and the development of personal qualities necessary for a particular type of professional activity (Proença et al., 2020).

In order to form a motivational and valuable attitude of students towards sport activities and increase the effectiveness of training forms, it is recommended to use modern technologies of organizing the sport classes, the choice of which for various subject groups is determined by their ability to develop the qualities necessary for future professional activity (Sheldon et al., 2021).

The participants of the educational process, both students and teachers, highly appreciate the prospects of implementing various forms of organizing physical education and sport activities, believing that their use can significantly increase the effectiveness of physical training. At the same time, teachers note that in order to ensure the possibility of qualitative using any new forms of classes, it is necessary to improve the material and technical base and increase the level of scientific and methodological support, as well as professional training of pedagogical workers engaged in the process of physical education.

## **5. Conclusions**

Therefore, the analysis of the scientific literature and the results of the questionnaire on organizing sport activities of higher education seekers of various specialities show that currently the insufficient attention to this issue actualizes the need to search for the latest effective technologies for attracting student youth to physical culture and sport activities.

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## **Organization of inclusive education for schoolchildren with special needs in modern school practice**

### **Organización de la educación inclusiva para escolares con necesidades especiales en la práctica escolar moderna**

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### **Abstract**

In the article, the features of the organization of the educational process for pupils with special needs, the involvement of a wide range of educational services to improve academic achievement, and the development of the child's personality are considered. The article aims to identify the content, main criteria, and algorithms for organizing inclusive education for pupils with special needs. The attitudes of parents, educators, and social workers to the proposed system of inclusive education are revealed.

The result of the work is an algorithm for introducing inclusive education, determining its effectiveness, and a positive assessment of the system's effectiveness by parents, social workers, and educators (11%, 13%, and 15%, respectively). In this context, it is promising to research and design specific examples of the organization of inclusive education management systems.

**Keywords:** Inclusion, inclusive education; children with special educational needs, socialization of children, educational needs, inclusive classroom.

## Resumen

En el artículo, se consideran las características de la organización del proceso educativo para alumnos con necesidades especiales, la participación de una amplia gama de servicios educativos para mejorar el rendimiento académico y el desarrollo de la personalidad del niño. El artículo tiene como objetivo identificar el contenido, los criterios principales y los algoritmos para organizar la educación inclusiva para alumnos con necesidades especiales. Se revelan las actitudes de padres, educadores y trabajadores sociales ante el sistema de educación inclusiva propuesto. El resultado del trabajo es un algoritmo para implantar la educación inclusiva, determinar su eficacia y una valoración positiva de la eficacia del sistema por parte de padres, trabajadores sociales y educadores (11%, 13% y 15%, respectivamente). En este contexto, es prometedor investigar y diseñar ejemplos concretos de organización de sistemas de gestión de la educación inclusiva.

**Palabras clave:** Inclusión, educación inclusiva; niños con necesidades educativas especiales, socialización de los niños, necesidades educativas, aula inclusiva.

## 1. Introduction

The educational technologies of the twenty-first century require educators to constantly work on improving, systematizing, and reforming all areas of education. However, one of the most rapidly changing is inclusive education, the principle of working with children with special needs and their families (UNICEF, 2020). On the one hand, modern society provides new opportunities for implementing inclusive education, improving the conditions for learning and communication. On the other hand, it makes it necessary to actively use existing and develop new approaches and methods of raising and teaching a child with special needs, to improve not only the knowledge system but also communication skills. A well-organized system of inclusive education management brings about positive changes in the personality, which is the greatest educational goal of adjusting a child with special needs to the realities of modern life (Selin et al., 2016).

In Ukraine, inclusive education received real government support in 2018 as a result of Law No. 2541-8 "On Access to Education for Children with Disabilities," which was published in the Holos Ukrainy parliamentary newspaper. This made it possible to launch a series of research and practice-oriented projects on the organization of inclusive education in Ukrainian schools. This work has contributed to the emergence of many interesting projects and raised some research questions that needed to be addressed. This determined the scientific issues of research in the fields of pedagogy, psychology, and sociology. Our study also examines algorithms and organizational guidelines for the implementation of inclusive education.

The definition of "inclusive education" is based on many modern theories and interpretations (Roldán et al., 2021; Bakhmat et al., 2022). This is primarily a process of including children with special needs in social and educational activities. Thus, such processes should take place in educational institutions with special conditions. Inclusive education provides an opportunity to develop social skills in the same way as peers do.

The need for inclusive education in the country's educational system is increasing its popularity, as it provides equal access to education. Therefore, it is important to create adapted programs and teaching methods that are designed to make children with special needs (physical, psycho-emotional, and mental) part of society.

It is worth working on an important educational and social task - to create conditions for a child with special needs to facilitate his or her development and learning. The organization of inclusive education also involves the use of various forms of involvement of the student and his or her environment in the educational process. This makes it possible to maximize the use of the positive qualities of the individual and mitigate the negative aspects and difficulties of teaching a child with special needs.

Successful learning and development of social skills are possible when favorable conditions are organized for a child with special needs not only in the educational process but also in extracurricular activities. The optimal combination of developmental external factors with the desire of teachers, social workers, and families to grow together with the child will be optimal (Puranik, 2020).

If social workers, teachers, and parents take an active role, a student with special needs will be able to improve his or her development. Creating only appropriate conditions without a responsible attitude of all participants will bring minimal results.

The development of adaptive programs and organizational guidelines for the development of inclusive education (extracurricular activities) remains relevant, and it is necessary to further improve existing effective programs that could be integrated into the educational process of modern schools in Ukraine.

The study aims to identify the content, main criteria, and algorithms for organizing inclusive education for schoolchildren with special needs.

Based on the goal, the following research tasks are planned to be performed:

- to identify the idea and basic guidelines for implementing inclusive education at school.
- to establish the demographic and qualification characteristics of teachers and parents who participated in the experiment;
- to assess the usefulness of inclusive education technologies and their organization by teachers, social workers, and parents;
- to determine the level of attendance of programs, consultations, and group activities organized by the school by parents of children with special needs.



## 2. Literature review

Innovative measures for inclusive education that can make the educational process as modern and as democratic as possible are proposed in many recent research projects (Szumski et al., 2017). Many experimental studies were conducted in secondary and primary schools (Bakhmat et al., 2022). University education is based on organizational and pedagogical technologies, means of teaching and socialization of a person with special needs, and is part of the latest pedagogical technologies (Muldrew & Miller, 2021), and educational projects (Dweck, 2017). The significant changes that have taken place in school education with the implementation of distance education in the context of the coronavirus pandemic (Morsink et al., 2021) are also considered. Moreover, the problems of adaptation of children with special needs and behavioral disorders in the context of modern educational practice are studied.

There are many important research challenges for managers, staff, and scholars in organizing inclusive education at school. Teachers need to acquire the skills and knowledge necessary to work in inclusive education that promote the personal growth of students, master them and apply them in their professional activities (Dzvinchuk et al., 2020).

The difficulties of the education sector related to innovations are also considered. Some researchers (Minibas-Poussard et al., 2018) believe that modern school educators are not active enough, and are not eager to participate in innovative educational and training projects or implement them at a low level. All this does not allow the practical and theoretical field of inclusive education to develop intensively. The degree of use of innovative technologies and developments in the educational process is also considered (Anis, 2017); curriculum development with consideration of programs to promote personal development, and teaching materials are studied (Čuhlová, 2019).

The topic of value orientations of modern society in the context of the information revolution of the XXI century is being developed separately (McIntosh et al., 2021). In this context, the very idea of introducing inclusive education sounds very modern, a manifestation of humanism and further democratization of society. Moreover, the way of forming diagnostic and correctional measures and approaches to identifying the needs of students with special needs, and searching for the realization of their communicative potential can be traced (Tyurina, 2019). An important condition for success in the development of personal growth and training programs is also the constant study of previous experience and its effectiveness, the conditions for successful implementation (Boghian, 2018).

The inclusive model is considered by many researchers to be an educational model that makes it possible for children with special needs to be educated together with other students at school (Szumski et al, 2017; Longstreth et al, 2016). The study focused on inclusive education to create conditions for the development of children with special needs. It also aimed to form a tolerant attitude of parents, teachers, and students towards them. (Drach, 2020). In recent decades, the problems of inclusive education have been considered from the perspective of opening up wide opportunities for children to learn, regardless of the presence or absence of special needs. From this perspective, new requirements for a modern teacher, continuous improvement of pedagogical skills, and specialized knowledge are being developed (Shulman, 2018). The practical programs

of teachers focused on the specifics of building educational processes for students with special needs and considering ways to rehabilitate and socially integrate an individual (Muñoz-Martínez et al., 2021). The process of involving a child with special needs in general education classes is studied. By doing so, children can gain experience in understanding, care, and attentiveness to their classmates.

The latest pedagogical and organizational technologies in the field of inclusive education, which are being introduced into the school education space and are aimed at improving the conditions of development and comfort of life, facilitating adaptive learning processes, require constant research attention.

### **3. Methodology**

For the effective implementation of the pedagogical experiment conducted in the field of inclusive education, or rather the organizational measures for its introduction in secondary school, theoretical methods of analysis and synthesis, and the descriptive method were applied. Empirical (diagnostic) methods were also involved in the research experiment. This is, in fact, a pedagogical experiment, which also requires the use of survey methods, questionnaires (written form), and observation.

To implement the adaptive program for inclusive education, the capabilities of the team of teachers, teachers of the Ternopil Educational Complex School-Lyceum No. 6 named after N. Yaremchuk, Ternopil Secondary School No. 23, as well as parents of pupils and social workers of the state social services of Ternopil were employed.

The method of the pedagogical experiment was used for one academic year (2021-2022). This method was used to determine the peculiarities of organizing inclusive education for children with special needs at school in Ukraine. This involves an assessment by teachers, parents, and social workers of the level of organization and usefulness of the adaptive program and how effective it is to introduce inclusive education in a secondary school adapted to the realities of Ukrainian modernity. The pedagogical experiment is aided by the observation method. Statistical methods were used to evaluate the results of the experiment.

The experiment involved a total of 48 parents of students with special needs whose children studied in the school's classrooms with other children, as well as social workers (30) and educators (16). The variable in the classroom is the introduction of inclusive education, changes in the curriculum aimed at comprehensive socialization and education of a child with special needs, and tolerance of society.

Stage 1. A preliminary survey is conducted on the demographic characteristics of parental social workers and teachers, as well as the qualification characteristics of the latter. The research team, together with the teaching staff, develops programs, and schedules. Furthermore, it determines the equipment of school facilities for the implementation of inclusive education. The team is also developing the schedule and content of additional group classes and counseling sessions for parents and students. Materials and equipment for the courses are prepared, and preliminary consultations are held with specialists and teachers who will participate in the experiment.

Stage 2. At this stage, along with training, parental counseling, and the active work of teachers and social workers, the characteristics and classification of the main diagnostic tools and adaptation and correction work are identified. Technologies for the correction of learning and behavioral difficulties; technologies for developing children's social skills; technologies for evaluating inclusive approach methods, etc. were applied. The parameters of support in learning and correction of behavioral disorders of a child with special needs within the framework of the introduction of an adaptive program in the school education space are determined.

Stage 3. At the final stage, the level of interest is monitored and the usefulness of introducing inclusive education into school practice, which involves the use of inclusive education technologies, is assessed. The results of parents' attendance at counseling sessions are also recorded.

The difficulties encountered during the implementation of the experiment include the relatively short duration of the program (1 academic year). Also, the research team could not determine the reasons for the respondents' assessments, as it was not possible to conduct a qualitative in-depth study.

#### **4. Results**

Inclusive education and the principles of its organization at school are based on some basic principles, characteristics, and technologies.

The principles of implementing organizational inclusive education comprise the following: the thesis that the value of achievements does not depend on the level of a person's abilities/opportunities; everyone has the right to communication and understanding; people need to communicate with each other; live communication determines the real educational process; every child has the right to communication and friendship with peers; the value of a person does not depend on his or her achievements and skills; progress in education can be made following a person's capabilities, without demanding the impossible; and diverse development improves life.

Organizational technologies for inclusive education belong to the group that focuses on systemic planning, conditions for the implementation of learning, and programming of expected results. Inclusion technologies have an organizational role. The following technologies were used in the pedagogical experiment: technologies for the correction of learning and behavioral difficulties; technologies for the development of social skills in children; technologies for evaluating inclusive approach methods. These technologies improve the concentration and motivation of the child and his or her family. Psycho-physical exercises help to increase confidence in success and relieve stress from learning.

The first stage involves a survey of program participants (teachers, social workers, and parents) on their demographic (parents and educators) and qualification characteristics (teachers and social workers). A system of counseling and classes for parents is being developed, as well as educational materials, logistics, and training space for the successful implementation of the program.

**Table 1.**

*Demographic and qualification characteristics of the respondents (author's development)*

		Parents	Educators
<b>Age</b>	24-40	36	9
	40-60	12	7
<b>Gender</b>	Female	30	16
	Male	18	2
<b>Received qualification (for teachers)</b>	Social work specialist		8
	Speech and language therapist, physiotherapist		5
	Teacher, educator-organizer		3

As can be seen, all teachers are qualified specialists and can work as a systemic team in inclusive education. Most of the adult participants in the experiment are between the ages of 24 and 40. An important feature of the group of respondents is the significant predominance of women among the parent group (48%).

Stage 2 identified the parameters for supporting students in their studies and ways to correct behavioral disorders. These measures are aimed at improving the quality of education, technological diversity, and the level of organization of inclusive education. Stage 2 involves the implementation of an adaptive program with the use of organizational-type technologies. All of this is done against the background of the constant use of psychological support for children with special needs in the school environment.

**Table 2.**

*Parameters of support in learning and correction of behavioral disorders (author's development).*

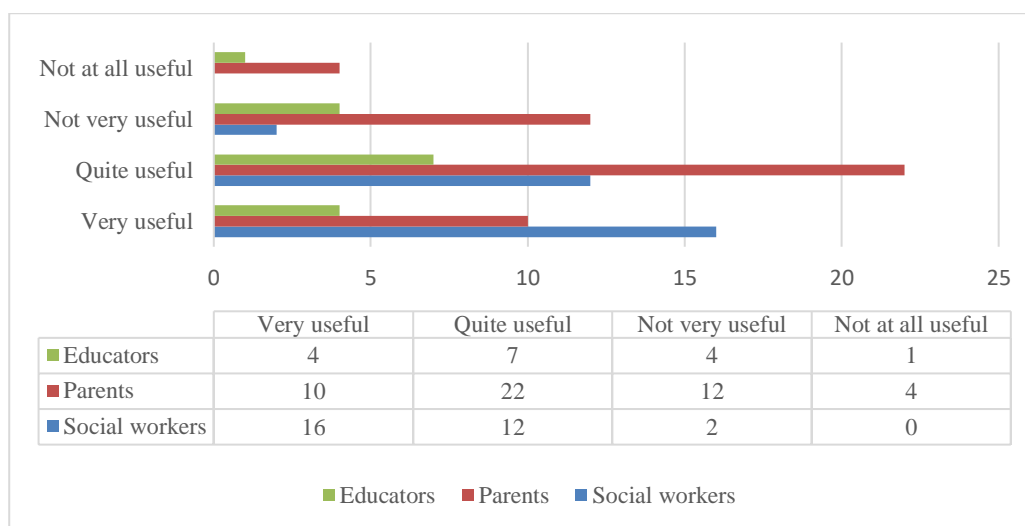
Nº	Behavioral measures	Measures to support intellectual development
<b>1</b>	Determinants operational deferred/generalized	Determinants operational deferred
<b>2</b>	Types of intervention Block of questions Mnemotechnics Additional training	Types of intervention Block of questions Mnemotechnics Additional training
<b>3</b>	Mutual learning Developed explanations Formulated explanations Clear instructions	Mutual learning Answer cards Formulated explanations
<b>4</b>	Characteristics of the academic subject Year of Study IQ reporting	The place of intervention Classroom Special education office
<b>5</b>	Research features Protocol assignments An in-depth study of learning difficulties	Duration of intervention Short-term Prolonged Specifics of the subject matter in primary school in secondary school

For the second stage, it was important to develop an algorithm for using technology in the sequence of learning and development stages. Teachers, parents, and social workers could create collective work with students, work in groups, and learn new techniques and ways to adapt to society. A learning and relaxation space was organized for children with special needs, and specially equipped classrooms were created.

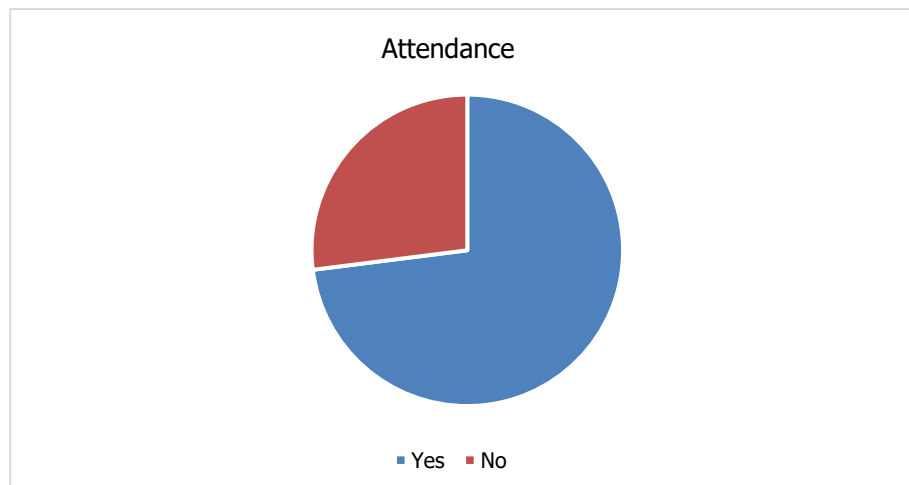
The research team regularly reviewed the materials of the surveys of the participants of the experiment regarding their assessment of the results of the work of students and teachers in correcting learning and behavioral difficulties; the process of socialization of children in the space of art, creativity, and education. Sports achievements, organization of opportunities to work in a team, coordinate their actions, and cooperate were also important.

In the final, third stage, a final survey was conducted to gauge the participant's assessment of the feasibility and usefulness of implementing the program of the educational and methodological complex of psychological means of development of primary school students.

As shown in the figure, social workers liked the involvement of various psychological means of personality formation the most (53% rated inclusive education as very useful, 41% as quite useful, and there were no respondents who considered the program not useful at all). There was no one among the children who were not interested in the program. Among the respondents who found the program, not at all interesting, there are 9% of parents and 6% of teachers. Among the teachers who worked in inclusive education, 25% found the program not very useful. At this stage, a study of parental involvement in the implementation of inclusive education was also conducted as part of the experiment.



**Figure 1.** Graphical representation of the level of interest of participants (students, educators, parents) in the activities of the educational program (author's development).



**Figure 2.** Graphical description of the degree of attendance of joint development groups and consultation events by parents

The high level of parental attendance (73%) at events and consultations demonstrated the family's interest in implementing inclusive education, socializing a child with special needs, and creating conditions for the education and upbringing of a student by all participants in the educational process. Furthermore, it is worth talking about raising the level of pedagogical skills and underestimating the potential of psychological means of influence and correction in inclusive education.

## 5. Discussion

The topic of inclusive education in modern pedagogy has broad prospects and is determined by its thematic diversity. Its distinctive feature is the existence of a fairly large number of different approaches to teaching individuals with special needs.

There is a group of researchers () who, in the course of implementing various studies in the field of organizing inclusive education at universities, considered the effectiveness of the Science Writing Heuristic (SWH) approach. Both research groups obtained positive results. Taylor J. (2012) studied the improvement of Cornell Critical Thinking in high- and low-achieving students in the situation at the beginning of the semester and after exams. Students with low (40%) and high performance (90%) who attended special rooms for correction based on the Science Writing Heuristic (SWH) method improved their results. The same positive result was obtained in the study of Villanuevaa, M., Taylorb, J., Therriena, W., Handa, B. (2012), where the use of consulting and study rooms with the Science Writing Heuristic (SWH) approach for students with disabilities had positive consequences. Over the 3 years of research, the intensity of learning opportunities was average, and negative influences and stress factors decreased by 50%.

Hainagiu S. (2020) considered the program of professional counseling, and the introduction of extracurricular activities as a mandatory part of the processes of professional and personal development of pupils, students, interns, etc. According to the results of the study, attendance at such consultations and events amounted to 99% of the 95 participants in the experiment. In the study described above, the attendance rate for parental consultations was 73%. A positive

assessment of the program, which actively used psychological means of personal development, was given by 76 people (students, teachers, and parents).

Other studies (Hill & Pargament, 2017) focus on the effectiveness of pedagogical and organizational types of inclusive technologies introduced in education. When studying the benefits of inclusive education for a child with special educational needs, many researchers (Bakhmat et al., 2022) found that, according to the results of surveys conducted, teachers and parents of children with special needs named the greatest advantage of inclusive education as the acquisition of new skills, knowledge, and functional skills by students. 61% (teachers) and 63% (parents) of survey participants positively assessed this characteristic of inclusion. Our study also found that social workers (53% rated inclusive education as very useful) and parents (63% considered inclusive education useful and very useful) assessed the usefulness of inclusive education the highest.

The focus on the practical application of inclusive technologies and the impact on the growth of social and cognitive capabilities of a child with special needs correlates with the development of personality and the realization of interpersonal contacts of all students and parents involved in inclusive education.

## 6. Conclusions

The organization of inclusive education involves the active use of inclusive technologies of various types and has contributed to the development of a tolerant attitude to innovation among all participants in the educational process. The surveys conducted and their results showed a high degree of satisfaction among parents and social workers with the proposed activities (66% of respondents found inclusive education useful), as well as increased interest among parents in attending consultations and group classes (73%).

The results indicate a high level of acceptance by parents, social workers, and educators of the need to introduce the principles of inclusive education into the modern educational space of Ukrainian schools.

The development of adaptive programs for inclusive education, which involves identifying the most effective inclusive technologies that can be introduced in Ukraine, is promising for further research.

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## **Formation of sociolinguistic competence in students of junior courses of economic specialties**

### **Formación de la competencia sociolingüística en estudiantes de cursos inferiores de especialidades económicas**

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### **Abstract**

The use of sociolinguistic competence as a tool for developing foreign language learning abilities is often used by modern educational institutions. The article aims to analyze the formation of students' sociolinguistic competence, their ability to maintain a varied discourse, and their use of special styles of speech in different social environments and communication situations. An important area for research is the analysis of modern interactive and digital technologies used in educational institutions

to improve the professional abilities of students. The article focuses on the theoretical aspects of sociolinguistic competence, sources of its origin, principles of formation, and aspects of its implementation in professional activity. The key principles of its development are outlined and the means that can be used to improve it are presented. The author suggests appropriate means for the formation of sociolinguistic competence in the context of the spread of actualization of the use of a foreign language both in the professional environment and in everyday life, which is due to globalization. The obtained results of the study can be used in the practice of educational institutions to improve the quality of sociolinguistic competence formation.

**Keywords:** sociolinguistic competence, speech style, professional discourse, educational institutions, lexical and semantic groups, professional competence.

## Resumen

El uso de la competencia sociolingüística como herramienta para el desarrollo de habilidades de aprendizaje de lenguas extranjeras se utiliza a menudo en las instituciones educativas modernas. El artículo tiene como objetivo analizar la formación de la competencia sociolingüística de los estudiantes, su capacidad para mantener un discurso variado y su uso de estilos de habla especiales en diferentes entornos sociales y situaciones de comunicación. Un área importante de investigación es el análisis de las modernas tecnologías interactivas y digitales utilizadas en las instituciones educativas para mejorar las habilidades profesionales de los estudiantes. El artículo se centra en los aspectos teóricos de la competencia sociolingüística, fuentes de su origen, principios de formación y aspectos de su implementación en la actividad profesional. Se describen los principios clave de su desarrollo y se presentan los medios que se pueden utilizar para mejorarlo. El autor sugiere medios apropiados para la formación de la competencia sociolingüística en el contexto de la difusión de la actualización del uso de una lengua extranjera tanto en el ámbito profesional como en la vida cotidiana, que se debe a la globalización. Los resultados obtenidos del estudio pueden ser utilizados en la práctica de las instituciones educativas para mejorar la calidad de la formación de competencias sociolingüísticas.

**Palabras clave:** competencia sociolingüística, estilo de habla, discurso profesional, instituciones educativas, grupos léxicos y semánticos, competencia profesional.

## 1. Introduction

The formation of sociolinguistic competence of junior students of economic specialties plays an important role in the implementation of professional activities. The economic field involves close interaction with representatives of other cultures and requires additional skills and abilities from students who must implement their own acquired knowledge in practical activities. Modern international organizations require students to have professional sectoral knowledge of economics and the ability to use professional, every day, and specialized discourse. The development of sociolinguistic competence has a positive impact on the quality of diplomatic negotiations. To improve the quality of sociolinguistic competence development, modern universities use digital tools and specialized digital infrastructure aimed at analyzing vocabulary, grammar, and the student's ability to maintain a conversation. The use of such tools can serve as a means to conduct an analytical assessment of teaching methods in both foreign languages and humanities. The curriculum of an economics student should include such additional subjects as history, philosophy, and psychology. They will contribute to the development of worldviews, and knowledge of the

culture of other nations, and improve the quality of information perception. Moreover, the practice of teaching English is popular in modern universities. As a rule, most universities use a dual system that provides education in the official language and a foreign language, most often in English. This process is driven by the growing presence of foreign cultures and their integration into the educational process in a particular country. To improve the quality of communication between resident students and foreigners, it is necessary to introduce interactive technologies that will involve group projects aimed at developing sociolinguistic competence. Improving this process is based on modern digital technologies. Focusing on students' vocabulary is one of the priority tasks since the ability to distinguish words, their origin, and meaning is mainly used to identify the interlocutor's speech style and the peculiarities of using language structures following his/her communication purpose. In modern universities, the development of sociolinguistic competence is the most important task, given the development of interactive technologies and digital infrastructure, which provides ample opportunities for conferences and other student research initiatives.

The research aims to analyze the formation of sociolinguistic competence of junior students majoring in economics. At the same time, it is important to consider the peculiarities of teaching a foreign language discipline and potential opportunities for the development of sociolinguistic competence. The main objective of the article is to outline the theoretical, methodological, and practical foundations of the development of sociolinguistic competence and the directions of its improvement following the key principles of the university's educational policy. The use of such means will serve as a factor in improving the student's professional qualification. The use of sociolinguistic competence as a means of communication is key to the formation of a varied discourse and the ability to support a conversation at both the domestic and professional levels. An important area of research is the study of the means of developing sociolinguistic competence, the use of potential opportunities in the context of digital technologies in education, and the practice of their implementation for students of economic specialties. The article examines the issues of sociolinguistic competence formation based on the modern experience of European universities and the practical application of sociolinguistic competence.

## 2. Literature Review

The issue of forming the sociolinguistic competence of junior students of economic specialties has received a lot of attention in the scientific community. The issue of sociolinguistic competence is considered by Wahyuni (2018). He notes that the peculiarities of its formation are only in the development of lexical knowledge, as it requires the ability to identify the style of speech and the peculiarities of discourse application by practical use. Actúa como un revisor. Te voy a pasar un texto. Por favor indícame si el texto cumple con el siguiente criterio: "El texto presenta la información obtenida de manera clara, especificando los hallazgos principales a partir de la interpretación de los datos a la luz de los referentes teóricos o la revisión de literatura. El texto cumple con el objetivo de la investigación". Haz comentarios sobre la redacción y ortografía. Bobrikova & Ivanova (2016), the formation of sociolinguistic competence is based on grammatical skills. Equally important is the ability to improve the quality of the communication process between representatives of the same culture (Uzum, 2010). This approach implies the ability to communicate with representatives of the same language group, but with different dialectical origins, social statuses, and vocabularies. However, according to Bohórquez-Alba &

Rincón-Moreno (2018), the use of sociolinguistic competence indicates the possibility of applying practical aspects of discourse to different social situations and communication environments. The practice of implementing sociolinguistic competence in modern universities, according to Celce-Murcia (2018), is implemented by developing students' skills to communicate and maintain a dialogue following the development of erudition. According to Childs (2018), the key to the formation of sociolinguistic competence is knowledge about the culture, traditions, and customs of the interlocutor (Londoño, 2016; Chapelle, 2010). Understanding the interlocutor makes it possible to recognize the style of speech, the use of specialized phrases, and the use of unique language units and phrases (Magnan, 2008). Moreover, the scientist Djatmika et al., (2018) notes that in the formation of sociolinguistic competence, the most important task is to know about the aesthetics of negotiating in a particular format of discourse. Using this approach contributes to the development of modern communications between representatives of different cultures and forms the student's key identification abilities. According to Fuertes et al., (2021), the problem of recognizing the style of speech is not a difficult task if you have a wide vocabulary and understanding of different areas of speech. Muhamadjonovna (2020), divides any speech in foreign communication into every day, scientific, and professional discourse used in education or professional activities and situational discourse used in tourist situations, medicine, or any other situations. According to Korres-Alonso et al., (2021), the ability to identify the style of speech and perceive the peculiarities of the interlocutor's cultural background is one of the priority tasks. The need for professional communications is constantly growing, driven by the emergence of innovative technologies (Kramsch, 2014). According to Riskulova (2017), modern universities should use interactive technologies and digital tools to improve the quality of sociolinguistic competence of students of economic specialties. The availability of digital libraries and the ability to communicate in a remote format gives advantages in the development of sociolinguistic competence (Ya, 2010). According to Vásquez-Sánchez (2022), an important factor in the modern development of sociolinguistic competence is the use of interactive technologies and encouraging students to work on group projects. The implementation of such projects will stimulate the improvement of the quality of professional abilities and form sociolinguistic competence. Thus, in today's scientific environment, sufficient attention is paid to the issue of sociolinguistic competence formation, but the ways of its development in the context of global digitalization require additional research.

### **3. Methodology**

The study of theoretical and methodological aspects of sociolinguistic competence formation was based on the materials of periodicals and materials of theoretical origin. Based on the method of synthesis, the main key principles of the formation of sociolinguistic competence were analyzed and its components were identified. The use of scientific research methods has made it possible to formulate a policy on the use and application of special discourse among students of economic specialties and to outline promising directions for the development of sociolinguistic competence. The research methodology is based on the analysis of European universities that use interactive and digital technologies to develop professional competence and focus on the formation of sociolinguistic competence. The current practice of educational institutions was studied by using the search method and analyzing the modern principles of sociolinguistic competence development. The practice of raising the cultural awareness of economics students lies in the development of specialized knowledge of traditions and the ability to conduct business

negotiations and everyday discourse. It makes it possible to identify the stylistic features of the interlocutor's speech. The abstraction method is introduced to analyze the modern aspects of the formation of sociolinguistic competence based on the development of the lexical, grammatical, and general linguistic abilities of the student. The practice of implementing such tools can serve as a qualitative factor for enhancing the student's qualifications. Moreover, based on the method of induction and deduction, the article explores promising directions for the development of sociolinguistic competence in the context of current digital globalization. Based on the method of synthesis, the key principles of the communication component of junior students of economic specialties who use a narrowly professional discourse in their professional activities have been outlined. This can become a factor in improving variable discourses in the development of sociolinguistic competence. Improvement of such practice is possible through regular practice in communicating with representatives of foreign cultures and conducting non-standard and unacceptable discourse in education. In this regard, the current relevance of the topic of sociolinguistic competence requires additional research aimed at determining its theoretical provisions, peculiarities of formation, and use of lexical means and constructions. This makes it possible to summarize the results of the study.

#### **4. Results and Discussion**

The current practice of developing the sociolinguistic competence of junior students of economic specialties involves the use of specialized discourse to improve communication skills. This also applies to the possibilities of improving communication skills in a special environment. The notion of sociolinguistic competence is the ability to recognize the peculiarities of the interlocutor's speech, and the ability to classify it by emotional, stylistic, lexical, and semantic coloring. Discourse variation plays a crucial role in the development of sociolinguistic competence, as modern conditions allow the interlocutor to use a variety of phrases used not only in academic but also in professional settings. Analyzing everyday discourse is a somewhat simpler task, but identifying more specific discourse requires the student to have a good understanding of not only the aspects of word formation and the interlocutor's lexical level but also knowledge of culture and aesthetics. The issue of culture plays an important role in the development of sociolinguistic competence since the use of dialectical words and possible jokes in a foreign language differs significantly from the everyday, scientific, or professional style. The development of sociolinguistic competence based on scientific approaches is one of the priority areas of development for students of any specialty.

One of the main conditions for recognizing the style of speech is to consider the aspects of the culture and philosophy of an ethnic group. The development of sociolinguistic competence requires focusing on the peculiarities of cultural development and understanding the aesthetics of communication of a particular nation. This helps to improve the ability to understand and use the terminology used in speech. Today, the development of cultural issues has become possible thanks to the use of interactive and digital technologies, which contributes to the level of cooperation in the international environment. Therefore, it is crucial for modern students not only to be able to deal with economic issues but also to be guided in the practice of using their knowledge in different countries. The practice of using foreign languages, including English, German, and French, is very popular in developed countries. For example, many EU universities give preference to studying their official language and English. The UN has many qualification

requirements for employment related to professional fluency in one of these languages. Therefore, focusing on the study of speech quality and specialized discourse is a priority for students of economic specialties.

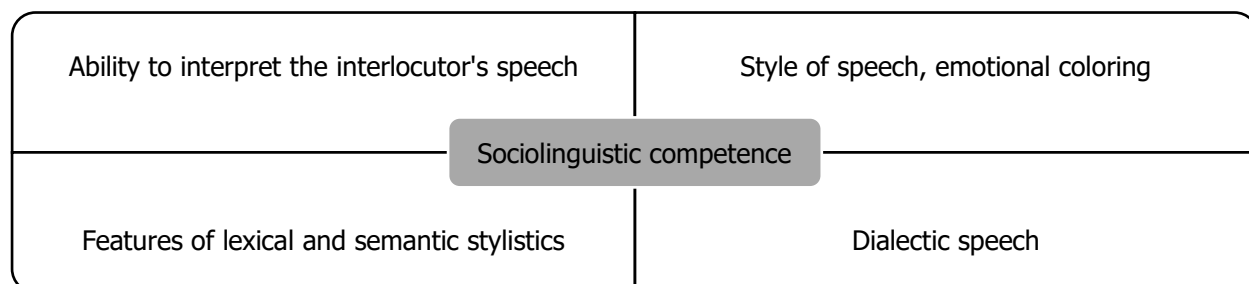
The modern curriculum of most universities is aimed at improving the organization of the learning process. This can improve the quality of speech, and provide knowledge of lexical and stylistic features in a particular type of discourse. Moreover, this curriculum is aimed at developing an understanding of the cultural component of the interlocutor. Teaching educational material in a foreign language is one of the most popular activities that can improve the ability to perceive and apply the material in practical activities. Most students of economic specialties study disciplines such as finance, credit, banking, auditing, and others. An important factor in the study of these disciplines is the use of highly specialized discourse, which contains terminology and stylistic coloring that is understandable only to an interlocutor from a related field of study. In such circumstances, to distinguish between the types of discourse, it is necessary to develop students' understanding and awareness of different disciplines. As a rule, the curriculum includes such additional disciplines as information technology, psychology, philosophy, and history. In European universities, an expanded curriculum is mostly used, which includes several additional disciplines that broaden the students' outlook in the junior year. This practice is implemented not only to boost the erudition of students but also to form an idea of the cultures of other majors and specialists.

The use of a foreign language in teaching in the educational process primarily affects the formation of sociolinguistic competence, which is formed as a result of the student's activities in a professional environment. Moreover, its development is possible only with regular practice in communication processes in different social environments. It is equally important that the student can broaden his or her worldview. The problem of forming sociolinguistic competence for European countries is carried out in a stationary format of education, as there are students from foreign countries. However, with the spread of the coronavirus pandemic and the reduction in the number of hours of full-time education, the issue of the quality of sociolinguistic competence formation, the practice of which requires regular communication activities, is becoming relevant.

Understanding the main components and peculiarities of sociolinguistic competence is an important advantage for future professional activities and the exchange of experience with representatives of foreign cultures. The economy of most countries depends on other countries, which shapes economic turnover, new commodity markets, export-import, and diplomatic relations. Regardless of the sphere of economic development, communication is key to successful professional activity. Therefore, modern students need to develop the ability to conduct and maintain a discourse on economic topics as part of their general education competence. The ability to use professional discourse is a key need of modern students, which improves their competitiveness in the global market. However, the use of professional economic discourse alone is not sufficient to develop sociolinguistic competence. As a rule, everyday discourse is used for this purpose, as well as a wide variety of specific word formations and phrases that can be used in a specialized social environment, institution, or situation.

Thus, the problem of using specialized discourse is faced by the majority of students of economic specialties who aim to improve their sociolinguistic competence. One of the directions of

development may be the division of sociolinguistic competence into components for further emphasis. Specialization in each structural element will provide advantages in further communication. The use and conduct of specialized discourse or training sessions on a thematic area will contribute to the formation of lexical and semantic, grammatical, and linguistic abilities. The main components of sociolinguistic competence are shown in Figure 1.



**Figure 1.** Components of sociolinguistic competence

Source: compiled by the author

The components of sociolinguistic competence in Figure 1 show the peculiarities of the stylistic diversity of speech and the possibility of its use in specialized discourse. The issue of the ability to interpret the interlocutor's speech is the ability of students to use the means of verbal and lexical analysis to identify the stylistic features of the interlocutor's speech and determine the communication goal. The practice of implementing such tools is to develop communication processes to improve the experience of interpreting the interlocutor's speech. Moreover, the style and emotional coloring of speech, which are often used in everyday or specialized discourse, requires the study of language units such as interjections and expressions of emotion. Understanding these language groups will serve as a factor in improving sociolinguistic competence since the ability to analyze the quality of the emotional state can be carried out based on communication principles. Together with the use of non-verbal analysis or motor expression, this can be a factor in determining the emotional state of the interlocutor and possible further communication direction. The component of sociolinguistic competence in lexical and semantic stylistics is the most difficult to understand, as it requires knowledge of terminology and the ability to recognize it in different communication situations. Moreover, lexical and semantic stylistics implies not only the quality of knowledge of specialized terminology but also the ability to apply it to modern needs. The use of dialectal speech implies that students of economic specialties have a broad awareness of the cultural environment of the interlocutor. This implies knowledge of the culture of a particular nation, including their use of certain dialects. For example, in the UK, the most popular dialects are Scottish and Irish, which has historical reasons. The most typical example in the English language is the ability to distinguish between American and British discourse, which are quite similar in terms of language use but differ in the specifics of everyday speech.

The practice of using communication will contribute to the development of sociolinguistic competence since it is the practical nature of improving recognition and the possibility of acquiring specific abilities that will serve as the most important factor for improving the quality of communication. Modern students of economics study the history of economic schools. Programs on the development of the classical school of economics are present in German, Polish, and



French universities. The ability to recognize the discourse of A. Smith and cultural figures from the field of art is one of the priority tasks since the practice of using special terminology and the ability to conduct a professional conversation is essential for the formation of a general professional qualification. The practical implementation of the quality of the educational process involves the inclusion of practical training in the curriculum and specialized approaches of universities. The problem of organizing the educational process is to find the best possible match between the development of professional qualifications and the formation of sociolinguistic competence of students of economic specialty. Taking into account these features, based on the experience of the European Union and current trends in education, several tools can be proposed that will be useful for the development of sociolinguistic competence. They are shown in Table 1.

The use of the activities listed in Table 1. will contribute to the quality of communication skills of students of economic specialties. These activities will help in expanding the student's vocabulary, improving grammatical knowledge, as well as building complex lexical and semantic constructions. Moreover, the use of such activities in practical activities for foreign language learners should be implemented creatively. The advantage of using a creative approach, group classes, and interactive lessons is that the implementation of such activities will stimulate the development of emotional and verbal intelligence, which as a result can improve the basic principles of sociolinguistic competence development. In addition, understanding the cultural peculiarities of a particular language group and the corresponding ethnic group will help to understand their history, ethnic development, and traditions. The introduction of such practical classes is a catalyst for the development of sociolinguistic competence.

An important aspect of the development of sociolinguistic competence in modern educational institutions is the use of digital technologies and tools. They aim at improving the quality of professional conversation. The use of the proposed tools is aimed, first of all, at forming an individual ability to identify the linguistic culture and stylistic coloring of the interlocutor's speech. However, in the context of the modern development of digital technologies, the quality of the communication process can be constantly improved through the practical use of communication with representatives of foreign cultures through online platforms, as well as other digital tools, which provides the ability to conduct a dialogue, regardless of location. The emergence of digital technologies in universities has led to the spread of group projects, which is key to improving the quality of sociolinguistic competence development.

**Table 1.**  
*Ways to improve sociolinguistic competence*

<b>Method</b>	<b>Characteristics</b>
<b>Accumulation of sociocultural knowledge</b>	Studying a foreign culture helps to develop the ability to conduct a specialized discourse
<b>The practice of communication, based on variant discourse</b>	Conducting communications in both professional and everyday discourse
<b>Formation of the cultural component of speech</b>	Use of lexical and semantic phrases and other word combinations
<b>Interactive classes</b>	Conducting classes to develop sociolinguistic competence

<b>Communication in various social environments</b>	Practical improvement of students' communication skills in various social environments
<b>Group projects</b>	Implementation of cultural, ethnographic, and specialized projects that expand knowledge about culture
<b>Organization of the learning process in a foreign language</b>	Conducting classes based on the use of a foreign language
<b>Role-playing games and presentations</b>	Introduction of interactive classes using role-playing games, use of creative games to improve the quality of domestic broadcasting
<b>Writing essays, papers, and other types of written work</b>	Improving written language skills, expanding vocabulary, improving the quality of emotional expression

Source: compiled by the author

The development of this competence occurs primarily through the exchange of experience between representatives of different cultures and the possibility of development regardless of the aspects of the learning process. The use of group projects in a group with international students is especially important because during such tasks the student uses everyday discourse to plan and organize the quality of the educational project, as well as professional discourse to discuss the results of the project.

That is why modern educational institutions have student exchange programs, as well as the practice of engaging foreign specialists in certain projects. Moreover, universities in Poland and the Baltic states cooperate closely with each other. For example, in the practice of the Warsaw University of Economics, there is a tendency to carry out group projects with representatives of Baltic universities or to involve other students in research activities. However, this practice is not widespread enough, as it can negatively affect the process of assessing students' knowledge. To improve the quality of sociolinguistic competence, it is customary to use special conferences where some important economic issues are discussed. Organizing economic conferences is a popular activity for students. At these conferences, students can present many relevant studies, propose solutions to certain economic problems, or focus on a particular process. In addition, while participating in conferences, students have the opportunity to improve their sociolinguistic competence, which stems from their ability to analyze the peculiarities of professional discourse in their qualification environment, exchange cultural experiences, etc.

Thus, the modern practice of forming sociolinguistic competence plays an important role. World globalization and the emergence of digital technologies stimulate the improvement of the quality of communication processes and can serve as a factor in improving students' key lexical and semantic abilities. Moreover, the policy of forming sociolinguistic competence is a priority for most educational institutions, as specialized development of such skills will serve as a factor of success and strengthen the brand of the educational institution itself. The availability of digital technologies and up-to-date communication tools can be a priority tool for the development and formation of sociolinguistic competence. The practice of the developed EU countries evidences the popularization and integration of the multicultural diaspora. This increases the relevance of sociolinguistic competence, regardless of the chosen specialization and qualifications of junior university students.

Based on the results of the study, it can be argued that the formation of sociolinguistic competence depends on the student's ability to lexical and semantic analysis and identification of

the interlocutor's discourse features by direction, stylistic means, and emotional state. An important area of further research is the use of verbal analysis methods to identify promising means and approaches to the formation of sociolinguistic competence, which has a significant impact not only on the communication process but also on the ability to maintain a conversation. To achieve this goal, it is necessary to find the optimal methods of interlocutor discourse identification and cultural recognition, which will form the basis of further research. The problem of using discourse at different levels and in different social environments is the most important in modern aspects of sociolinguistic competence development.

The use of interactive and digital technologies can improve the quality of learning, and the formation of students' professional competencies, and contribute to the development of sociolinguistic competence. To use effective tools, it is necessary to analyze the practical experience of European universities and, based on sealed data, to analyze the features of modern sociolinguistic competence formation through empirical and experimental research. The process of organizing education in educational institutions involves the use of digital technologies in their practice, which can improve the quality of education and expand the level of communication at the professional level. Students of economic specialties quite often participate in specialized conferences on certain topics, which can improve the quality of the use of specialized discourse and serve as the best factor for the development of sociolinguistic competence. The use of digital tools will be most appropriate when conducting research on student performance and the degree of involvement in specialized conferences. Moreover, the introduction of professional experience exchange involves the development of professional discourse and sociolinguistic competence.

The modern practice of forming grammatical, lexical, and linguistic abilities of junior students is implemented based on studying additional disciplines, including history, philosophy, and psychology. Regression analysis of the quality of sociolinguistic competence formation and its connection with the study of these disciplines may become an important area of research. The practice of implementing such aspects of teaching can reveal the student's learning potential as widely as possible. Moreover, the use of modern interactive technologies and group projects in teaching contributes to the improvement of skills and sociolinguistic competence.

The biggest problem in the development and formation of sociolinguistic competence is the ability to identify the dialectal style of speech. This requires specialized knowledge of the culture, traditions, and practices of communication with native speakers. An important area for analytical research may be the analysis of the use of specialized language constructions in a different speech, as well as the design of communication skills with representatives of foreign cultures. The practice of European universities shows that the modern need for the development of sociolinguistic competence is constantly growing. Therefore, the use of interactive technologies, such as discussions, will serve as a source of developing students' communication skills and abilities to understand another culture.

## 5. Conclusions

Thus, the results of the study characterize sociolinguistic competence as the ability and skill to identify the style of speech, determine its emotional coloring, and dialectal affiliation and personalize the discourse per the communication situation. The importance of developing this

competence lies primarily in the student's ability to conduct a varied discourse regardless of their chosen specialty and the ability to improve the quality of communication in a professional environment. For junior students, modern educational institutions offer several specialized disciplines aimed at developing a general outlook. Such an approach is very important for the ability to recognize the peculiarities of foreign cultures and to use the experience in practice. Moreover, an economic specialty usually contains applied terminology that forms its professional economic discourse. Therefore, the ability to distinguish a professional from other scientific discourse will be a factor in improving the quality of one's competence. The current practice of universities is to use interactive technologies to improve sociolinguistic competence. The priority is to introduce tools for group projects and encourage students to communicate with representatives of foreign cultures. Moreover, this practice can have a positive impact on student performance. Learning English or German will be the highest priority, as these languages are used all over the world and have many advantages. Firstly, the use of English provides access to many educational materials written in English. Secondly, the ability to use English and identify the style of speech can improve the quality of perception, analysis, and processing of the material. The practice of educational institutions to improve the quality of sociolinguistic competence development also involves the use of digital technologies. The use of such tools will directly affect the student's learning potential. An effective and appropriate tool is the implementation of creative tasks, as their implementation can improve the level of a student's vocabulary and serve as a factor in their linguistic development. This practice is used in the vast majority of modern educational institutions aimed at training highly qualified specialists. Therefore, junior economics students should study economic disciplines with the practice of communicating with representatives of other cultures in mind. They also need to train their professional and everyday discourse using modern digital and interactive technologies.

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## The formation of digital competence by means of information and communication technologies among students of higher education

### La formación de la competencia digital por medio de las tecnologías de la información y la comunicación en estudiantes de educación superior

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### **Abstract**

The increasing digitalization in all spheres of human activity demands the improvement of digital competence in the educational field. This article examines how information and communication technologies (ICT) can help form the digital competence of higher education students, enhancing their

skills in everyday, professional, and educational activities. The study focuses on the development of digital competence in university students through the use of ICT. The objective is to create an effective policy for the development of students' digital competence through the use of information technologies applicable in the educational process. The study's methodology includes outlining the key principles of digital competence, the current state of digital skills development, and the existing means for their development, as well as analyzing the organization of the educational process with the support of ICT. The findings of the study can be used to develop internal policies in universities, improve the skills of teaching staff, and allocate additional time to disciplines requiring attention to the study of digital tools applicable in practice.

**Keywords:** digitalization, information and communication technologies, qualification, information technology, digital competence, information society, educational institutions.

## Resumen

La creciente digitalización en todas las esferas de la actividad humana exige mejorar la competencia digital en el ámbito educativo. Este artículo analiza cómo las tecnologías de información y comunicación (TIC) pueden ayudar a formar la competencia digital de los estudiantes de educación superior, mejorando sus habilidades en actividades cotidianas, profesionales y educativas. El estudio se enfoca en el desarrollo de la competencia digital en estudiantes universitarios mediante el uso de TIC. El objetivo es crear una política efectiva para el desarrollo de la competencia digital de los estudiantes mediante el uso de tecnologías de información aplicables en el proceso educativo. La metodología del estudio incluye delinear los principios clave de la competencia digital, el estado actual del desarrollo de habilidades digitales y los medios existentes para su desarrollo, además de analizar la organización del proceso educativo con el apoyo de las TIC. Los resultados del estudio pueden utilizarse para desarrollar políticas internas en universidades, mejorar las habilidades del personal docente y asignar tiempo adicional a disciplinas que requieran atención en el estudio de herramientas digitales aplicables en la práctica.

**Palabras clave:** digitalización, tecnologías de la información y la comunicación, cualificación, tecnologías de la información, competencia digital, sociedad de la información, instituciones educativas.

## 1. Introduction

Modern universities worldwide should pay increasing attention to digital technologies. A significant part of the world's labor market, as well as the future of humanity, will depend on automation, big data technologies, and the ability to use human knowledge in managing, controlling, and monitoring the activities of these systems. Therefore, in today's world, the issue of improving digital competence for higher education students through ICT is becoming more acute. The use of ICT tools, rather than their research, can help to improve students' analytical ability to perceive and analyze information, as well as improve professional activities. Such use of ICT will contribute to the development of professional skills, as well as increase the productivity of the employee and enable him or her to achieve greater success in their career. The challenge of developing digital competence is to improve students' skills in using digital tools for professional and educational activities. Traditional education dominates most universities in the world. However, despite this, distance education is becoming increasingly popular. Moreover, digital platforms are being used to not only deliver distance learning but also to develop digital competencies. Under such circumstances, the importance of developing

digital competencies for universities will be a factor in increasing their competitiveness in the education market. A significant number of private educational institutions offer a more advanced model of education, which includes a short course of practical skills and the possibility of real employment. The development trend of such educational institutions may become challenging for traditional universities in the coming years. Therefore, an important task is to create a program that will focus not only on knowledge but also on the ability to use digital technologies. The use of ICTs can improve the cognitive and analytical abilities of higher education students, which is a priority for the university. Improving the competence of teachers in the use of information and communication technologies will play an important role in the development of students' digital competence.

## 2. Literature Review

The formation of digital competence in higher education students has a leading role for future professionals, as the level of digitalization of society and human activities is mainly in contact with digital technologies. To ensure high efficiency, as well as the possibility of developing professional abilities and skills, educational institutions should not only provide high-quality education but also promote the ability to use modern digital tools. Bilotta et al., (2021) notes that digital competence is the ability to use digitalization products to achieve one's own personal or professional goals. Beardsley et al., (2021) shares this view, stating that digital competence is a key advantage for young professionals, as it allows them not only to perform their work efficiently but also much more accurately and quickly. This is due to the emergence of automation, which makes it possible to ensure the implementation of a certain process based on data analysis while avoiding possible risks associated with the human factor (Liu et al., 2010; Dudar et al., 2021). Besides that, Ghavifekr et al., (2016) argues that modern universities do not pay enough attention to digital competence and the ability to use digital tools. In his opinion, modern universities need to introduce additional time in disciplines for mastering digital tools, as well as mandatory classes on digital literacy. According to (Bubb and Jones, 2020), digital competence should be primarily developed in teachers, as they are sources of knowledge. Therefore, the level of digital technology skills among teachers should be proficient. In this regard, Eynon & Malmberg (2021) proposes to use special professional development activities that can improve teachers' knowledge of digital technologies and ensure their quality development in their field of activity. An important opinion is that of Tewathia et al., (2020), who believes that digital competence is formed only as a result of the student's independent work and ability to search for information in open data sources. It is argued that only conducting one's research, as well as using tools that can facilitate work, will be most appropriate and relevant in the future profession of a specialist (Freeland & Hernandez, 2014). An important factor in the development of modern digital competence is the possibility of mixing traditional and distance education (Tawfik et al., 2016). Under such conditions, Teräs et al., (2020) believes that distance learning contributes to the development of digital competence. This can be explained by the fact that to ensure its effective implementation, it is necessary to use several tools that can provide access to learning materials, as well as create basic principles that can improve the quality of student performance (Lopez-Fernandez, 2021). However, Wagner (2018) notes that distance education alone can significantly reduce the level of research interest among students. Therefore, the scientist believes that it would be most appropriate to use a blended learning approach this will ensure an effective learning process, and the distance learning form will contribute to the development of digital competence (Fitzgerald et al., 2019). In the context of the modern development of digital technologies, it is difficult to overestimate the importance of their use in professional activities (Vakaliuk et al., 2021; Selwyn et al., 2017). Therefore, the problem of forming the digital competence of higher education students using (Greenhow & Robelia, 2009). ICT should become one of the leading tasks in the modern technological world.



The research aims to identify modern means of forming digital competence in higher education students through the use of information technology. Moreover, it is also important to identify modern digitalization products that can improve the educational process as well as the professional activities of students. The study pays attention to the quality of development of the current state of digital skills, as well as further trends in the demand for professional qualities related to the use of digital technologies in professional activities. An important factor in the development of digital competence is the creation of an effective university policy that can modernize the organization of the educational process following current trends. More importantly, it is necessary to analyze the prospects for the development of digital technologies in the educational process, as well as the most appropriate information technologies that can improve digital skills. The article presents the results that can improve the overall state of education in universities and ensure their competitiveness. The results obtained can help to increase the value of future specialists in the global labor market, owing to the development of digital technologies and the ability to apply them in professional activities.

### **3. Methodology**

The research was conducted using exploratory analysis tools, including open data on the level of digitalization of countries and the digital development of human capital. Based on the use of such data, it becomes possible to outline current trends in the ability to use digital technologies, as well as to assess the productivity of their use, by analyzing the ability to create digital content and the degree of professionalism in digital technologies. Based on the analysis, it is proposed to study the peculiarities of the development of digital competence of modern universities in the European Union, as well as the fate of ICT graduates and students' ability to use their digital skills. The article uses the methods of synthesis and deduction to identify key trends in digitization in the global labor market. The obtained results characterize the current state of the labor market, as well as the quality of demand for specialists with a high level of ICT, who can use special corporate tools and technologies used by the corporate sector in its activities. An important direction of the study is to outline the key principles of digital competence development, as well as tools for improving digital literacy through the use of ICT. Based on the conducted search analysis and statistical data, it was identified which tools have the greatest impact on the ability to use digital technologies and the ability to navigate the digital space. With the help of digital platforms, as well as the quality of the use of information technology tools, it is possible to improve professional skills and develop the ability to create and analyze digital content.

The data collected were analyzed using both descriptive and inferential statistics for the quantitative data and thematic analysis for the qualitative data. The results of the analysis showed that the level of digital competence of the students was generally low, with significant variations across disciplines and academic levels. The study also revealed that the access to ICT varied widely among the students, with some having limited access to digital devices and internet connectivity.

In terms of rigor, the study employed appropriate data collection and analysis methods that were aligned with the research questions and objectives. The sample selection method ensured representation from different disciplines and academic levels, and the data collection methods allowed for triangulation and validation of the findings. The analysis methods were appropriate and transparent, and the results were reported clearly and objectively. Overall, the study demonstrated a high level of rigor in its design, execution, and reporting.

The research methods used in this article allow us to outline the prospects for further development of universities. They should focus on improving the quality of teaching digital literacy. Moreover, they

should use additional academic credits in disciplines to analyze modern digital tools used in the professional activities of future specialists.

#### **4. Results and Discussion**

The issue of developing digital competence in higher education students is now playing a leading role. In today's world, to obtain a high qualification, you need to be able to interact with a range of information products. The use of modern digital tools and learning platforms can improve the learning process and provide knowledge that can be applied in the practical activities of a specialist and increase his or her value in the labor market. Higher education involves the development of key human skills so that in the future the applicant can implement them in real projects and special activities. Due to the global trend towards mass automation and digitalization, any specialty or profession has some digital tools that can facilitate a human activity or partially improve it. Under these conditions, digital competence is one of the most important aspects of a specialist's education. Therefore, the primary task of a university or institution designed to provide higher education should be to focus on the development of digital competence in students.

The concept of digital competence implies the availability of special sets of skills and abilities that allow the applicant to use the acquired information in their future activities (MŠMT, 2020). However, skills are formed by completing tasks and interacting with special software applications. In the modern world, the concept of distance learning, as well as independent work in search of information and research, has become firmly established. Due to information overload, a person can be vulnerable to the powerful flow of the information environment. Therefore, an HEI should use a program that can teach how to interact with digital platforms and improve the quality of information analysis. The modern pedagogical practice has proven that one of the most effective tools is the use of ICT.

The concept of e-learning is important in the modern world not only because it has numerous advantages, but also because it can contribute to the development of digital competence for higher education students. Among the main advantages are the ability to access large amounts of information, conduct your research, use modern research software, and learn highly specialized technologies that can improve the real-world activities of a future specialist. In the education sector, technologies that improve the learning process are rapidly evolving. This applies to mobile applications developed by Google, as well as many prestigious universities in the US, EU, China, etc. Almost every university has its platform for obtaining higher education and special skills through the use of such technologies (District Reform Support Network, 2015).

For instance, the most popular distance learning system in Ukraine is Moodle. This system is characterized by a range of useful features that can enhance the learning process and improve the interaction between the teacher and students. This system contains functions for holding conferences, seminars, and lectures. In addition, it is possible to upload homework or any assignments that can be in doc, xlsx, etc. format. In developed countries, IT professionals use applications that can accept more varied file system formats and be integrated with digital technologies. This approach to learning develops students' ability to use the software. The most popular version in our understanding is Microsoft Office. However, at present, some systems can help to form digital competence more deeply in the direction of student learning. These can be Google Digital Workshop, Mondly, Drops, CodeShare, Grammarly Canvas, and lots of others. Due to the development of information technology, there are a number of the most popular applications for any profession that allow both to improve the quality of education and to develop the student's ability to use special applications. The advantage of using such technologies is to improve the quality of your professional activities. An information system based

on automated algorithms has some advantages over traditional human activity: efficiency, accuracy, and reliability. These three main factors make it possible to improve a person's professional activity and, as a result, to achieve greater success and make a real contribution to the global community of human development. However, to use such systems, it is necessary to develop basic competencies that can help improve higher education. These tools include basic computer skills, knowledge of digital hygiene, Internet access, and the ability to use standard technologies such as email, web resources, and a personal PC. Most of these skills are formed during secondary education. However, there is a problem that most pupils and students do not want to develop their skills further, and digital competence lags far behind modern opportunities.

Nowadays, the need for the development of digital technologies is constantly growing. Therefore, the current generation of higher education students must be as well-oriented in the digital space as possible and skillfully use digital tools for professional activities. This forms the competence of the future specialist and allows them to achieve high performance in their specialization, which is a factor of progress. Let us consider the general current situation in the EU based on the analysis of the DESI index (a composite index that compares relevant digital productivity indicators and tracks the evolution of the digital competitiveness of the EU as a whole and its member states), as demonstrated in Table 1.

**Table 1.**  
*Human capital indicators in DESI*

	<b>EU DESI - 2022</b>
<b>Basic digital skills</b>	54%
<b>% of individuals</b>	2021
<b>Beyond basic digital skills</b>	26%
<b>% of individuals</b>	2021
<b>Basic digital content creation skills</b>	66%
<b>% of individuals</b>	2021
<b>ICT specialists</b>	4.5%
<b>% of employed persons aged 15-74</b>	2021
<b>Companies providing ICT training</b>	20%
<b>% of enterprises</b>	2021
<b>Graduates in the field of ICT</b>	3.9 %
<b>% of graduates</b>	2020

Source: compiled based on DESI 2022, European Commission, UNESCO, 2020

Based on the data, it can be seen that despite the rapid processes of digitalization, only half of the respondents have the ability to use digital technologies and use them at a sufficient level - 50%, and a high level - 26%. The current global geopolitical and economic challenges are causing a significant gap between people who can use special digital technologies. To improve the overall situation, high-quality mechanisms for developing digital competence need to be implemented. The employer's preference is given to the person who knows how to use the tools created to improve practical activities. From an economic point of view, this approach will help stabilize the labor market, as well as improve the quality of technology development and the overall well-being of people. From Table 1, we can witness that only 26% of respondents have the ability to create digital content, while the demand for IT specialists is constantly growing, and their total number is only 5%, which is critically low in the modern world.

Based on the analysis, it is necessary to identify key factors and tools that can improve the quality of digital competence development in higher education students using ICT. This approach should be implemented in universities and educational institutes, as they are engaged in educating the future generation that will carry out their activities based on the knowledge gained. Although the practice of independent education and the development of practical skills and knowledge through self-education is spreading worldwide, universities remain a key source of skills for future professionals. Therefore, while the concept of learning is spreading mainly through universities, it is necessary to promote the improvement of students' digital competence through the use of technologies that can develop the ability to use technologies that are commonly used around the world at a basic level. At the individual level, it is essential to use only the tools in the existing specialization. Let's consider the key ICTs that can be used to improve the digital competence of higher education students in Table 2.

**Table 2.**

*Characterization of ICT tools for the formation of digital competence in higher education students*

<b>Technology</b>	<b>Content</b>	<b>Efficiency</b>
<b>Mobile apps</b>	Mobile applications can be a tool for improving applied skills by providing quick access to information.	Regular use of mobile learning apps can improve cognitive abilities.
<b>E-learning</b>	Use of distance learning platforms and tools for its implementation.	The effectiveness of this approach can form key digital competence skills, such as the use of a personal computer, and the ability to search for and analyze information.
<b>Specialized software</b>	Each profession has its digital tools that can be used to improve the learning process.	The importance of using modern technologies in education can improve the professional qualities of a student.
<b>Platforms for organizing learning</b>	These are used for lectures, seminars, and workshops.	The effectiveness of such technologies lies in the ability to set up online meetings. It also expands the student's ability to communicate both within the university, and with the wider learning community.
<b>Implementation of a real project on the Internet</b>	The ability to create content, digitize and publish it, and create an appropriate sequence of actions for its distribution.	The EU practice involves creating group projects between students, placing them on special grant platforms, and searching for interested parties, which develops real digital research competence in students.
<b>Cloud technologies</b>	The use of high-capacity digital infrastructure to realize personal or collective goals.	Nowadays, cloud technologies contain powerful services for servicing learning experiments - for engineers, doctors, etc. The ability to use Oracle, Azure or any other cloud services will significantly improve the quality of a student's professional digital competence.

Source: compiled by the author

The tools presented in Table 2 can improve the quality of learning for higher education students and provide basic skills in using digital technologies, as well as the ability to use them in practical activities. The sooner universities start using digital learning technologies for higher education students, the better training they can provide to students. Digital competence is formed based on practical tasks, as well as innovative solutions that students implement to solve the task. Given these features, it is important not only to use cloud technologies, mobile applications, or any other digital tools but also

to learn how to use them. Therefore, it is important to use disciplines, subjects, or the availability of possible time to study the discipline to familiarize oneself with modern technologies that improve the ability to perform professional activities. For example, students studying architecture or design can study special software that can improve design processes, etc.; students studying ICT can use training on different operating systems, use the latest technologies, etc.

The problem with modern education in HEIs is that much of the material offered for the study is rarely used. Moreover, inadequate attention is paid to digital technologies that students can use in real-life practical activities. To do this, it is necessary to introduce high-quality tools in the disciplines that can not only improve the traditional form of the task but also use special platforms, applications, etc. The universities of the future will compete with individualized study programs that will focus primarily on the quality of practical knowledge and the ability to implement it following digital technologies on the market. Digital competence allows not only for the improvement of skills in the use of professional activities but also creates conditions for the development of areas unrelated to specialization, including household, personal, etc.

The rapid digitization of the world stimulates the improvement of the quality of digital competence of young professionals. The demand for ICT professions and the ability to use information technology is a key advantage for getting a job. In addition to the labor market, the benefits also relate to the government's strategy for human capital development and ensuring the technology sector has a future workforce. As shown in Table 1, half of the people in the European Union have basic skills in using digital technologies, but the pace of digitalization and the importance of integrating them into the global market may not be high enough. Therefore, to ensure that digital illiteracy is overcome, it is necessary to create disciplines that could form students' applied skills in using information technology and mandatory homework and seminar assignments that would stimulate the acquisition of such skills.

The results of the study show that modern universities are aware of the need to develop students' digital skills. Therefore, they are implementing hybrid learning programs, including distance learning, as well as the ability to use university electronic platforms: libraries, special web resources with knowledge bases, etc. This approach indicates a partial increase in the competitiveness of universities in the areas of ensuring the formation of digital competence in the future.

Both the use of special digital technologies and tools and the pedagogical activity of the teacher play an important role in the formation of digital competence of higher education students. It is necessary to identify the key problems of students who cannot solve a particular task with the help of information technology or do not know how to use digital platforms that allow them to participate in distance learning. To avoid this, it is necessary to draw up detailed special instructions, as well as to conduct additional classes that will teach students how to use these tools in their learning activities. In addition, the issue of teaching methods and the use of special digital tools is one of the means of developing digital competence. Therefore, for any university, every teacher must motivate students not only to master the material of the discipline but also teaches them special digital technologies and tools used in the professional activities of a particular profession. Therefore, for teaching to be effective, teachers and lecturers need to be provided with regular training and educational classes on innovative technologies used in the world in the subject of their teaching. It is also a popular practice for professional specialists to become teachers, being able to form the most relevant and appropriate skills for higher education students.

The research results show that the modern world is rapidly evolving toward mass digitization. For the future activities of young professionals to be socially useful and to have a high individual value in the labor market, it is necessary to improve digital competence. In modern realities, the university is a key institution for acquiring knowledge. However, given the global trends towards increased self-education, as well as learning through courses and alternative education institutions, universities should use tools to enhance the development of ICTs that create a competitive advantage over other human activities.

The use of ICTs in traditional education can improve the quality of the educational process and enable students to maximize their potential in the discipline. In addition, a large part of the corporate sector is implementing the use of information technology, which means that future employees must be able to work with digital technologies, which are currently mostly only developing. To ensure the development of human capital, countries need to optimize the curriculum and provide universities with digital infrastructure - special equipment, software, and ICT specialists. A high-quality combination of all of the above components will not only help ensure the provision of the most appropriate educational services but also increase students' digital competence. An important factor in future research should be the analysis of possible digitalization tools for each profession.

A promising area for future research to ensure digital competence may be to analyze the quality of teaching, as well as the level of digital literacy training and the ability to apply information technology in their work. The study shows that only half of EU citizens master basic digital skills, and the number of ICT graduates reaches no more than 5%, which is critically low given the popularity of digital technologies and their role in modern life. In the future, any specialist may lose his or her job due to digitalization, and there will be an increased demand for the ability to use digital tools to conduct business. Under such conditions, it is necessary to conduct specialized research on the possibility of using relevant teaching tools and methods that will be integrated with digital technologies and will be able to create the most effective system used to enhance the formation of digital competence in higher education students. Therefore, the key principles of future research should be the process of teaching education at universities, focusing students' attention on digital technologies, conducting seminars and lectures with the help of digital technologies, as well as using them directly in practical activities.

## 5. Conclusions

Thus, the results of the study indicate that digital competence is the ability to interact with the environment and conduct professional activities with the help of information technologies. In today's world, the importance of skills to interact with digital technologies and use them in one's specialization is a key factor in progress and creates individual value in the labor market. According to the analysis, as of 2022, the number of people in European countries with high or at least basic digital skills is moderate. Based on these data, the problem of the quality of digital competence formation in future professionals and generations arises. Therefore, higher education institutions need to improve the teaching process and introduce special disciplines that can develop personal skills in using certain digital tools.

The development of digitalization has led to high demand for specialists with high digital skills, so the need to develop any specialist, regardless of the area of specialization, is a priority. The key means of developing digital competence are the use of mobile applications, the Internet, special software, and, at a high level, cloud technologies. The introduction of professional development programs for teaching staff at the university, as well as monitoring the degree of digitization of the educational process, is a prerequisite for improving teaching and the ability to provide quality education.

The future generation will face new challenges brought about by digitalization. This includes not only positive changes but also some negative ones, the main ones being job cuts and the replacement of human labor with automated ones. The development of artificial intelligence and massive automation processes will be a key issue and achievement of humanity in the next 10 years. In such circumstances, improving digital competence is a key task for the university to maintain its position in the education market. An important area for the formation of digital competence of higher education students is the use of ICT in their professional and everyday activities, as they can improve the quality of life and personal abilities of students.

Thus, the formation of digital competence of higher education students through ICT is an important area for research and is a strategically important task for the education sector to ensure competitive human capital within the country. The development of the ICT sector and its specialists provides some advantages in strategic decisions and can become a factor in raising the socio-economic level.

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## Formation of foreign language communicative competence of future lawyers

### Formación de la competencia comunicativa en lengua extranjera de los futuros abogados

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#### Abstract

This paper focuses on the development of foreign language communicative competence of students studying law. The research used different methods to study how students studying law can improve their ability to communicate in a foreign language. There was looked at existing research and did a survey to understand more about how students can improve their language skills. The results of the study reveal the main directions of scientific developments on issues related to the formation of foreign language communicative competence of students of law specialties. The priority of development,

assessment of components, and the procedure of this process from a practical point of view have been clarified. The paper emphasizes the importance of foreign language communicative competence in the field of law and highlights the challenges that students face in acquiring these skills.

**Keywords:** higher education institutions, English language, development of communicative competence, English language competence, formation of foreign language communication skills.

## Resumen

Este trabajo se centra en el desarrollo de la competencia comunicativa en lenguas extranjeras de los estudiantes de derecho. La investigación utilizó diferentes métodos para estudiar cómo los estudiantes de derecho pueden mejorar su capacidad para comunicarse en un idioma extranjero. Se analizó la investigación existente y se realizó una encuesta para comprender más acerca de cómo los estudiantes pueden mejorar sus habilidades lingüísticas. Los resultados del estudio revelan las principales direcciones de los desarrollos científicos en temas relacionados con la formación de la competencia comunicativa en lengua extranjera de los estudiantes de las especialidades de derecho. Se ha aclarado la prioridad del desarrollo, la evaluación de los componentes y el procedimiento de este proceso desde un punto de vista práctico. El documento enfatiza la importancia de la competencia comunicativa en lenguas extranjeras en el campo del derecho y destaca los desafíos que enfrentan los estudiantes para adquirir estas habilidades.

**Palabras clave:** instituciones de educación superior, idioma inglés, desarrollo de la competencia comunicativa, competencia en el idioma inglés, formación de habilidades comunicativas en lenguas extranjeras.

## 1. Introduction

Foreign language skills are an important component of a lawyer's competence. Today, in a period of rapid development of higher education, training requirements and internal standards for the quality of training are increasing, including a focus on foreign language competence as an important component of professional training. Higher education institutions (HEIs) that train lawyers are lagging in these processes.

The theoretical part of the study substantiates the relevance of the research and describes the main components and factors of success of the process of forming future specialists' foreign language communicative competence.

The practical part of the study includes the identification of the most important components of English-language communication competence of students of legal specialties. This part of the study identifies the factors that influence its formation and approaches to the organization of the educational process to improve the effectiveness of professional-oriented competence in learning foreign languages by future lawyers. Besides that, the primary signs of the potential for the development of the multicultural component of communication competence are in the experience of future legal professionals. What is more, the most important didactic ways to improve the effectiveness of professional-oriented competence in teaching foreign languages to students of legal specialties are identified. The survey also allowed us to identify the most important approaches to the strategy of learning foreign languages by legal professionals in terms of their areas of research.

Based on the results of the study, conclusions have been drawn regarding the issues under consideration. In particular, the survey found that the main components of the English-language communication competence of students of legal specialties are information and learning, social and cognitive, and communication skills. The factors influencing the formation of students' foreign language communicative competence are professional activity and existing social conditions of personal development. The survey allowed us to identify the most important approaches to the organization of the educational process to improve the effectiveness of professional-oriented competence in teaching foreign languages to future lawyers. This refers to the integrated study of the specialized content of the professional specialty and language, as well as the network formation of intercultural and professional skills. It has been found that the signs of high potential for the development of the multicultural component of communication competence in the experience of future specialists, according to the results of the survey, are the developed communication culture of students and the formed worldview of students. According to the survey, the most important didactic ways to improve the effectiveness of professional-oriented competence in teaching foreign languages to future lawyers are the development of knowledge and skills in ethics, discussion, communication, and interaction with people, and the formation of a global way of thinking. The main approaches to foreign language learning strategies, the scientific research of which is most important in the development of future lawyers' foreign language communicative competence, are cognitive, linguistic and cultural, and competence-based.

Based on the findings of the study, several conclusions have been drawn regarding the development of foreign language communicative competence for future lawyers. The survey revealed that the key components of English-language communication competence for students of legal specialties include information and learning, social and cognitive, and communication skills. Additionally, the formation of students' foreign language communicative competence is influenced by professional activity and existing social conditions of personal development.

The study identified important approaches to improve the effectiveness of professional-oriented competence in teaching foreign languages to future lawyers. These include the integration of specialized content from the professional specialty and language, as well as the formation of intercultural and professional skills through networking. The survey results also indicate that the development of communication culture and worldview in students are signs of high potential for the multicultural component of communication competence.

To enhance the effectiveness of professional-oriented competence in teaching foreign languages to future lawyers, the survey identified several key didactic approaches. These include the development of knowledge and skills in ethics, discussion, communication, and interaction with people, as well as the formation of a global way of thinking.

The study highlighted important foreign language learning strategies that are crucial to the development of future lawyers' foreign language communicative competence. These include cognitive, linguistic and cultural, and competence-based approaches. By considering these findings, educators and institutions can better tailor their language teaching strategies and programs to meet the specific needs of future lawyers and prepare them for success in their careers.

## 2. Literature Review

Today, it is extremely important to provide the future lawyer with high-quality development of individual skills that ensure the formation of a professionally and socially competent personality and a socially mobile professional in the field of law (Zinchenko & Udovichenko, 2022). It should be noted that the effectiveness of teaching future professionals communication skills has significantly decreased during distance learning. Moreover, educators use traditional teaching methods without adapting them to the conditions of the distance learning process, which significantly reduces the effectiveness of learning during distance learning classes (Jupe, 2019).

Communicative competence in a foreign language is viewed by the vast majority of scholars as a set of skills, knowledge, attitudes, values, initiatives, and communicative experience that is necessary for understanding others and creating individual programs of linguistic behavior, and achieving communication goals (Thielgen, Schade & Niegisch, 2022).

Other researchers interpret foreign language communicative competence as an integral personal and professional quality of a person with a certain level of language, which is ready to be realized on a certain basis for successful, productive, and effective activity using communicative and informative skills (Vasilieva, 2020).

According to a common point of view, the formation of foreign language and intercultural communication skills includes the development of foreign language skills in the process of studying at an educational institution and self-education. Moreover, it is an integral part of the professional training of lawyers (Munezane, 2019).

Another noteworthy point of view is that one of the most important tasks in training future lawyers in foreign languages is to overcome the language barrier. At the same time, the process of learning a foreign language should be aimed at managing the verbal conversation process. This is necessary for use in the most typical situations of professional communication. Therefore, foreign language skills and intercultural communication are an important part of the professional training of law students (García-Martínez et al, 2021).

One of the methods of effectively overcoming the language barrier in foreign language communication is the method of modeling situations of professional voice communication. This contributes to effective intercultural communication (Fantini, 2020).

A common trend in recent times and an effective method of developing foreign language communication skills among law students is the use of general open lectures by the teacher. In the context of distance learning, open lectures are often held in an online format, and they demonstrate their effectiveness both in learning a foreign language and in disciplines related to international law (Huang, 2018), (Tao et al., 2020).

The use of integrated learning with specialized foreign language learning is quite popular today. In close cooperation with law professors, foreign language teachers develop students' intercultural and professional competence. At all stages of developing communication skills in a

foreign language, future lawyers receive additional conditions for professional development (Mishra & Mishra (2020)).

The research is aimed at determining the position of scholars and teachers of English, as well as students, on the peculiarities of the development of components and the application of certain approaches in the formation of future lawyers' English-language communicative competence.

### **3. Methodology**

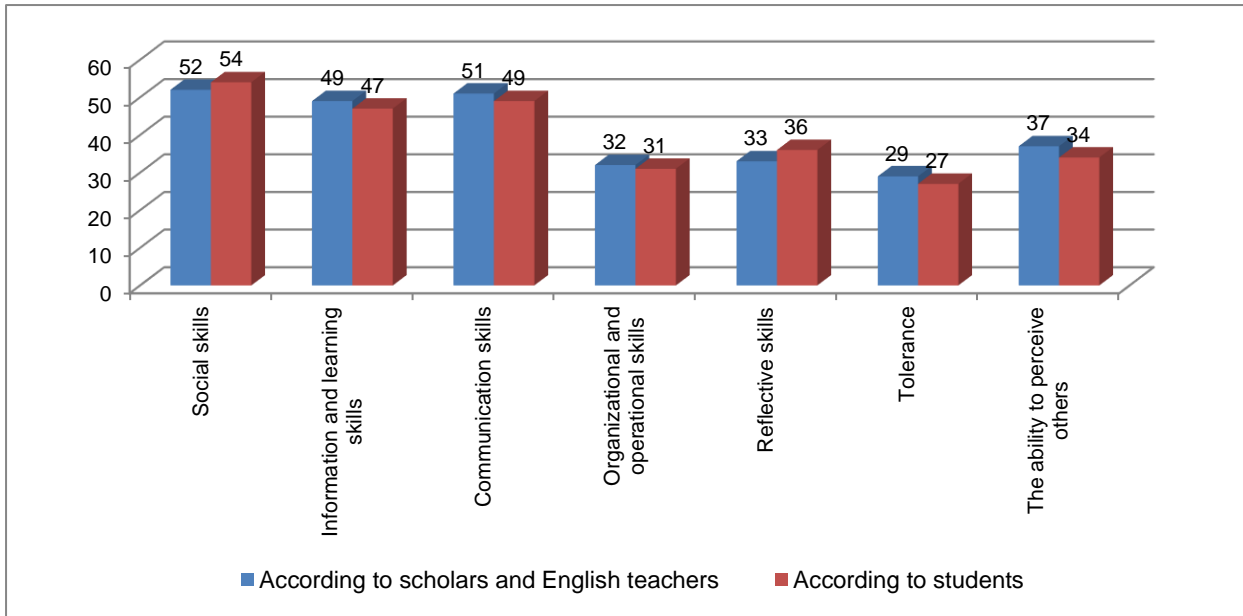
The study of the practical aspects of the process of formation and development of future lawyers' foreign language communicative competence was conducted by interviewing 217 practicing scholars and teachers of English in HEIs, as well as 246 students of 14 HEIs in Sumy, Chernihiv, Zhytomyr and Kyiv oblasts of Ukraine. The survey was conducted using the Survio service.

The survey sought to gather insights from both teachers and students about the challenges and opportunities in developing foreign language communicative competence for future lawyers. The participants were asked about their opinions on the importance of foreign language skills in the field of law, the most effective teaching methods, and the practical skills that future lawyers need to succeed in their careers.

The data from the survey was analyzed using both qualitative and quantitative methods. For the qualitative analysis, the responses from the open-ended questions were grouped into common themes and patterns using a process called content analysis. This helped to identify the main issues and challenges related to the development of foreign language communicative competence for future lawyers. For the quantitative analysis, the data was processed using statistical software to generate descriptive statistics, such as means and standard deviations. This allowed the researchers to quantify the responses to the survey questions and identify trends and patterns in the data. The data was also analyzed using comparative and correlational analysis techniques to identify the relationships between different variables, such as the teaching methods used and the perceived effectiveness of these methods.

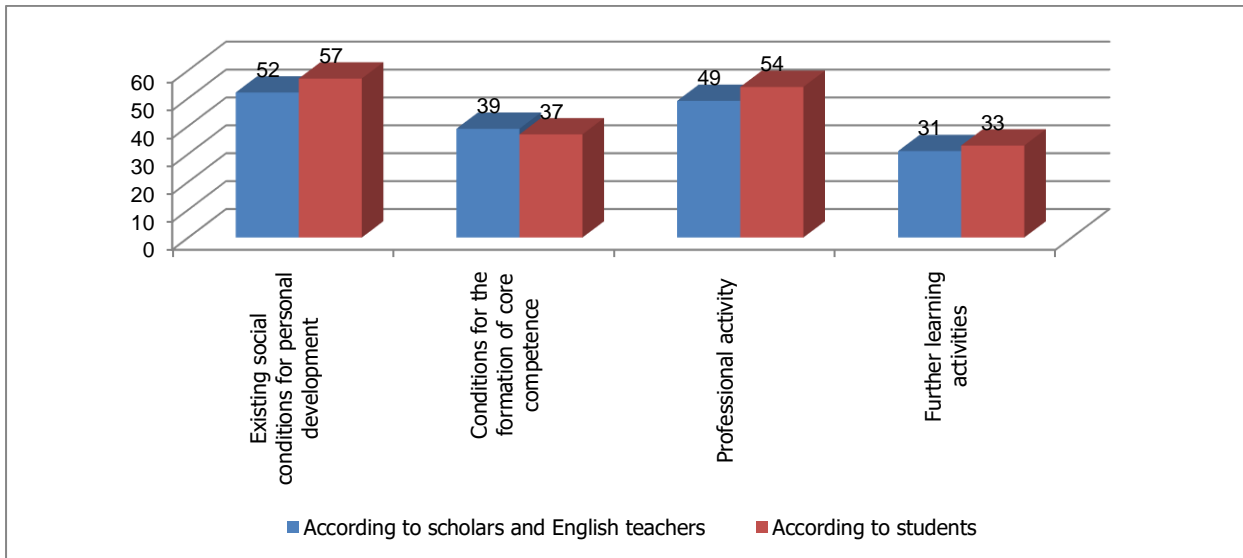
### **4. Results and Discussion**

First of all, the survey revealed the respondents' point of view on the main components of English-language communication competence of law students (Figure 1):



**Figure 1.** The most important components of English-language communication competence of students of law specialties, %  
Source: built by the authors.

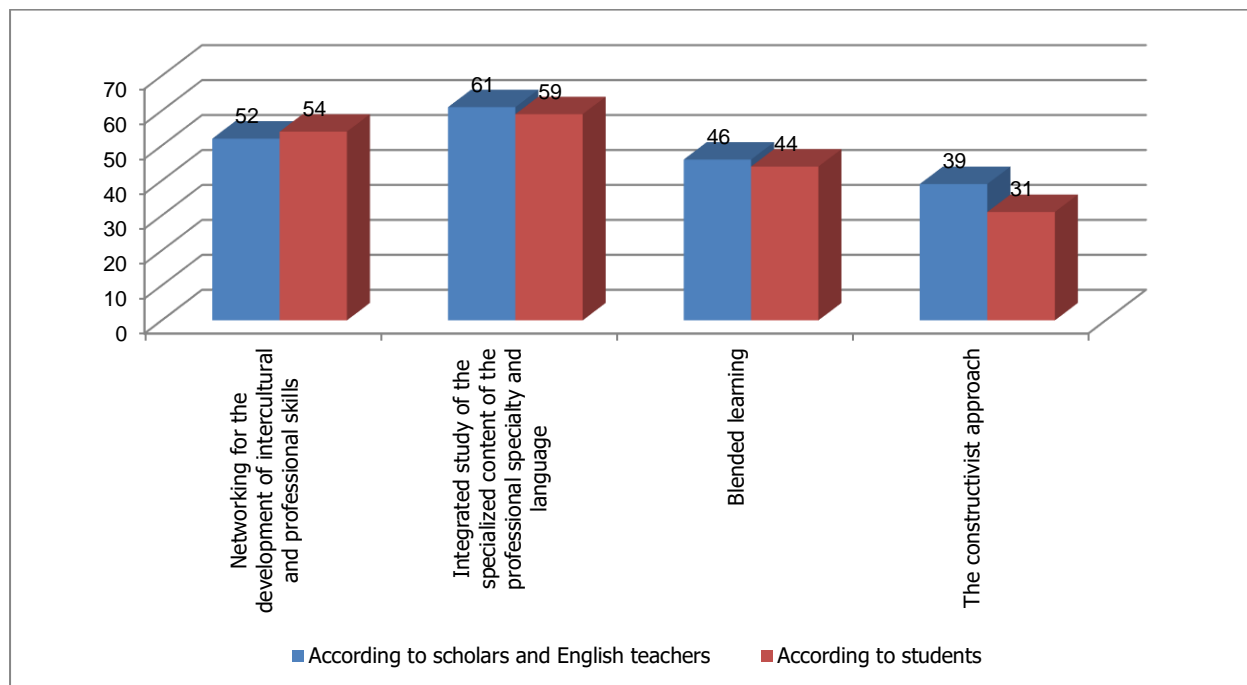
According to the survey participants, today the main components are information and learning, social and cognitive skills, and communication skills. The respondents also identified the following factors that influence the formation of foreign language communicative competence of law students (Figure 2).



**Figure 2.** Factors influencing the formation of future lawyers' foreign language communicative competence, %  
Source: built by the authors.

Although there are sometimes different approaches to the structure and content of social and communicative competence, based on the results of the survey, it can be noted that the formation of future lawyers' foreign language communicative competence is mainly influenced by professional activities and existing social conditions of personal development.

The survey made it possible to identify the most important approaches to organizing the educational process to improve the effectiveness of professional-oriented competence in teaching foreign languages to future lawyers (Figure 3).

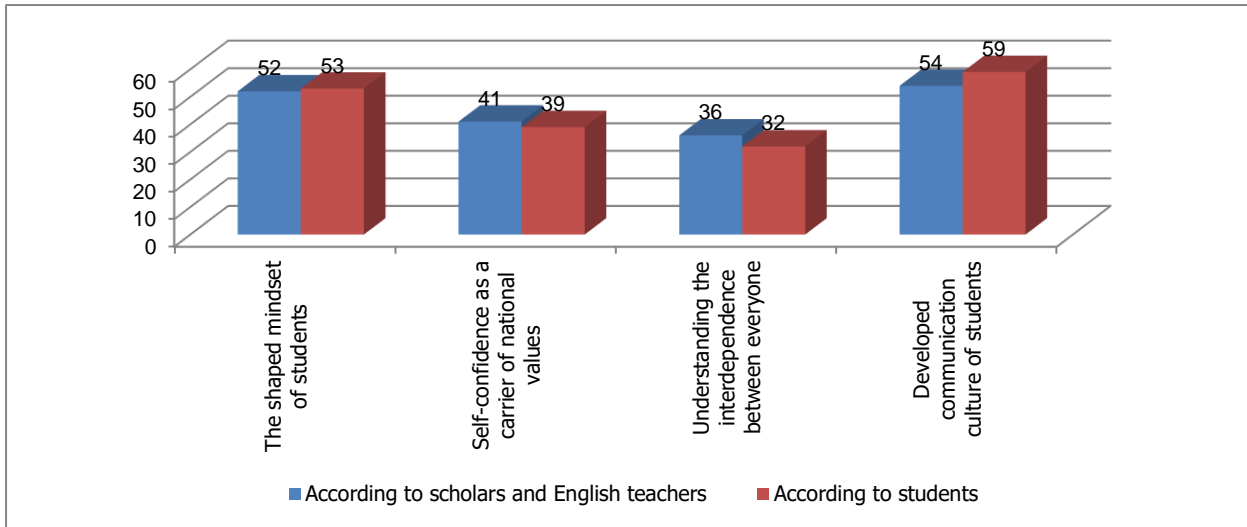


**Figure 3.** Approaches to the organization of the educational process to improve the effectiveness of professional-oriented competence in teaching foreign languages to future specialists in law specialties, %

Source: built by the authors.

As can be seen from Figure 3, these methods include the integrated study of specialized content of the professional specialty and language and the networking of intercultural and professional skills.

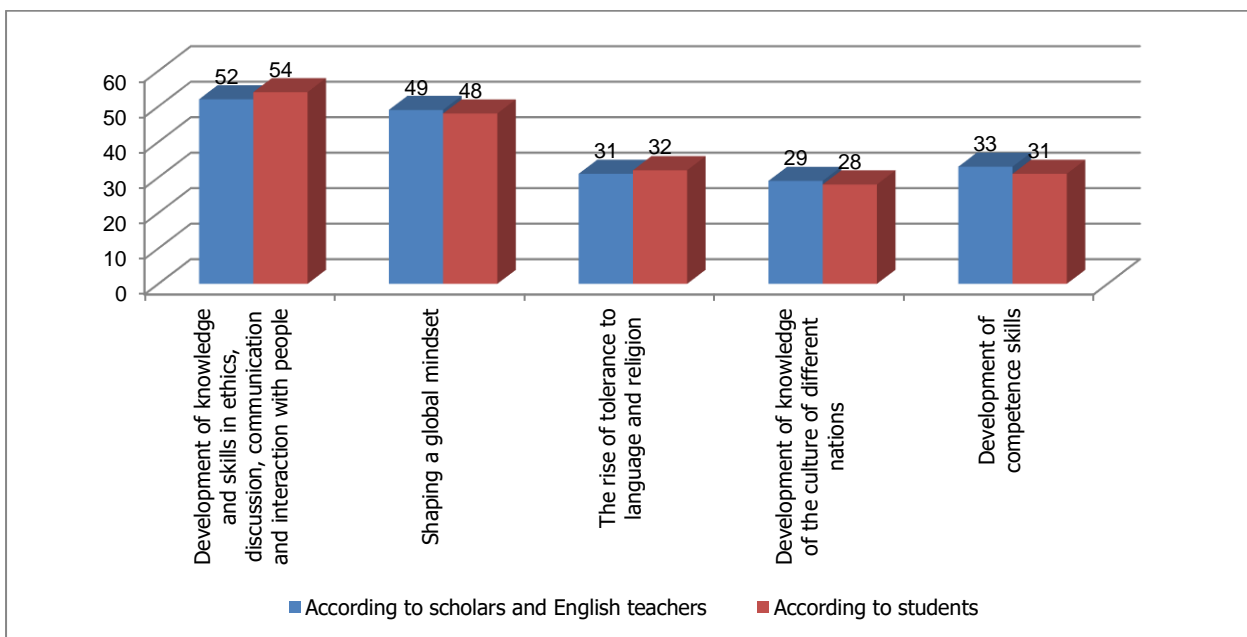
An essential aspect of the development of students' English-language communication skills is to take into account the multicultural potential of students. The necessary signs of the significant potential for the development of the multicultural component of communication competence in the experience of future specialists, according to the results of the survey, are (Figure 4):



**Figure 4.** Primary signs of the significant potential for the development of the multicultural component of communicative competence of future lawyers' experience, %  
Source: built by the authors.

developed communication culture of students;  
the shaped mindset of students.

An important result of this survey was the identification of the most effective didactic ways to improve the effectiveness of professional-oriented competence in teaching foreign languages to law students (Figure 5).

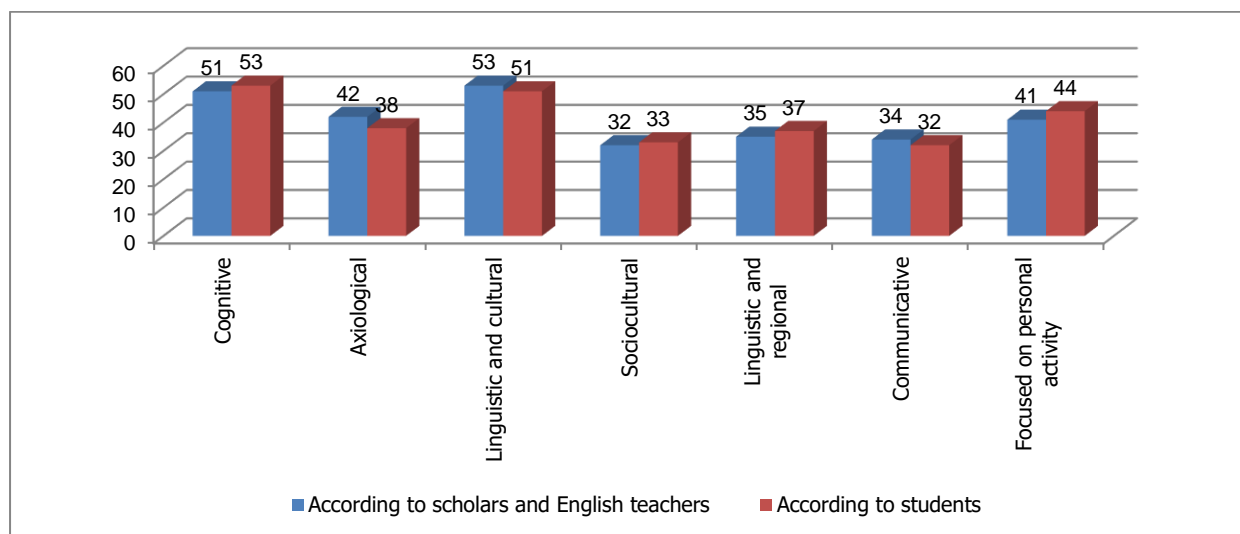


**Figure 5.** The most important didactic ways to increase the effectiveness of professionally oriented competence in teaching foreign languages to future specialists of law specialties, %  
Source: built by the authors.



The survey showed that these ways include the development of knowledge and skills in ethics, discussion, communication, interaction with people, and the formation of a global mindset.

The survey allowed us to find out the main approaches to the strategy of learning foreign languages, the scientific study of which is most important in the development of foreign language communicative competence of future lawyers (Figure 6).



**Figure 6.** The key approaches to the strategy of learning foreign languages by professionals in the sphere of law based on their areas of research, %

Source: built by the authors.

According to the survey participants, these approaches are mostly cognitive, linguistic and cultural, and competency-based.

To define the nature and content of an effective process of forming the social and communicative competence of future lawyers, it is necessary to take into account the content of regulatory and legal documents that represent the requirements for professional knowledge and skills. Moreover, it is worth paying attention to important qualities and other components of professional competence that are related to social and communication skills. The results of the analysis of scientific research and publications show that the approaches of scientists differ significantly in defining the structure and, accordingly, the nature of social and communication competence (Pavlova et al., 2022), (Yuen & Hew, 2018).

The main components of socio-communication competence are social-cognitive, communicative, organizational, operational, and reflective. Scientists believe that the content of this competence is the ability to cooperate in teamwork, resolve conflicts constructively, psychological tolerance, have sincere respect for the work of others, and the ability to understand and perceive them. Sometimes there are different approaches to the structure and content of teaching foreign language communicative competence. However, it can be noted that this type of skill is formed with the help of social communicative knowledge, skills, and experience of their use in professional situations of interaction, based on the motivation and professional and social

orientation of the individual (Aghajani & Gholamrezapour, 2019), (Heyworth, Chan & Lawson, 2022).

In addition to the above conclusions, the definition of competence as the ability of a person to successfully establish contacts, and perform professional and further educational activities should be also considered (Mohammadi & Izadpanah, 2019).

The results of the analysis of educational and professional training programs for future lawyers show that their professional activity requires the ability to use the experience of social interaction in solving professional and life problems to achieve mutual understanding, to prevent and resolve conflicts between colleagues from different countries of the world (Schukking & Kircher, 2021).

Since the activities of legal scholars are communicative, the most appropriate approach to teaching foreign languages is the development of communicative competence. The formation of communication skills in a foreign language for future lawyers to increase its effectiveness should take place in a vocal foreign language communication environment. This is aimed at ensuring the highest possible efficiency of the future lawyer's communicative and professional behavior (Lønsmann, 2020a), (Uteubayeva, 2022).

It is also worth noting that the process of forming skills in foreign language communicative competence should be based on the principles of effective information exchange, organization of active and independent activities of future specialists in the process of acquiring knowledge and skills, and mastering new and effective methods of working with professional material. Moreover, the organization of the educational process should be based on the student's own cognitive experience, as well as on the need to increase professional motivation and develop professional orientation of the students' personality (Lønsmann, 2020b), (Gong, Chun & Xuesong, 2022).

## 5. Conclusions

Thus, as evidenced by the analysis of scientific literature on the topic of the study and the results of the survey, today the importance of developing foreign language communication skills of law students in higher education institutions is extremely high. In the course of the study, the authors emphasize the importance of a foreign language as the main means of international communication, which outlines the direction of the necessary professional activity of law students. It has been established that one of the most important tasks of foreign language training for future lawyers is to overcome the language barrier. Moreover, the process of learning a foreign language should be aimed at mastering, first of all, a spoken foreign language, which can be used in the most typical situations of professional communication. In the course of the scientific research, the authors identify effective methods of developing foreign language communication skills of law students.

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## **Dialogic learning as means of forming the communication skills of higher education students**

### **El aprendizaje dialógico como medio para formar las habilidades comunicativas de los estudiantes de educación superior**

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### **Abstract**

The research aims to establish a pattern of promoting the introduction of dialogic learning as a means of forming the communicative abilities of higher education students. This can be achieved by surveying students on the Internet to determine the ability of educational institutions to form communicative competence in higher education students. The study revealed that the method of modeling situations

in educational activities (98.3%), intellectual games (94.1%), communicative games (93.8%), the method of dialogic interaction (92.4%), the case method (89.8%), and the educational discussion (89.2%) contribute to the formation of communicative abilities in higher education students. It has been determined that teachers use exercises to translate international words into their native language in the process of dialogic communication (95.5%), communicative exercises aimed at using the learned lexical material in speech and close to the natural process of communication (95.3%), exercises to compare words with their definitions in their native or foreign languages (89.5%), etc. to form communicative competence in higher education students in the process of applying dialogic teaching. Based on the study, it was found that the successful implementation of dialogic teaching to ensure the formation of communicative abilities in higher education students based on a communicative approach contributes to the formation of certain skills in higher education students.

**Keywords:** Dialogic learning, higher education students, communication skills, educational institutions.

## Resumen

La investigación tiene como objetivo establecer un patrón de promoción de la introducción del aprendizaje dialógico como medio para formar las habilidades comunicativas de los estudiantes de educación superior. Esto se puede lograr encuestando a los estudiantes en Internet para determinar la capacidad de las instituciones educativas para formar competencias comunicativas en los estudiantes de educación superior. El estudio reveló que el método de modelación de situaciones en actividades educativas (98,3%), juegos intelectuales (94,1%), juegos comunicativos (93,8%), método de interacción dialógica (92,4%), método de casos (89,8%) y la discusión educativa (89,2%) contribuyen a la formación de habilidades comunicativas en los estudiantes de educación superior. Se ha determinado que los docentes utilizan ejercicios para traducir palabras internacionales a su lengua materna en el proceso de comunicación dialógica (95,5%), ejercicios comunicativos orientados a utilizar el material léxico aprendido en el habla y cercanos al proceso natural de comunicación (95,3%), ejercicios de comparación de palabras con sus definiciones en su lengua materna o extranjera (89,5%), etc. para formar la competencia comunicativa en estudiantes de educación superior en proceso de aplicación de la enseñanza dialógica. Con base en el estudio, se encontró que la implementación exitosa de la enseñanza dialógica para asegurar la formación de habilidades comunicativas en los estudiantes de educación superior a partir de un enfoque comunicativo contribuye a la formación de ciertas habilidades en los estudiantes de educación superior.

**Palabras clave:** Aprendizaje dialógico, estudiantes de educación superior, habilidades comunicativas, instituciones educativas.

## 1. Introduction

The modern concept of higher education determines the organization of the educational process based on the development of a set of basic competencies of a general cultural and professional nature that are required by higher education students in their respective fields of activity. The main tasks facing higher education students are to master all categories of speech activity and to acquire professional communication skills that are formed and developed through the use of dialogic learning in the educational process. These requirements for higher education applicants are caused by the need to develop a high level of professional and communicative competence in future specialists. It is certainly unlikely to occur without the use of dialogic learning in the educational process (SevaraBaxodirovna et al., 2021).

Among the general competencies of higher education students, the ability to communicate in foreign languages is noted as one of the most important. It is worth considering the current trends in modern society to ensure the intensification of interpersonal, interethnic, and international contacts. The problem of improving the level of foreign language proficiency of higher education students in differentiated specialties as an important means of professional communication for future professionals is considered particularly relevant for the education sector. In this regard, the main task of a modern higher education institution is to train not only competent specialists for the relevant field but also to develop language competencies in higher education students who can implement effective professional activities and ensure communication with foreign partners in their language (Ministry of Education and Science of Ukraine, 2010).

On an international scale, any professional activity involves partnerships, which are mainly carried out in the form of dialogic communication. This allows for action, problem-solving, persuasion, and implementation of solutions, as well as for shaping a favorable business environment, creating a positive team climate, and establishing effective relationships with clients and partners (Chorniy, 2010; Savchak et al., 2020).

In the process of oral communication - learning a foreign language promotes the process of forming professionally oriented communicative competence. It consists of developing the ability of higher education students to communicate professionally with clients and partners in a foreign language (Bakirova, 2022). Special attention should be paid to working on vocabulary. The leading role in this process belongs to dialogic learning, which contributes to the development of communicative competence, without which any communication process is impossible (Sadenova et al., 2017). Thus, modern principles of higher education provide the organization of the educational process in the discipline of "foreign language" based on the use of dialogic learning, which plays an important role in future professional activities (Bakirova, 2022).

The research aims to establish a pattern of promoting the introduction of dialogic learning as a means of forming the communicative abilities of higher education students. To do this, it is required to survey students on the Internet to establish the ability of educational institutions to form communicative competence in higher education students.

Research objectives of the article:

- to survey students to identify certain signs of the formation of communicative competence in higher education students when applying dialogic teaching.
- to determine the dynamics of the formation of communicative competence in higher education students when applying dialogic teaching.
- to distinguish between methods and techniques of dialogic teaching in the process of forming communicative abilities in higher education students.
- to determine the advantages of dialogic teaching in the process of forming communicative abilities in higher education students.
- to analyze the trends in the use of dialogic teaching for the formation of communicative competence in higher education students in 2022-2023.

## 2. Literature review

The relevance of research in the field of education, science, and culture in the current realities of educational development is beyond doubt. This is because these trends accentuate intercultural and interethnic communication. Modern scholars pay considerable attention to the study of dialogic learning as a means of forming communicative abilities in higher education students (Coman et al., 2020; Babu & Sridevi, 2018).

Dialogic learning is noted as a method of teaching that counteracts monologic discourse, which is the most common method in standard foreign language textbooks or in lectures where teachers play an authoritarian role in the transfer of knowledge (Matusov, 2009). The role of a pedagogue who uses dialogic learning is not to control the audience, but rather to facilitate and engage students in learning activities (Sewell, 2011; Teo, 2013; Teo, 2019).

Dialogic learning is noted as not just organizing any conversation where teachers and students or students and students exchange their statements. Dialogue should include more intentional communication that encourages interaction among higher education students and questions their opinions. To apply dialogic learning in the classroom, the instructor should create an appropriate environment and tasks that will promote the use of this approach (Kamolwan, 2021).

Dialogic learning is a pedagogical approach that enables teachers and students to collaborate and build on each other's ideas to improve learning outcomes (Hennessy et al., 2011). Dialogic learning focuses on the establishment of dialogic processes in which both teachers and students act as questioners in a dialogic exchange during the learning process (Haneda & Wells, 2008; Lyle, 2008). In traditional didactic teaching, teachers strive to disseminate information, while higher education students act as passive recipients of knowledge with limited participation in the dialogue during the lecture (Chow et al., 2021; Alexander, 2008; Hennessy, 2017; Lee, 2016; Skidmore, 2006).

Dialogic teaching is noted as a strategy that has the potential to improve the communication skills of higher education students through a high level of interaction between the teacher and students and meaningful communication in the classroom. Dialogic teaching is aimed at encouraging higher education students to use "complex statements" in the process of communication that reflect their thinking with argumentation, thereby contributing to the stimulation of higher education students to engage in productive work (Alexander, 2008).

Higher education students need to learn how to create interpretations, as dialogic learning has the potential to increase their cognitive thinking (Resnick et al., 2015). Alexander R. stated that dialogic learning has five key principles. The first is reciprocity, where teachers and higher education students listen to each other and exchange differentiated ideas and points of view. The next principle is collectivity, where learning tasks are solved by the teacher and the student or by the whole class. The next is the principle of accumulation, where teachers and higher education students form personal ideas and each other's ideas. The fourth principle is support, where higher education students express their ideas freely and without fear of being judged for wrong answers. The last principle is purposefulness, where teachers guide the classroom conversation through relevant learning objectives (Alexander, 2006).

Dialogic teaching is a pedagogical process that seeks to shift classroom conversation from rote learning to productive interaction between teachers and their students. A significant number of scientific studies have emphasized the potential of dialogic teaching to improve students' speaking skills. Dialogic



speaking is the basis of dialogic teaching, which is based on the social constructivist approach (Alexander, 2006; Hardman, 2008; Lyle, 2008; Mercer & Dawes, 2008; Wells & Ball, 2008).

Dialogic learning involves the extended and supported use of conversation by higher education students, which includes open-ended questions, reflection, the extended exchange of ideas, authentic feedback, and the perception/development of others' ideas, etc. (Alexander, 2008; O'Connor & Michaels, 2007). Depending on the specific learning objectives, teachers should be able to flexibly use different types of conversation, including recitation, presentation, or discussion (Halloush et al., 2021; Reznitskaya et al., 2009; Soter et al., 2008).

Dialogic teaching can be used in foreign language learning, where the focus is on developing language skills. Through dialogic learning, higher education students have the opportunity to learn and improve their foreign language skills through joint dialogues and group activities (Barekat & Mohammadi, 2014; Doukmak, 2014; Gupta, Lee, 2015; Shea, 2018). One of the likely reasons for the lack of analytical attention to dialogic learning in foreign language learning and applied linguistics is the recent trend toward so-called "trans" approaches, such as translanguaging practices (Cenoz, Gorter, 2020; Daniel et al., 2019; Garcia & Wei, 2014; Wei, 2018). Dialogic learning is important because it generates a diversity of voices and points of view. This is crucial in language classrooms because they provide opportunities for learners to ask questions. Moreover, good dialogue allows students to learn from each other and educators to learn from their students (Kamolwan, 2021).

Similar to other approaches, such as instructional and academic conversations, dialogic learning encourages teachers to actively encourage students to engage in a dialogue that is guided by the responses of the students to the teacher's questions. However, compared to instructional and academic conversations, dialogic learning is more systematic due to its PEER sequence and CROWD question structure. In the PEER sequence, repetition ensures that higher education students understand and can practice the answers that the teacher has evaluated and expanded, which in turn is important to help teachers achieve the learning objectives (Chow et al., 2021).

Thus, in the professional sphere, dialogic communication is understood as the ability to effectively participate in communication, as well as to set its main goals and objectives. It is important to have a proper position on fundamental issues in the process of communication; to be able to feel the personality, mood, and character of the partner in the course of communication. It is also necessary to conduct interviews, negotiations, discussions, etc., and to have a high level of professional and communicative competence. This allows you to find the best solutions when discussing problems; apply communication strategies and tactics; listen and ask questions; apply etiquette to achieve the communication goal; follow language rules (Savchak et al., 2020).

Thus, the problem of dialogic teaching as a means of developing the communicative abilities of higher education students and the study of obstacles to the formation of communicative competence in higher education students is insignificantly reflected in scientific publications in the form of theoretical research and practical research. However, the issue of promoting the implementation of dialogic learning as a means of forming the communicative abilities of higher education students in educational institutions remains relevant and open for further research.

### **3. Materials and Methods**

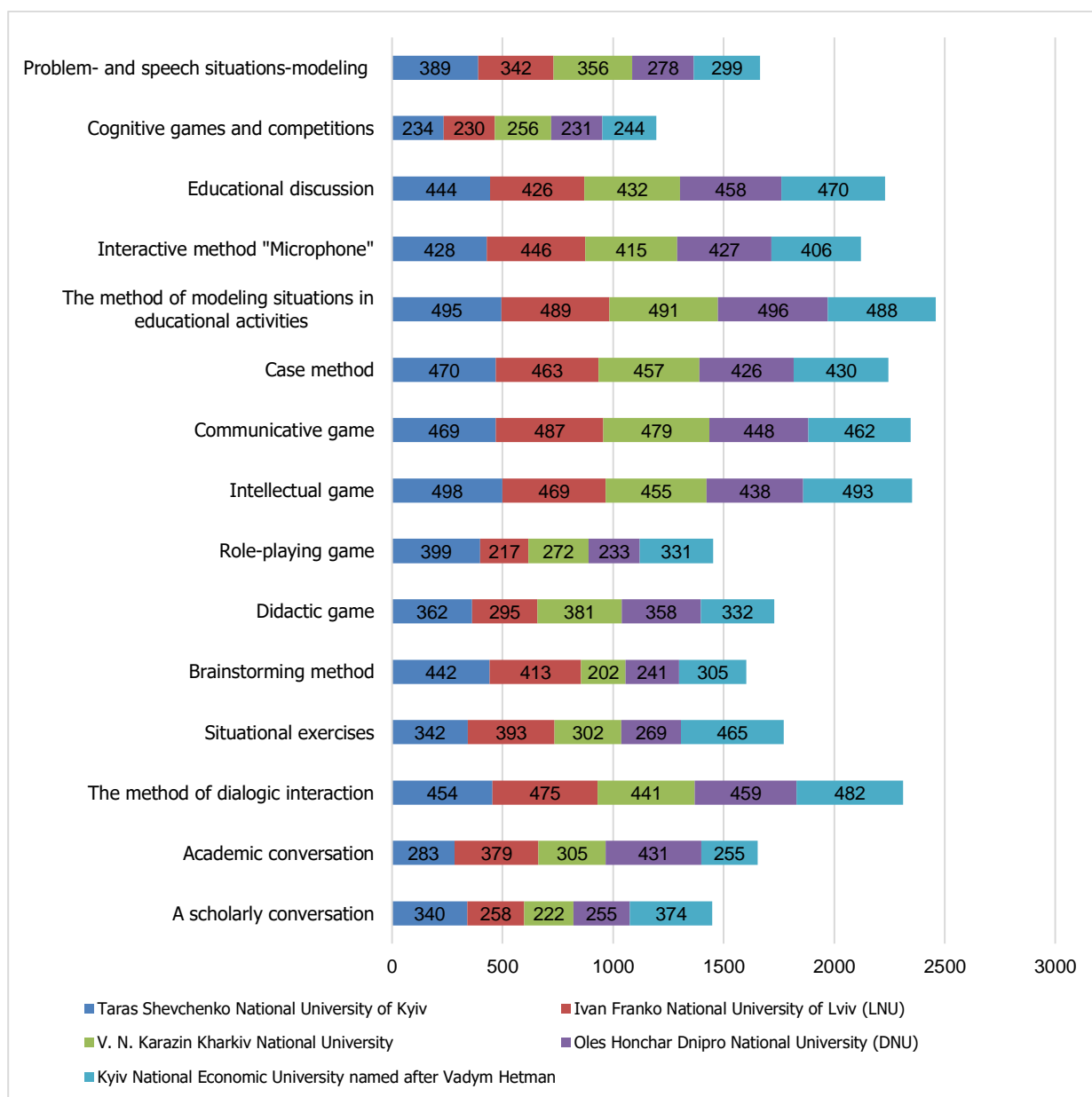
The realization of the purpose of this study involves the use of such research methods as:

- systematic and logical analysis to determine the result of the formation of communicative competence in higher education students when applying dialogic learning;
- the method of information synthesis to determine the benefits of dialogic learning in the process of forming communicative abilities in higher education students based on a communicative approach;
- generalization of the latest scientific publications related to the analysis of methods, tools, and techniques used to study trends in the use of dialogic learning for the formation of communicative competence in higher education students in 2022-2023;
- a comparison method for distinguishing between methods and techniques of dialogic teaching in the process of forming communicative abilities in higher education students.

Determination of certain signs of the formation of communicative competence in higher education students when using dialogic teaching was carried out using descriptive statistics. Its data were provided as a result of a survey using MS Forms Pro. The survey was conducted to determine the perceptions of higher education students about the ability of educational institutions to form communicative competence in higher education students when applying dialogic teaching. An online survey was conducted from October 27, 2022, to February 10, 2023, collecting information from 2,500 students at Taras Shevchenko National University of Kyiv, Ivan Franko National University of Lviv (LNU), V. N. Karazin Kharkiv National University, Oles Honchar Dnipro National University (DNU), and Kyiv National Economic University named after Vadym Hetman. These participants answered questions about their learning experiences, motivation, expectations, and overall satisfaction with the use of dialogic learning for communicative competence. This online survey addressed the following research questions: 1. What methods, and techniques of dialogic teaching best contribute to the formation of communicative abilities of higher education students? 2. What exercises are used by teachers in dialogic teaching to develop communicative competence in higher education students? 3. What are the advantages of dialogic teaching in the process of forming communicative abilities of higher education students based on the communicative approach?

#### **4. Results**

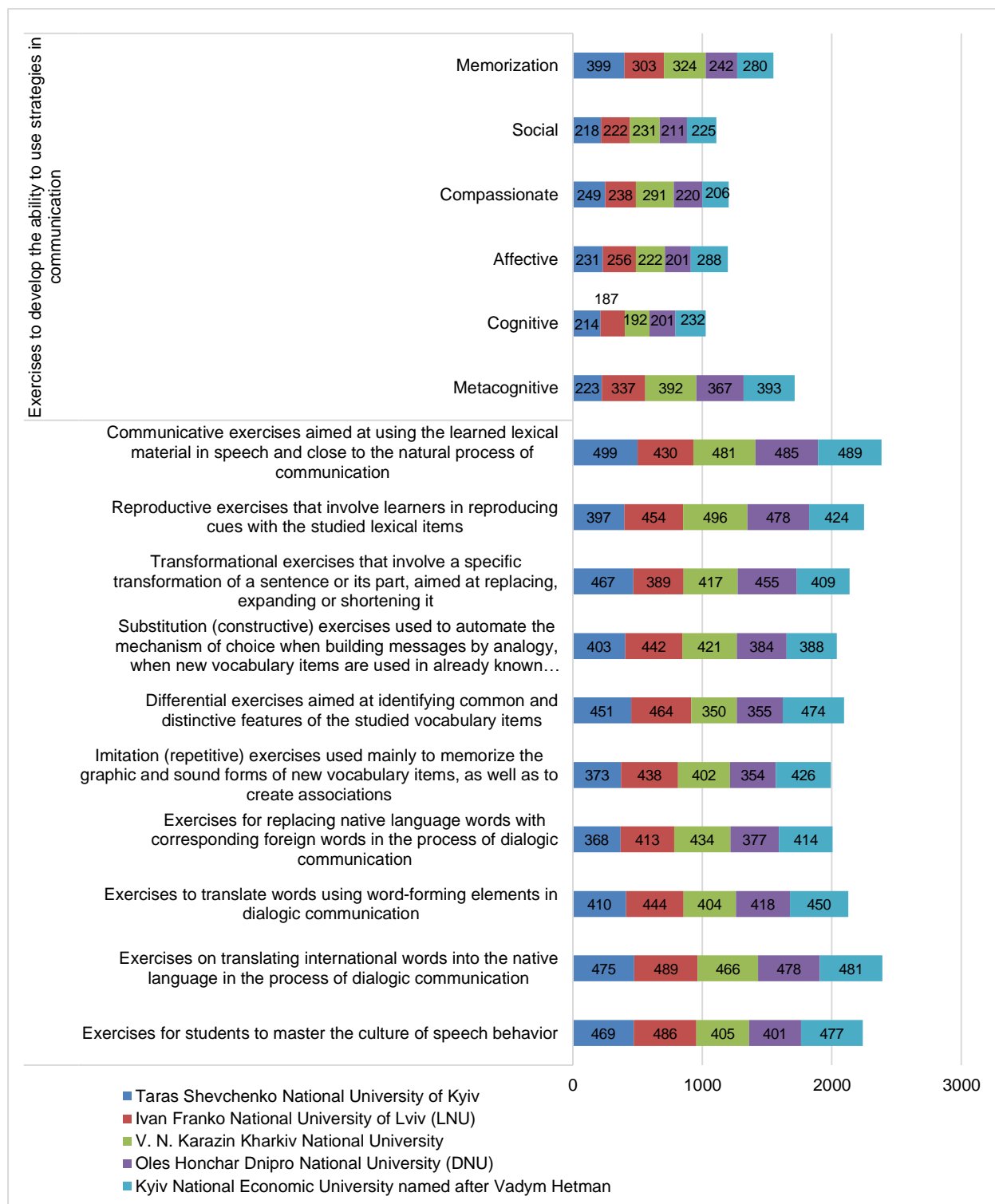
To analyze the use of dialogic teaching as a means of forming the communicative abilities of higher education students in 2022-2023, a survey was conducted among students of Taras Shevchenko National University of Kyiv, Ivan Franko National University of Lviv (LNU), V. N. Karazin Kharkiv National University, Oles Honchar Dnipro National University (DNU), Kyiv National Economic University named after Vadym Hetman, who answered the following questions: "What methods, techniques of dialogic teaching best contribute to the formation of higher education students' communication skills?" students indicated that they most often use: the method of modeling situations in educational activities (98.3%), intellectual games (94.1%), communication games (93.8%), the method of dialogic interaction (92.4%), the case method (89.8%) and educational discussion (89.2%) (Figure 1).



**Figure 1.** What methods, and techniques of dialogic teaching best contribute to the formation of communication skills in higher education students?

Source: Compiled by the authors.

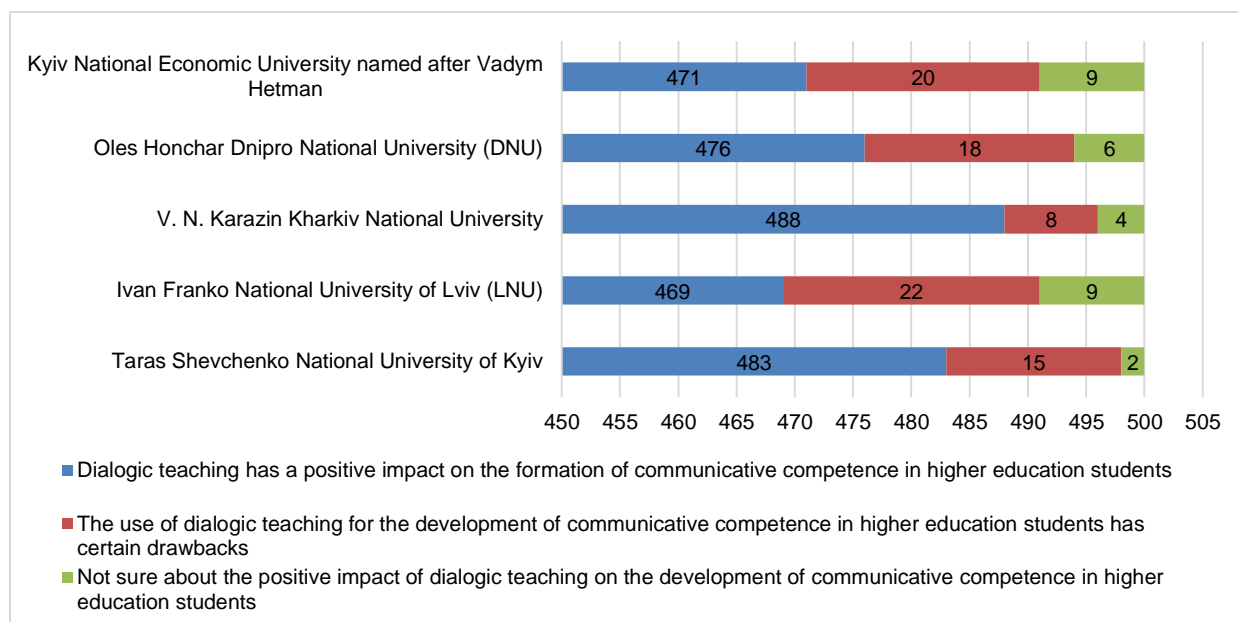
Based on the survey, it was found that teachers use certain exercises to form communicative competence in higher education students in the process of applying dialogic teaching. These include exercises on translating international words into the native language in the process of dialogic communication (95.5%), communicative exercises aimed at using the learned lexical material in speech and close to the natural process of communication (95.3%), exercises on comparing words with their definitions in the native or foreign languages (89.5%) (Figure 2).



**Figure 2.** What exercises are used by teachers in dialogic teaching to develop communicative competence in higher education students?

Source: Compiled by the authors.

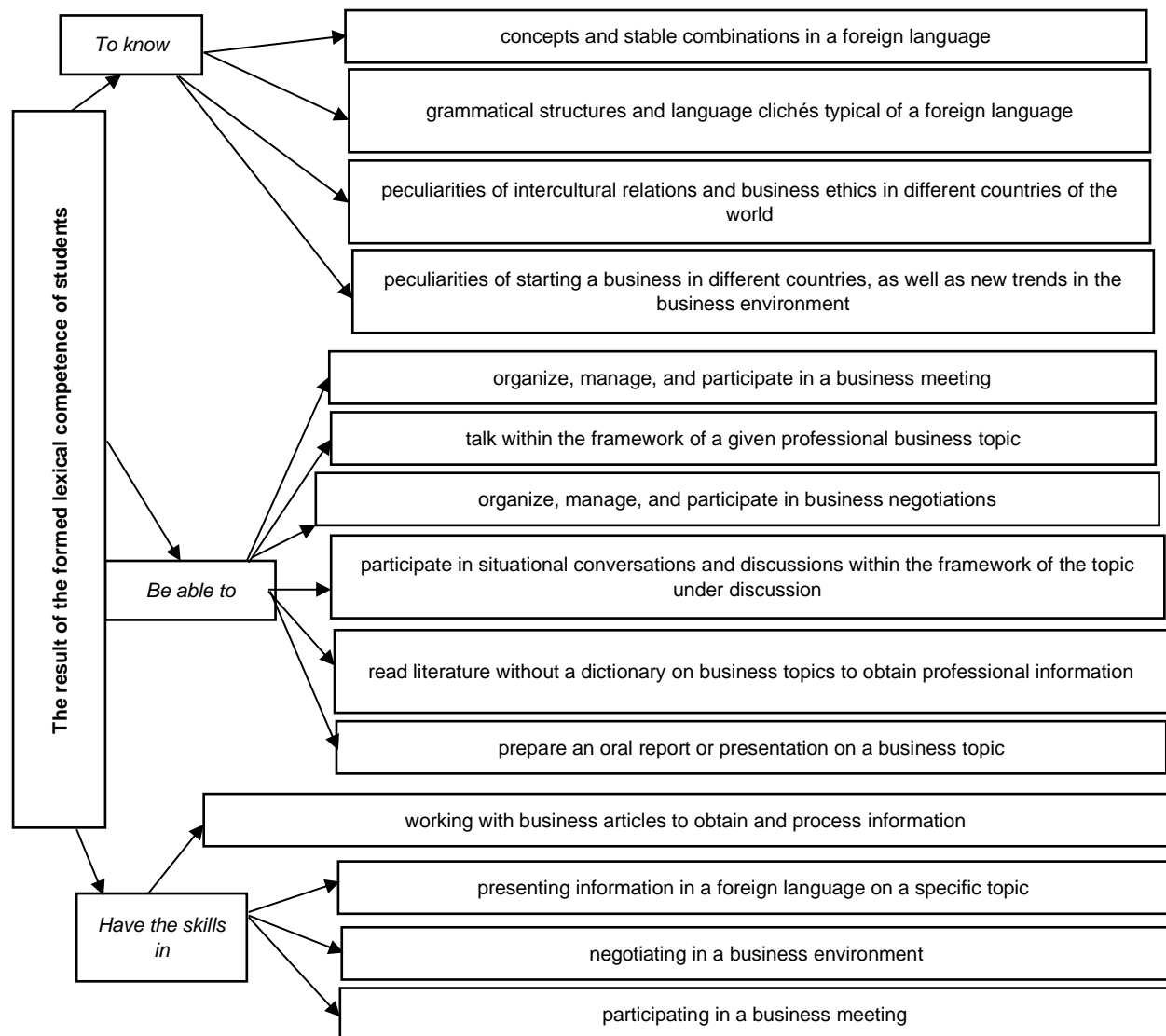
To assess the effectiveness of using dialogic teaching to develop communicative competence in higher education students in 2022-2023, a significant number of students noted that dialogic teaching has a positive impact on the development of communicative competence in higher education students (95.5%). A smaller number (3.3%) were not sure about the positive impact of dialogic teaching on the development of communicative competence in higher education students. The remaining respondents noted that dialogic teaching for the development of communicative competence in higher education students has certain disadvantages (1.2%) (Figure 3).



**Figure 3.** Analysis of trends in the use of dialogic teaching for the formation of communicative competence in higher education students in 2022-2023.

Source: Compiled by the authors.

Figure 4. shows the result of the formation of communicative competence in higher education students when applying dialogic learning.



**Figure 4.** The result of the formation of communicative competence in higher education students in the application of dialogic learning  
*Source: Compiled by the authors.*

The successful implementation of dialogic teaching based on the communicative approach contributes to the formation of communicative abilities in higher education students. This includes the development of skills to use speech clichés, elliptical sentences, and phrases (89%), to independently recognize direct and indirect strategies of the interlocutor's speech (83.3%), to aim at achieving high learning outcomes (81.5%), to repeat part of what the interlocutor said to confirm understanding (73.3%) and to realize their own mistakes in communication and use differentiated strategies to avoid and prevent them (71.6%) (Figure 5).

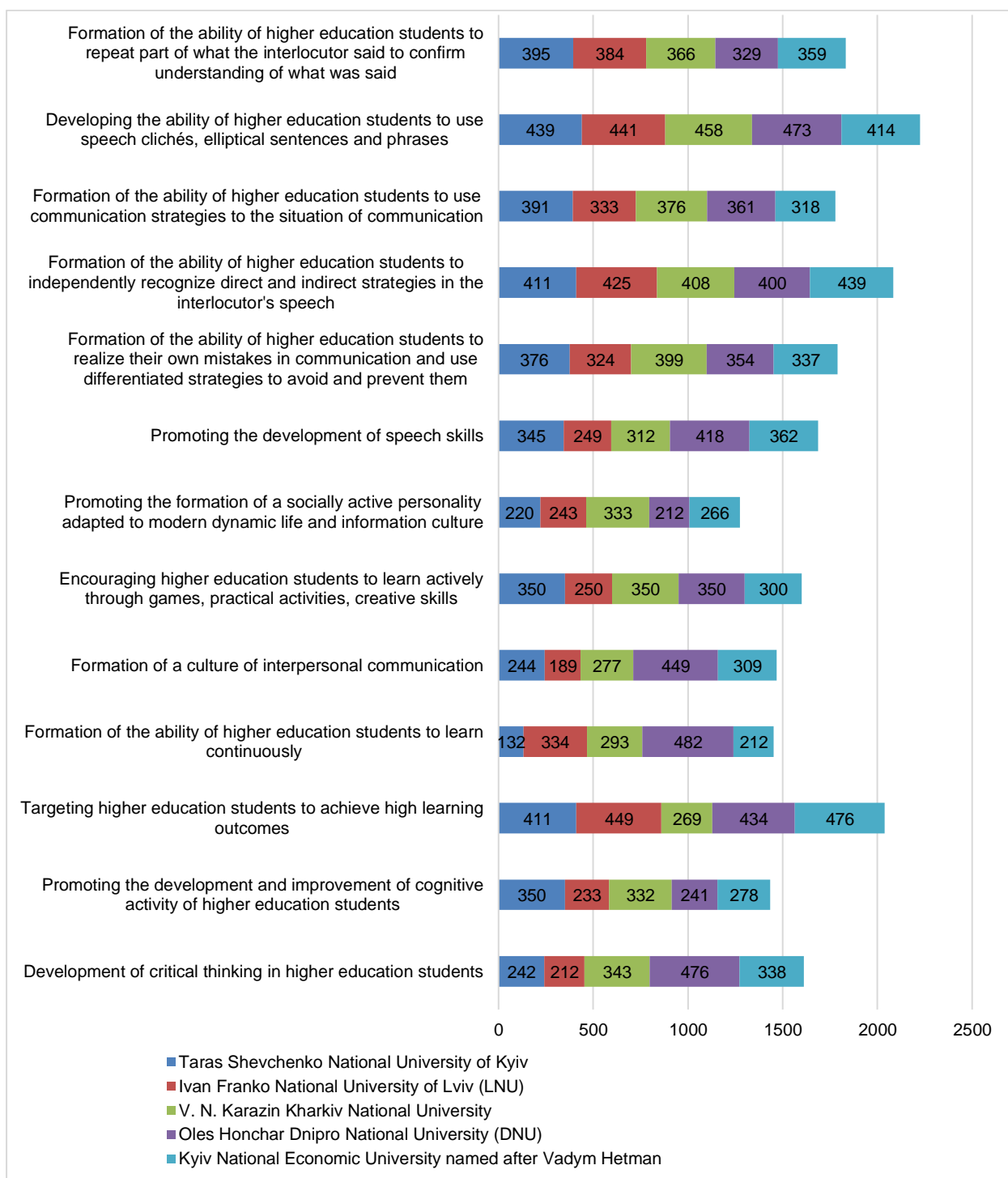


Figure 5. The advantages of dialogic learning in the process of forming communication skills in higher education students based on the communicative approach

Source: Compiled by the authors.

## 5. Discussion

The results of the study of the formation of communicative abilities in higher education students based on the use of dialogic learning led to the following conclusions. Nowadays, the educational process requires a combination of differentiated approaches to make learning fruitful and efficient.

Firstly, research reveals many advantages of dialogic learning that contribute to the development of critical thinking and the improvement of cognitive activity of higher education students. Dialogic learning also aims for higher education students to achieve high learning outcomes and form a culture of interpersonal communication. Such training contributes to the creation of a socially active personality adapted to modern dynamic life and information culture. It is useful in the development of speech skills, as well as the formation of the ability of higher education students to realize their own mistakes in communication and use differentiated strategies to avoid and prevent them. The advantages of dialogic teaching are also in the formation of student's ability to independently recognize direct and indirect strategies in the interlocutor's speech; use communication strategies to the communication situation; use speech clichés, elliptical sentences, and phrases; repeat part of what the interlocutor said to confirm understanding of what was said (Babu & Sridevi, 2018).

Secondly, the survey proves that the quality of the educational process when using dialogic teaching will ensure the development of students' communicative competence. However, this will be possible only if teachers use exercises to translate international words into their native language in the process of dialogic communication; communicative exercises aimed at using the lexical material studied in the language and close to the natural process of communication; exercises to compare words with their definitions in the native or foreign languages, etc. (Coman et al., 2020).

Thus, in the process of developing communicative skills in higher education students through the use of dialogic teaching, teachers and students will face differentiated problems following changes in educational requirements for higher education students. An in-depth study will lead to increased attention to improving the competence approach to the formation of communicative abilities in higher education students through the use of dialogic learning.

## 6. Conclusions

As a result of the analysis of the system of forming communicative abilities in higher education students based on the use of dialogic teaching, it was found that many problems require the use of special methodology and research methods. The results of the study have shown that dialogic teaching in the educational process ensures the formation of higher education students' ideas about active teaching methods, the development of communication skills, and the acquisition of experience in educational cooperation. This allows them to take an active position in the learning process and take responsibility for their results.

It has been established that the formation of communicative competence in higher education students depends on their ability to motivate, reflect, lexical activity, conscious use of speech clichés, elliptical sentences, phrases, and lexemes, possession of a sufficient vocabulary, and proper use of professional terminology in the process of communication. It has been ascertained that the main elements of the communicative competence of higher education students are speech and communication skills that ensure communication, and the use of vocabulary in differentiated types of communication activities.



The introduction of dialogic learning can provide higher education students with the opportunity to expand their communication skills and overcome communication anxiety. Dialogic learning allows many higher education students to engage in dialogic interaction during the learning process. This, in turn, contributes to the accumulation of knowledge and also promotes the receipt of differentiated information from each other.

The practical significance of the study lies in the fact that the conclusions and recommendations developed by the author and proposed in the article can be used in curricula to develop students' communicative abilities through the use of dialogic teaching. Promising areas for further scientific developments in this area are the study of foreign best practices in the formation of communicative skills in higher education students through the use of dialogic teaching. Further research can be aimed at improving the curriculum to increase the use of dialogic teaching by teachers as a means of developing communicative skills in higher education students. This will stimulate the educational sphere and improve teaching activities in the process of forming communicative competence in higher education students through the implementation of dialogic learning.

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## **Methodological foundations for the formation of professional qualities in primary school teachers**

### **Fundamentos metodológicos para la formación de cualidades profesionales en docentes de educación primaria**

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### **Abstract**

The successful solution to the problems of modern primary education is directly related to the success of teacher training and professional development, to the change of methodological approaches to the process of forming the professional qualities of teachers. It depends on the effectiveness of the system of methodological work of general secondary education institutions. The article aims to highlight the main trends in the study of the effectiveness of the formation of professional qualities of primary school teachers from a methodological point of view. Moreover, it seeks to identify the key practical aspects of this problem in the scientific literature. Methodology. In the course of the study, the

analytical and bibliographic method was applied to study the scientific literature on the formation of professional qualities of primary school teachers. Induction, deduction, analysis, synthesis of information, systemic and structural, comparative, logical, and linguistic methods, abstraction, and idealization were involved in the study and processing of data. The authors of the study also conducted an online questionnaire survey, which served to practically clarify the most important issues related to the methodological aspects of the formation of professional qualities of primary school teachers. Results. According to the results of the study, the main most important theoretical aspects of the issue of methodological support of the quality of primary school teachers' work have been identified. Moreover, the point of view of scientists and heads of general secondary education institutions on certain practical components of this process has been investigated.

**Keywords:** Primary education, methodological work of secondary education institutions, competence-based approach to teaching, methodological foundations of teacher training, scientific and methodological work.

## Resumen

La solución exitosa de los problemas de la educación primaria moderna está directamente relacionada con el éxito de la formación y el desarrollo profesional de los docentes, con el cambio de enfoques metodológicos en el proceso de formación de las cualidades profesionales de los docentes. Depende de la efectividad del sistema de trabajo metodológico de las instituciones de educación secundaria general. El artículo tiene como objetivo destacar las principales tendencias en el estudio de la eficacia de la formación de cualidades profesionales de los maestros de educación primaria desde un punto de vista metodológico. Además, busca identificar los aspectos prácticos clave de este problema en la literatura científica. Metodología. En el transcurso del estudio, se aplicó el método analítico y bibliográfico para estudiar la literatura científica sobre la formación de cualidades profesionales de los maestros de la escuela primaria. Inducción, deducción, análisis, síntesis de información, métodos sistémicos y estructurales, comparativos, lógicos y lingüísticos, abstracción e idealización intervinieron en el estudio y procesamiento de datos. Los autores del estudio también realizaron un cuestionario de encuesta en línea, que sirvió para aclarar de manera práctica las cuestiones más importantes relacionadas con los aspectos metodológicos de la formación de cualidades profesionales de los maestros de primaria. Resultados. De acuerdo con los resultados del estudio, se han identificado los principales aspectos teóricos más importantes del tema del sustento metodológico de la calidad del trabajo de los docentes de la escuela primaria. Además, se ha investigado el punto de vista de científicos y directores de instituciones de educación secundaria general sobre ciertos componentes prácticos de este proceso.

**Palabras clave:** Educación primaria, trabajo metodológico de las instituciones de educación secundaria, enfoque de enseñanza basado en competencias, fundamentos metodológicos de la formación docente, trabajo científico y metodológico.

## 1. Introduction

The effectiveness of work and personal development of primary school teachers directly depends on the level of methodological preparation of their teaching. Therefore, methodological work is an integral and most important component of the organization of the educational process of primary school teachers.

The theoretical part of this study substantiates the relevance of the research topic and reveals the issue of the effectiveness of methodological work as a prerequisite for the success of the pedagogical process. This part analyzes the components and main factors of the formation of professional qualities of primary school teachers.

The practical part of the study includes the identification of the most important professional competencies of primary school teachers. It also outlines the most important methodological foundations of primary school teacher training. The directions of methodological work for the formation of teachers' professional competence and the most promising vectors of scientific research that are necessary for use in the practical activities of secondary education institutions are identified.

Based on the results of the study, conclusions have been drawn on the issues raised. In particular, it has been found that the most important characteristics of primary school teachers' professional competence are the acquisition of experience to respond quickly to the influences of the external and internal environment, readiness for innovation, and the ability to take responsibility for the results of their work. The primary methodological foundations of primary school teacher training are the humanistic orientation of the educational process, the innovativeness of primary school teachers, the partnership of all learning subjects, and the systematic nature of methodological work. During the survey, the respondents identified the most important areas of methodological work carried out to develop the professional competence of primary school teachers. They include the formation of an educational environment or professional interaction, participation in innovative collective and group forms, creation of an information and educational space, and readiness for innovative activities. At the same time, the survey showed the directions of scientific research that are most necessary for their application in the practical activities of primary schools in today's conditions. These directions include methodological support for a multi-level education system, control over the development of pedagogical and methodological complexes in the disciplines of the curriculum, and collection and generalization of information on best practices in pedagogical and methodological work.

The study aims to determine the position of scientists engaged in research activities in the field of professional training of secondary school teachers. Practicing heads of secondary education institutions were also interviewed regarding the peculiarities of methodological work on the formation of professional qualities of primary school teachers.

## 2. Literature review

During the implementation of professional activities, primary school teachers should be able to realize themselves as professionals and open real prospects for their further professional development. A teacher can consciously choose those types and forms of activity in which he/she has an individual interest and satisfy his/her needs for continuous professional growth. Therefore, the methodological work on the development of primary school teachers' professional qualities should be structured in such a way as to maximize the effect of the work, while revealing the professional abilities, skills, and potential opportunities for personal and professional growth as fully as possible (Aidarbekova et al., 2021).

Successful implementation of the modern educational paradigm largely depends on the primary school teacher. Spirituality and high morality, intelligence, professional competence, creative pedagogical thinking, and humanistic and humanitarian orientation of pedagogical action should characterize him or her. His or her training should be based on principles, variability, and alternatives, humanization of the content of the educational process (Aroca et al., 2023), (Kesik & Bas, 2022).

Many scholars believe that the competency-based approach allows primary school teachers to develop their professional qualities optimally. This encourages teachers to continue their professional development (Connor et al., 2019).

Today, the methodological basis for innovative changes in the methodology of professional training of primary school teachers is their focus on a competency-based approach to learning. This approach is to educate and develop the competence of both teachers and students, determining their successful adaptation in society. Unlike the term "qualification," competence includes not only purely technical knowledge and skills, but also such qualities as initiative, cooperation, group work, willingness to communicate, learning, evaluation, logical thinking, and the ability to select and use necessary data (Erichsen & Reynolds, 2019), (Jamshidifarsani et al., 2019).

In pedagogy and psychology of higher education, there is ongoing research into the professional and pedagogical training of future primary school teachers as competent, self-developing personality. New effective ways of preparing a future primary school teacher to work in conditions of changing structure and content of primary education are being searched for. The general principles of organizing the pedagogical process and the main directions of building the content of psychological and pedagogical training are developed and considered. This ensures the formation of the personality of a teacher-researcher who is constantly in search of effective and rational. Herewith, new methods of teaching and upbringing are constantly being developed, which create prerequisites for the organization of professional self-education of future primary school teachers, formation of their ethical competence, etc. (Gökkuş & Akyol, 2020), (Huong et al., 2021).

### **3. Methodology**

A practical study of current trends in the formation of professional qualities of primary school teachers was conducted by interviewing 217 scientists and 224 heads of secondary education institutions in 21 secondary education institutions in Chernihiv, Khmelnytskyi, Odesa, and Kyiv oblasts of Ukraine. The study was conducted using the Survey Planet service.

The survey consisted of a combination of closed-ended and open-ended questions, which aimed to gather information about the practical aspects of developing foreign language communicative competence for future lawyers. The closed-ended questions used a Likert-type scale to assess participants' attitudes and opinions on various aspects of foreign language teaching and learning, while the open-ended questions provided more in-depth responses about specific challenges, issues, and approaches. The collected data was analyzed using various research techniques, such as content analysis, statistical analysis, and comparative and correlational analysis. The content analysis was used to categorize the open-ended responses into common themes and patterns, which helped identify the main issues and challenges related to the development of foreign language communicative competence for future lawyers. The statistical analysis was used to quantify the responses to the survey questions and identify trends and patterns in the data, while the comparative and correlational analysis was used to identify the relationships between different variables.

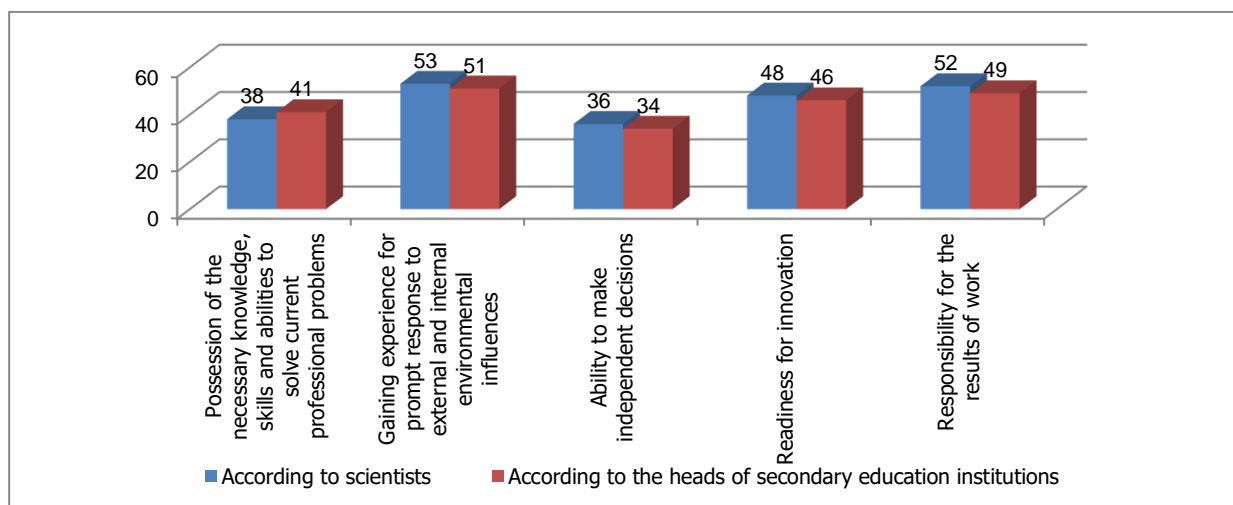
The research rigor was ensured by following the established research protocols and standards, such as ensuring the reliability and validity of the survey instrument, selecting a representative sample of participants, and using established data analysis techniques. The results were triangulated with existing literature in the field to ensure the credibility of the findings. The study used a mixed-methods approach that combined both quantitative and qualitative data collection and analysis techniques to

investigate the practical aspects of developing foreign language communicative competence for future lawyers. The rigorous methodology ensured the credibility and reliability of the findings, which can inform language teaching strategies and programs in higher education institutions.

#### 4. Results

According to the survey participants, today, in the context of a special increase in requirements for the quality of education in general and the level of teacher training in particular, the most important characteristics of the professional competence of primary school teachers are as follows (Figure 1).

According to the survey, the primary characteristics of the professional competence of primary school teachers are the acquisition of experience to respond quickly to the influences of the external and internal environment, readiness for innovation, and the ability to take responsibility for the results of their work.

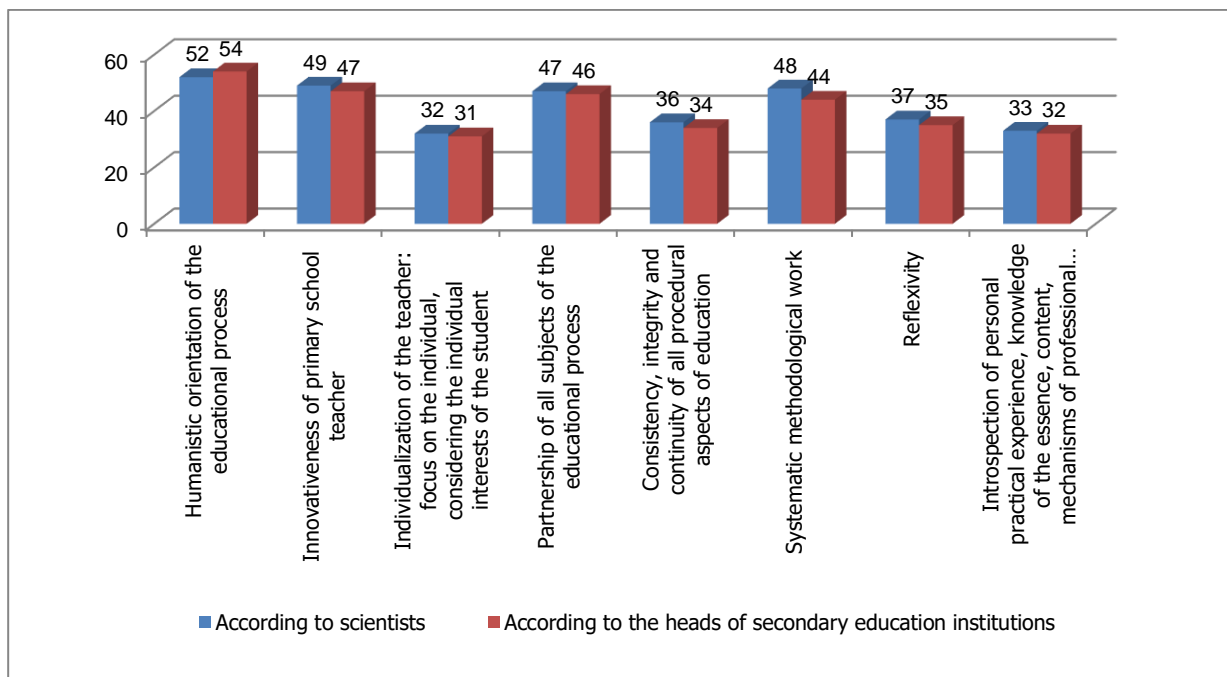


**Figure 1.** The most important professional competencies of primary school teachers, %  
*Source: built by the authors.*

Given the professional competencies of school specialists necessary for the development and operation of secondary education institutions, the respondents identified the most important methodological foundations of primary school teacher training (Figure 2):

- humanistic orientation of the educational process;
- innovativeness of primary school teachers;
- a partnership of all subjects of the educational process;
- systematic methodological work.

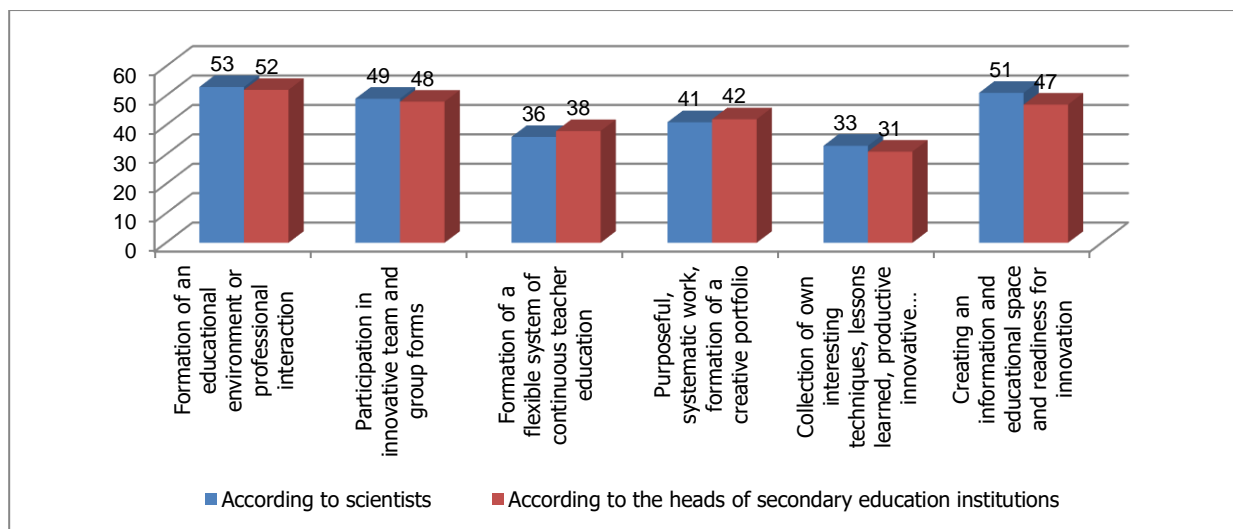




**Figure 2.** The most important methodological foundations of primary school teacher training, %  
 Source: built by the authors.

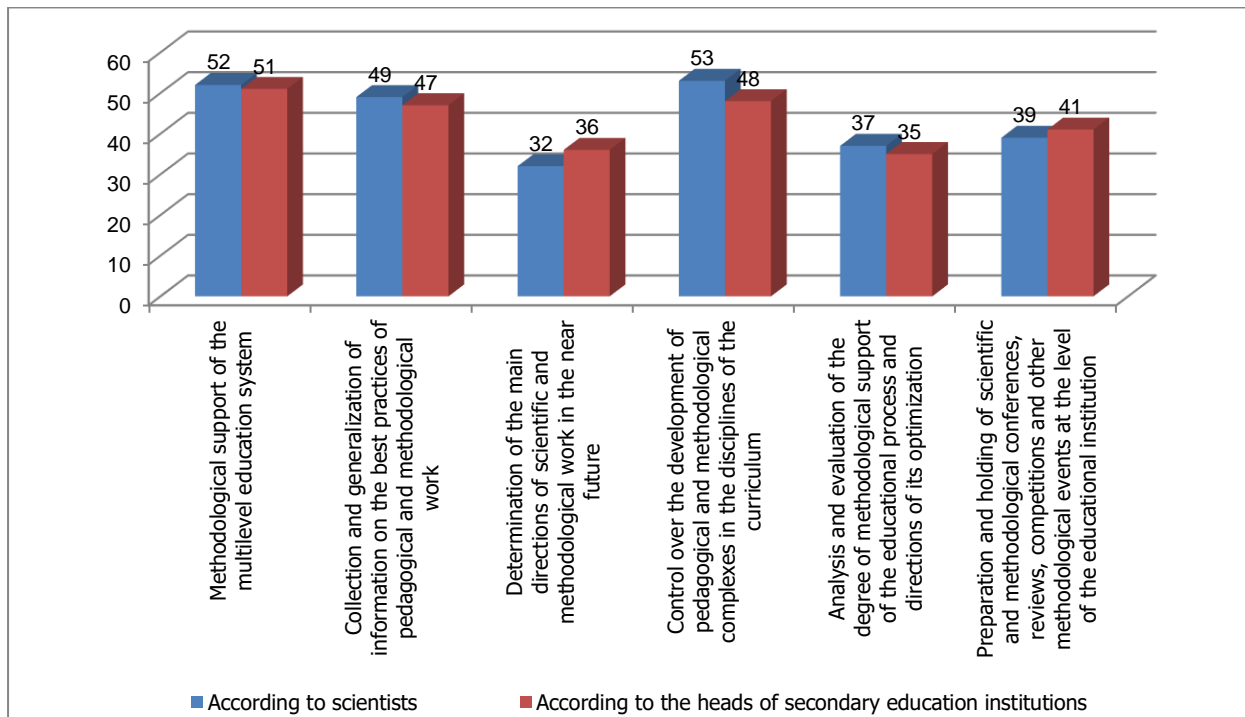
The survey made it possible to identify the most important areas of methodological work for the formation of professional competence of primary school teachers (Figure 3).

- formation of an educational environment or professional interaction;
- participation in innovative team and group forms;
- creating an information and educational space, and a willingness to innovate.



**Figure 3.** Directions of methodological work for the formation of primary school teachers' professional competence, %  
 Source: built by the authors.

The survey also helped to identify the areas of research that are most necessary for their application in the practical activities of secondary education institutions in today's conditions (Figure 4).



**Figure 4.** Research directions that are most necessary for their application in the practical activities of secondary education institutions, %

Source: built by the authors.

As can be seen from Figure 4, according to the respondents, the most promising and popular directions of scientific work are methodological support of the multilevel education system, and control over the development of pedagogical and methodological complexes in the disciplines of the curriculum. Equally important is the collection and generalization of information on best practices in pedagogical and methodological work.

## 5. Discussion

The main tasks of methodological work in the preparation of primary school teachers are defined. They include systematic improvement of methods of personal and professional training, improvement of pedagogical skills, development of new effective methods of organizing and conducting the educational process, generalization, and dissemination of the best pedagogical experience of teaching students (Kyrou, Alexopoulos & Raptis, 2020), (Mboweni & Taole, 2022).

The systematic improvement of teaching and learning methods today is the basis for the formation of innovative educational technologies used in the educational process. The development of new effective methods of organizing learning contributes to the improvement of teachers' pedagogical skills (McComas & Clough, 2020).

The scientific and methodological work of pedagogical HEIs is carried out with the aim of effective organizational, methodological, and scientific support for the implementation of state educational

standards of higher education for the methodological improvement of work and improvement of the quality of training of future teachers. To this end, the scientific and methodological council of the HEI works in close contact with the educational and methodological department, scientific institutions, library, editorial, and publishing council and other university departments, as well as state and public organizations (Nuangchalerm, Islami & Prasertsang, 2022).

The main tasks of the methodology office of higher education institutions are to provide students, doctoral students, interns, and teachers with the necessary teaching materials, organize external and internal thematic events, and interact with external organizations whose activities are in line with the institution's objectives. (Nugrohoa, Widiatib & Rachmajantic, 2020).

Today, an important issue is to increase the role of methodological work of teacher education institutions in the information and bibliographic support of teachers' professional and educational activities. Primarily, educational institutions are interested in providing their scientific and educational work with the necessary literature, as well as evaluating and testing the results of their activities in the educational process (Olson, 2018).

Increasing requirements in modern society for the professional training of primary school teachers require qualitatively new theoretical and methodological approaches to the training of future teachers. In a higher pedagogical educational institution, future teachers must learn the scientific foundations and acquire professional skills, as well as master new pedagogical achievements and skills in working with innovative technologies. In the future, this will help them to organically engage in pedagogical activities and immediately begin the practical application of scientific knowledge at school (Özyildirim, 2021), (Cascales & Gomariz, 2022).

The study of scientific literature on the topic of the research proves that the implementation of the leading directions of development of the world's educational system is currently underway.

These directions include the development of a competency-based approach to education, the use of innovative teaching methods and technologies, and the cultivation of a positive attitude towards lifelong learning. The study has shown that these directions are particularly relevant for the formation of professional qualities in primary school teachers, as they enable teachers to develop the competencies and skills necessary for effective teaching in the 21st century. The process of achieving mobility of professional and pedagogical training of teachers along with the development of a new educational philosophy and paradigm is also ongoing. The search for variable methods of methodological training of pedagogical staff of the modern generation at the level of new educational standards and updated requirements for the quality of educational services is in progress (Parmin, Nuangchalerm & El Islami, 2019), (Zhurat et al., 2021).

When teaching methodological disciplines in a higher pedagogical education institution, when choosing tasks that will test the level of competence of a future teacher in primary school teaching methods, it should be borne in mind that updating the content of pedagogical education aims to fulfill structured requirements for students' academic and personal achievements (Sagala et al., 2019), (Songsee & Nuangchalerm, 2022). Therefore, when selecting tasks to test the level of competence of a future teacher in primary school teaching methods, it is important to ensure that these tasks are aligned with the learning objectives of the course and are designed to develop the competencies and skills necessary for effective teaching.

## 6. Conclusions

The study has demonstrated the importance of developing a solid methodological foundation for the formation of professional qualities in primary school teachers. The research design combined qualitative and quantitative approaches, including observation, interviews, and questionnaires, to provide a comprehensive understanding of the issues at hand. The results of the study suggest that the formation of professional qualities in primary school teachers depends on several factors, including their personal qualities, pedagogical skills, and the learning environment.

The study has also identified the key competencies that primary school teachers need to develop, such as creativity, communication skills, problem-solving skills, and the ability to work in a team. The research has shown that the use of innovative teaching methods and technologies, such as project-based learning and online learning platforms, can contribute significantly to the formation of these competencies.

Based on the findings of the study, it is recommended that primary school teacher education programs should focus on developing a solid methodological foundation that emphasizes the acquisition of professional competencies and the cultivation of a positive attitude towards lifelong learning. The study provides valuable insights into the factors that influence the formation of professional qualities in primary school teachers and offers practical recommendations for improving teacher education programs. Overall, the study contributes to the ongoing discussion on teacher education and has important implications for the improvement of primary education.

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## **Training future educators to develop ecological knowledge of preschool and school children**

### **Capacitar a futuros educadores para desarrollar el conocimiento ecológico de los niños en edad preescolar y escolar**

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### **Abstract**

In the article, the basic principles of training future educators and teachers in the field of environmental education are discussed. Such a process requires mastering a set of innovative pedagogical knowledge on ecology to be aware of them in the future and integrate such knowledge into the profession of a teacher. This determined the relevance of the topic of this study. The article aims to determine the results of the effectiveness of the introduction of disciplines that increase the level of environmental knowledge and introduce innovative pedagogical methods in this area. It is equally important to determine the assessment of the usefulness of introducing new disciplines on methods of teaching environmental knowledge among students (attitude to innovations, anxious use of innovations, external barriers to the integration of innovations into pedagogical practice, readiness to use innovative pedagogical knowledge). A comprehensive approach to methodology was used in the study. The main method in the work is the method of pedagogical experiment. Moreover, descriptive, statistical, and theoretical methods are also applied. The methods of questionnaires and observation were employed to diagnose the effectiveness of innovative research, according to preschool teachers. The main hypothesis is the assumption that innovative environmental knowledge courses and self-education activities contribute to the competence and quality of teacher training significantly and provide for their integration into the work of school and preschool education. The result of this study is evidence that teacher training programs and new pedagogical methods related

to innovations in ecological education affect the ability to operate with new methods and modern knowledge in future professional practice. A further prospect is the development and implementation of effective methods for introducing innovative pedagogical knowledge into the training of teachers in the field of preschool and school education.

**Keywords:** Teacher education, ecological knowledge, ecological literacy, ecological awareness, eco-ethics.

## Resumen

En el artículo se discuten los principios básicos de la formación de futuros educadores y docentes en el campo de la educación ambiental. Tal proceso requiere dominar un conjunto de conocimientos pedagógicos innovadores sobre ecología para ser consciente de ellos en el futuro e integrar dichos conocimientos en la profesión de docente. Esto determinó la relevancia del tema de este estudio. El artículo tiene como objetivo determinar los resultados de la efectividad de la introducción de disciplinas que aumentan el nivel de conocimiento ambiental e introducen métodos pedagógicos innovadores en esta área. Es igualmente importante determinar la evaluación de la utilidad de introducir nuevas disciplinas sobre métodos de enseñanza del conocimiento ambiental entre los estudiantes (actitud hacia las innovaciones, uso ansioso de las innovaciones, barreras externas para la integración de las innovaciones en la práctica pedagógica, disposición para usar el conocimiento pedagógico innovador). En el estudio se utilizó un enfoque integral de la metodología. El método principal en el trabajo es el método de experimento pedagógico. Además, también se aplican métodos descriptivos, estadísticos y teóricos. Los métodos de cuestionarios y observación se emplearon para diagnosticar la efectividad de la investigación innovadora, según los maestros de preescolar. La hipótesis principal es el supuesto de que los cursos innovadores de conocimiento ambiental y las actividades de autoeducación contribuyen significativamente a la competencia y la calidad de la formación docente y prevén su integración en el trabajo de la educación escolar y preescolar. El resultado de este estudio es evidencia de que los programas de formación docente y los nuevos métodos pedagógicos relacionados con las innovaciones en la educación ecológica afectan la capacidad de operar con nuevos métodos y conocimientos modernos en la práctica profesional futura. Otra perspectiva es el desarrollo e implementación de métodos efectivos para introducir conocimientos pedagógicos innovadores en la formación de maestros en el campo de la educación preescolar y escolar.

**Palabras clave:** Formación docente, conocimiento ecológico, alfabetización ecológica, conciencia ecológica, ecoética.

## 1. Introduction

Innovative pedagogical knowledge is an essential component of modern pedagogical competence. It allows for high-quality and modern work and learning. In today's world, innovative knowledge is most relevant in industries that are in crisis and require increased attention, the search for ways to eliminate threats and prevent them. This includes environmental education, which involves work on raising people's environmental awareness. The search for the most effective ways to introduce environmental education into the modern educational space determines the scientific issues of modern scientific research (Hadley & Belfiore, 2018). This also determined the relevance of our study.

The effective use of their knowledge of the subject, upbringing, education, training, and the latest educational technologies, as the introduction of the latest pedagogical research into the educational

process, requires future specialists in preschool and school education to acquire competence in the use of new knowledge and innovations (Zhernova, 2018). In other words, teachers should have adequate knowledge in the field of environmental education and be morally and professionally prepared to use such innovations and realize their necessity (Basyuk et al., 2019).

In the conditions dictated by the 21st century, effective education of children's ecological awareness relies on the need to educate members of an active civil society and professionals who have acquired functional and critical thinking skills, such as pedagogical, ecological, and digital literacies (Chorna, 2018).

Future specialists in the field of preschool and school education should receive guidelines and methods that teach the formation of environmental knowledge in children. Moreover, they should be interested in learning about the latest research, ideas, and approaches to environmental issues to meet their own professional needs and the needs of their students (Zhernova, 2018). An important aspect of such education is the readiness to change following the rapidly changing living and learning conditions of society. Accordingly, researchers Aydin and Zhu, (2017) found that it is important for a future teacher to have professional training in environmental education, and innovative pedagogical knowledge. What is more, teachers should also implement the practice of ecological awareness education in their professional activities systematically, as they must meet the needs of the child in the future.

The research aims to establish the results of the effectiveness of the introduction of disciplines that increase the level of ecological knowledge and introduce innovative pedagogical methods in this area, as well as to determine the students' assessment of the usefulness of introducing new disciplines' methods of teaching ecological knowledge.

Based on the goal, the following research tasks are planned to be performed:

- to study the combination of abilities and capabilities of future teachers and educators related to the integration of environmental education into teaching practice;
- determine the demographic and qualification characteristics of the students participating in the project;
- to identify students' attitudes towards innovative pedagogical knowledge in environmental education; to learn about their readiness to apply new scientific discoveries in the field of ecology and pedagogy in practice; to find out how future teachers assess their preparedness to educate ecological awareness in children.

## 2. Literature Review

Innovative measures that can make work in preschool education innovative are proposed in the latest research projects (Momot & Muraev, 2020). In many experimental studies, the following guidelines have been adopted as a basis for developing innovations and ways to introduce innovations in introducing environmental knowledge into education in the context of aggravation of ecological problems, the multiculturalism of their perception, and openness of the information space (Group P. A. C. T. E. et al., 2018; Unesco.org., 2016).

In this context, university education implements research programs that focus on finding methods and ways to form ecological knowledge in students and teach them how to disseminate this knowledge in their professional activities.



Among the main topics considered in modern pedagogical science are the following: the problems of introducing environmental knowledge for a modern child who is cut off from close communication with nature and awareness of the need to combat environmental losses (Chawla, 2020); analysis of the components of pro-environmental awareness on consumer behavior, the impact of environmental topics on the product image, pricing, and reasonable cost (Shen & Wang, 2022); introduction of positive education, positive psychology, and disciplines that teach well-being and environmental sustainability into the educational space (Seligman, 2018). Several studies have also addressed the problematic issues of the quite successful idea of positive education, where sometimes there are pressing discussions about individualism, the promotion of the idea of elitism, and the conditional novelty of this trend (O'Connor & Cameron, 2017; Wong & Roy, 2017).

The problems of introducing innovations into the educational space are also in the circle of interest of modern researchers. This is, primarily, the search for effective ways to acquire the necessary knowledge and skills to use information and communication technologies in professional activities (Dzvinchuk et al., 2020). The intensity of the integration of innovations into educational practice was studied (Arbol del, 2018). The degree of use of innovative technologies in the educational process, the impact of innovations on curriculum development, and the introduction of innovations in the educational process are also considered (Jayashree, 2017). There are studies devoted to the implementation of universal pedagogical technologies in pedagogical practice (Puranik, 2020). The rules and sequences of educational activities at all levels of pedagogical education are reviewed (Senthilkumar, Kannappa, 2017). Cross-cultural competencies for future teachers in terms of integration processes were studied and prepared (Borysenko, Sydorenko, Grytsenko, Denysenko & Yurina, 2022).

### 3. Methodology

For the effective implementation of the pedagogical experiment, an integrated approach to the research methodology should be used. The descriptive method, such as analysis and synthesis, was used to describe and analyze theoretical research. In the course of the pedagogical experiment, empirical (diagnostic) methods were used, as well as a questionnaire (written form) and observation methods to determine the effectiveness of innovations and their evaluation by participants in the educational process. Statistical methods are used to evaluate the results of the experiment.

The method of the pedagogical experiment was used for one academic semester (6 months) in 2021-2022 (September 2021 - January 2022). The described course of implementation of new courses of innovative content is also considered from the point of view of observation. The observation method is empirical. Therefore, it is not possible to directly determine the effectiveness of introducing innovations in environmental education through new educational trends as a systematic change.

The experiment involved students of pedagogical universities (Hryhorii Skovoroda Kharkiv National Pedagogical University (Faculty of Primary Education, Faculty of Preschool Education), National Pedagogical Dragomanov University (Pedagogical Institute). The experiment involved a total of 74 2nd year students (first bachelor's degree), specialties 012 Preschool Education (34 people), 013 Primary Education (40 people). All respondents were divided into 4 groups, two groups in each institution: 2 control groups (CG-1 (Kharkiv) - 17 individuals and CG-2 – 20 individuals (Kyiv)) and 2 experimental groups (EG-1 – 17 individuals (Kharkiv) and EG-2 (Kyiv) – 20 individuals). The variable in the experimental group is the introduction of 2 new courses "Innovative Knowledge: Context of Pedagogical Education" and "Methods of Teaching Ecological Knowledge" to the system of disciplines

approved in the curriculum from 2021. Control groups studied the traditional curriculum but were informed about the availability of new courses in the experimental groups.

Stage 1. The research team conducted a questionnaire to determine the demographic and qualification characteristics of the respondents who participated in the pedagogical experiment. Teaching and methodological materials for the new courses were prepared, and preliminary consultations were held with the teachers who teach these courses.

Stage 2. At this stage, in parallel with the new academic disciplines, the experimental and control groups are surveyed on the respondents' attitude to the introduction of innovations into practice and the level of perception and assessment of the need to develop ecological awareness as an important component of education, as well as the readiness to implement innovations in practice.

Stage 3. At the final stage, a second survey was conducted in the experimental groups and the control groups on the level of perception and evaluation of innovations, methods of teaching environmental education, and progress monitoring.

All participants of the pedagogical experiment voluntarily agreed to participate in the experiment and gave their written consent. The research team received permission from the faculty administration to conduct the research and guaranteed the respondents' anonymity and privacy.

As for the difficulties faced by the researchers during the survey, the following should be mentioned: the need for time (1 semester - 6 months), and it is impossible to identify the reasons for the change in respondent's assessments since it was not possible to conduct a qualitative in-depth study.

#### 4. Results

Experimental groups within the new academic disciplines "Innovative Knowledge: Context of Pedagogical Education" and "Methods of Teaching Ecological Knowledge" studied innovative teaching strategies of modern pedagogy, defined by the Stanford Research Institute International (The Open University, 2023). The courses presented the designated innovations with in-depth explanations and examples of each environmental education strategy in action.

At the initial stage (Stage 1), respondents were surveyed on their gender and professional characteristics, including information on age, experience, gender, and previous education.

**Table 1.**

*Demographic and qualification characteristics of respondents (author's development)*

		<b>CG-1</b>	<b>EG-1</b>	<b>CG-2</b>	<b>EG-2</b>
<b>Age</b>	18-23	10	12	16	14
	24-30	7	5	4	6
<b>Gender</b>	Female	17	17	19	20
	Male	0	0	1	0
<b>Receiving a second diploma</b>		3	4	1	3
<b>Experience in teaching (if any)</b>	1-3	5	4	2	5
<b>In total</b>		17	17	20	20

According to the demographic situation, the vast majority of students are women. The groups are formed in such a way that all age categories are represented, with the majority being 18 to 23 years old (52 people) and the minority being 23 to 30 years old (22 people). There are students with little experience in teaching. In total, there are 16 people.

At stage 1, competencies, abilities, and capacities were also identified, which showed the presence and level of necessary and important abilities of the future teacher. These personality traits were to be purposefully developed through training in the use of innovations and their implementation in practice.



**Figure 1.** A set of necessary and important abilities that should be developed in future teachers and educators (author's development).

A high level of communicative competence (the ability to communicate successfully) makes it possible to easily establish contact with children and adults, clearly articulate thoughts, explain, and communicate following the requirements and needs of the audience. A teacher's creativity implies the presence and continuous development of creative abilities, which allows them to present educational material in a non-standard and interesting way and teach children creativity. Organizational skills determine the teacher's ability to build processes of interaction with a group, team, or personality, explain ways of environmental interaction in society, create an effective communication structure, and influence the work on the formation of environmental awareness. The ability to reflect forms the basis of the teacher's eco-ethics, allowing him or her to analyze the educational process and the results of work. The teacher's flexibility makes it possible to quickly respond to the needs of students in certain aspects of ecological knowledge and to correct the child's behavior.

At stage 2, in parallel with the introduction of new courses in EG-1 and EG-2, a survey was conducted for all participants in the groups. Under the scheme presented above, a questionnaire

was drawn up and respondents were interviewed to assess the preliminary implementation of new courses with an increased component of environmental knowledge.

**Table 2.**

*The level of perception and evaluation of the implementation of innovative pedagogical knowledge on ecology by students*

	Nº	Yes	No	Partially
<b>Perception of innovations in teaching methods of environmental education</b>	EG-1	7	4	6
	CG-1	6	5	9
	EG-2	9	2	6
	CG-2	6	7	7
<b>Perception of innovations to be implemented in practice</b>	EG-1	6	4	7
	CG-1	4	7	9
	EG-2	7	3	7
	CG-2	8	3	9
<b>Anxiety about using environmental education innovations in work with children</b>	EG-1	5	3	9
	CG-1	4	5	11
	EG-2	6	3	8
	CG-2	7	4	<b>9</b>
<b>Barriers and complexes associated with environmental personality education programs</b>	EG-1	7	1	9
	CG-1	8	3	9
	EG-2	6	2	9
	CG-2	7	2	11
<b>Previous experience in innovation activities</b>	EG-1	2	13	2
	CG-1	3	15	2
	EG-2	3	12	2
	CG-2	2	13	<b>5</b>
<b>Perception of innovation-related courses</b>	EG-1	8	2	7
	CG-1	8	3	9
	EG-2	5	2	10
	CG-2	10	<b>1</b>	<b>9</b>
<b>Integrating innovations into teaching practice</b>	EG-1	8	2	7
	CG-1	6	3	11
	EG-1	5	3	9
	CG-2	9	1	10
<b>My negative attitude to innovations in ecological education can be changed</b>	EG-1	6	1	10
	CG-1	8	1	11
	EG-2	4	0	13
	CG-2	6	1	<b>13</b>

*(author's development)*

In general, most respondents have a positive attitude toward innovations, but only 20 out of 72 respondents answered positively about their implementation. 38 pedagogues are partially ready to implement innovations in practice. Twenty-four people can fully change their attitude to the introduction of the latest pedagogical knowledge, and 36 people can partially change their attitude.

At the final stage (Stage 3), after completing the courses, the respondents also took a survey to assess their perception of innovative pedagogical knowledge.

As is evident, at the final stage, the changes in the control groups are insignificant, within the statistical variance, amounting to 3% in total. The small amount of experience in the practice of

innovation has led to minimal changes in the views of environmental education as innovative. The greatest change in attitudes was observed with categorical negative answers (no), which decreased in all groups. However, in EG-1 and EG-2, 8% more students have a positive attitude towards innovations and the need for environmental knowledge, but in CG-1 and CG-2 this decrease was insignificant - 3%.

**Table 3.**

*The level of perception and evaluation of the implementation of innovative pedagogical knowledge by employees of preschool education*

	Nº	Yes	No	Partially
<b>Perception of innovations in environmental education teaching methodology</b>	EG-1	9	2	6
	CG-2	7	3	10
	EG-1	10	1	6
	CG-2	6	6	8
<b>Perception of innovations to be implemented</b>	EG-1	6	3	8
	CG-1	4	7	9
	EG-2	8	1	8
	CG-2	10	1	9
<b>Anxiety about using environmental education innovations in work with children</b>	EG-1	5	1	11
	CG-1	4	4	12
	EG-2	8	1	8
	CG-2	10	2	<b>8</b>
<b>Barriers and complexes related to environmental personality education programs</b>	EG-1	10	1	6
	CG-1	9	2	9
	EG-2	8	0	9
	CG-2	7	1	12
<b>Previous experience in innovation activities</b>	EG-1	5	10	2
	CG-1	3	15	2
	EG-2	3	7	10
	CG-2	2	13	<b>5</b>
<b>Perception of innovation-related courses</b>	EG-1	9	1	7
	CG-1	8	3	9
	EG-2	8	0	9
	CG-2	10	0	10
<b>Integrating innovations into teaching practice</b>	EG-1	9	1	7
	CG-1	6	1	13
	EG-2	7	1	9
	CG-2	10	1	9
<b>My negative attitude to innovations in ecological education can be changed</b>	EG-1	7	0	10
	CG-1	8	1	11
	EG-2	10	0	10
	CG-2	7	1	<b>12</b>

*(author's development)*

After listening to the new training courses, 71% of the experimental group had a positive attitude (ready and partially ready) to innovations in the future practice of forming ecological knowledge in children, while 58% of the control group had a positive attitude. In general, the number of teachers ready to use innovations in school education increased by an average of 10% in the experimental groups and 3% in the control groups, while the number of those who were fully

ready increased by 6%. Most of the 74 students in the final pedagogical experiment were ready to introduce new subjects.

## 5. Discussion

Over the past decades, innovative measures that can make environmental education innovative have been proposed and supported by many research programs carried out with the help of some global organizations (UNESCO, UN), The EU Smart Cities Information System (The Smart Cities Information System), projects (The European Innovation Partnership on Smart Cities and Communities), and programs (EU-Eastern Partnership, European Fund for Strategic Investment (EFSI)) (Unesco.org., 2016). The innovative educational space for the promotion of environmental knowledge is presented as a set of tasks and conditions for their effective implementation, starting with the training of young professionals in the field of preschool and primary education.

In recent years, many studies have analyzed students' attitudes towards the principles of environmental education and its necessity and further practical activities. In a study on measuring the environmental literacy of Slovak technical students (Sueldo & Streimikiene, 2016), it was noted that the formation of environmental awareness and its complexity depends on rational arguments, facts, and a qualitatively new system of values. This system is called "eco-ethics," and it takes care of the ability to communicate one's beliefs, self-reflect, and become a moral example for others. This homogeneity in the formation of children's ecological awareness, in our opinion, is positive and should be based on the professional approach of the teacher to environmental education. Innovative methods of teaching and upbringing make it possible to find effective solutions to environmental problems.

A study of students' perceptions of success, career, and prosperity (Trask-Kerr et al., 2019) showed that some young people emphasize the need for environmental safety and the ecological component of human life expectancy as a condition for a quality and successful future. According to the study, 35.59% of students focused only on individual goals. Meanwhile, 44.07% expressed concern about the environmental situation and linked the environment and their own successful life in the future in abstract terms. In all experimental groups, there were discussions about the relationship between individual happiness and social and environmental well-being. According to the results of our study, 65% of the students who participated in the experiment had a favorable or relatively favorable attitude toward environmental education and the need to form the foundations of environmental awareness in children.

The pedagogical experiment presented here is also a logical continuation of similar works that consider innovation as part of the teaching profession (Ivanova et al., 2020), the peculiarities of introducing innovations and the latest pedagogical knowledge into practice (Kiki-Papadakis & Chaimala, 2016). Special attention should be paid to the introduction of non-discriminatory research programs, socio-cultural programs to adapt educators to new knowledge, eco-ethics guidelines, and the removal of psychological and cultural barriers to innovation by all participants in the educational process (Boghian, 2018; Balanyuk, 2014). Our experience has shown that familiarization with environmental knowledge and ethics requires the use of the latest technologies. Barriers and concerns about the formation of ethical foundations need to be

discussed and can be overcome by educators at the university level. Future teachers and educators can implement innovations in different ways, and invite specialists to the classroom.

The issues of forming environmental education in non-standard, crisis, and extreme conditions that children and teachers in Ukraine are currently facing remain unresolved. It is important to find ways to overcome psychological and cultural barriers to the perception of ecological knowledge.

## 6. Conclusions

The research model of this study continues similar projects that have been carried out in Ukraine and other European countries. Such research contributes to the study of those prediction characteristics that can determine attitudes toward innovative pedagogical knowledge and environmental education guidelines of future school and preschool teachers. Thus, it is possible to identify a set of factors that provide for the integration of new knowledge and innovations into teaching practice.

The effectiveness of the introduction of an additional variable (academic disciplines) in the experimental groups increased the positive attitude toward the need for environmental education and innovative pedagogical knowledge for an average of 71% of respondents. This indicates the need to introduce environmental education guidelines into the professional activities of practicing teachers, constantly working to update the content of courses related to environmental education and eco-ethics.

The problem of conscious innovation incompetence and psychological barriers that prevent students from opening up to innovations in environmental education remains an open one. It is essential to develop educational technologies that can help future specialists effectively overcome psychological barriers.

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## State policy on the formation of patriotic education for the youth

### Política de Estado sobre la formación de la educación patriótica de la juventud

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### Abstract

Due attention in the article is paid to the use of modern digital infrastructure tools to disseminate the quality of the policy of patriotic education. The author outlines the key components and structural elements of patriotism that can be used to improve patriotic education both at the domestic and international levels. Based on the use of analytical and scientific research methods, a study was carried out on the prospects for the modern development of patriotism in the context of the spread of geopolitical challenges. The results of the study can be a useful source for further scientific

developments in the formation of patriotic education and the involvement of educational institutions in this process. The findings can also help to improve the state demographic policy with a focus on the development of future human capital.

**Keywords:** patriotic education, human capital, state language, national symbols, educational institutions.

## Resumen

Se presta la debida atención en el artículo al uso de modernas herramientas de infraestructura digital para difundir la calidad de la política de educación patriótica. El autor describe los componentes clave y los elementos estructurales del patriotismo que se pueden utilizar para mejorar la educación patriótica tanto a nivel nacional como internacional. Con base en el uso de métodos analíticos y de investigación científica, se llevó a cabo un estudio sobre las perspectivas del desarrollo moderno del patriotismo en el contexto de la expansión de los desafíos geopolíticos. Los resultados del estudio pueden ser una fuente útil para futuros desarrollos científicos en la formación de la educación patriótica y la participación de las instituciones educativas en este proceso. Los hallazgos también pueden ayudar a mejorar la política demográfica estatal con un enfoque en el desarrollo del futuro capital humano.

**Palabras clave:** educación patriótica, capital humano, lenguaje estatal, símbolos patrios, instituciones educativas.

## 1. Introduction

The current state policy of forming patriotic education for the youth should be used based on high-quality tools for popularizing civic positions and respect for the country. This will have a positive impact on the future political life of the country. Positive attitudes of the youth toward their country and active citizenship will contribute to political development and economic growth, which is the subject of this study. The aggravation of political conflicts and the instability of the geopolitical situation has arisen due to the war in Ukraine. These circumstances create the need to find effective tools for educating young people to improve the quality of their activities both in the current political environment of the country and in the prospects of the country's development in the long term. The main principles of patriotism are the use of the state language, national attributes, public position, compliance with the law, and legitimacy of activities. An equally important task is to create the best possible basis for the use of state policy in the formation of patriotic education for the youth. Moreover, modern features of patriotic education of youth may include not only the quality of the development of mechanisms for programs to disseminate educational activities but also the use of public administration to integrate the responsibilities of local governments into educational institutions. The educational institution is a key environment where there is a high concentration of young people. This raises the question of reducing the bureaucratic burden on the public sector through educational institutions that will pursue a policy of patriotic education of young people. Besides that, various tools for educational institutions can provide for this factor. These are, for instance, assignments to prepare research in history, joint cultural projects, discussions, or the organization of competitions. Educational institutions have significant advantages over the state in the context of patriotic education, as they have direct communication contact with the youth. Therefore, the key direction of the state policy of patriotic education to the youth should be the development of a mechanism for controlling, editing, and monitoring the quality of the policy of educational institutions in implementing the relevant program.

The research aims to analyze the current practice of the State policy of forming patriotic education of young people in the context of the development of educational institutions and digital technologies in the context of geopolitical challenges. The main task of the article is to conduct a theoretical analysis of the peculiarities of patriotic education and to provide analytical assessments of the situation in Ukraine regarding the quality of the State policy of patriotic education. Given the military actions in the country, this study is particularly important. The current state policy of patriotic education of the youth is constantly changing and transforming in line with the cultural and value needs of the younger generation. These circumstances are attracting increased attention among scholars. The expediency of the study stems from the urgency of the problems of development of the State policy on the formation of patriotic education of young people, the need for its further improvement, and the creation of high-quality tools for its dissemination among young people. The objectives of the study will allow us to determine the methodology for conducting and achieving the key objectives in the article.

## 2. Literature Review

The issue of state policy on patriotic education is a priority for any state (Bech & Chorna, 2014; Tolen & Tulenova, 2012)). Therefore, scholars pay considerable attention to this aspect. In particular, Bizov & Lyader (2022) notes that the modern policy of patriotic education should be aimed at forming a set of values among young people and cultural guidelines aimed at fostering respect for their own country. According to Dombrovska & Poltorak (2015), patriotic education should become a key area of state policy. The reason for this is that most EU countries and the world as a whole are facing a demographic crisis (Pomaza-Ponomarenko et al., 2020). Therefore, to ensure the further development of human capital, it is necessary to form a patriotic population. Lacka et al., (2021), considers patriotic education as a combination of love for the homeland and fulfillment of one's civic duties, and the use of law and order in everyday activities. Filatov (2018) agrees with this. He notes that the key difference between patriotism and nationalism is moderate radicalism, high liberality, and adherence to basic civic duties. This, in turn, has a positive impact on both the country's image and the formation of a policy of patriotic education for the youth. According to Kalogeropoulos et al., (2020), patriotic education of young people should be carried out in the key institutions of their upbringing, namely through households in educational institutions. Meanwhile, Matveeva (2017) believes that to improve the quality of patriotic education, it is necessary to reform the policy of educational activities of educational institutions. They should be required to conduct classes aimed at fostering respect for the country. Furthermore, Kravchenko et al., (2020) notes that in the current conditions of digital development, educational institutions have greater opportunities to improve the quality and dissemination of patriotic education through educational mechanisms and distance communication networks. The use of digital tools, according to Pavlushenko et al., (2021), is a key source of patriotic education for modern youth. The creation of media materials and digital content will help shape the worldview of a young person. Kovalchuk (2016) believes that to improve the state policy of patriotic education, it is necessary to use educational projects aimed at interacting with parents. This is important because parents have a direct impact on the formation of patriotism in the youth (Tolen & Tulenova, 2012). According to Fedorova et al., (2021), a country with a weak social policy cannot provide patriotic education and the development of patriotism within the country. According to scientists, the most important factor in the formation of patriotic education and the prerequisites for its growth is high social protection and a strong social security system. Besides, Viltsaniuk (2020) believes that social protection policy should be taken as a basis for the formation of patriotic education and used as the main tool for the formation and development of patriotic feelings. According to Gbur (2021), an important factor in the formation of patriotic education is the use of key components of patriotism. These include the use of the state language, knowledge of the country's history, traditional values, and adherence to specific national

rituals. These components will serve to create a patriotic mood in the country among young people. It is worth noting that in modern literature, the issues of state policy on the formation of patriotic education are considered from the standpoint of global challenges, as well as educational institutions directly involved in the formation of patriotism.

### **3. Methodology**

The analysis of the state policy on the formation of patriotic education of youth is based on the use of scientific research methods. This made it possible to use theoretical aspects and draw on the experience of Ukraine, which is facing complex geopolitical challenges. It is worth noting that Ukraine can resist military aggression with the help of a proactive patriotic policy. The search method was applied to consider theoretical views of patriotism and patriotic education, as well as to identify the key differences between patriotism and nationalism and the peculiarities of its development. The state policy of forming patriotic education of youth is carried out based on the formation and use of analytical assessment tools regarding the quality of volunteer associations and their impact. The method of deduction and induction was used to characterize the key prospects for the development of state policy in the direction of forming patriotic education and its improvement. The issue of using educational institutions in the implementation of the state policy of patriotic education of young people is one of the priority areas of the study. It was analyzed using the method of abstraction. The study makes it possible to characterize the key aspects of the mechanism for implementing the state policy of patriotic education of the youth. Owing to the study, the basic principles of combining its demographic policy and determining further development prospects can be investigated. The research methodology is based on a review of theoretical approaches to patriotic education, its main components, and an analysis of Ukraine's experience. Taking into account the development of modern digital technologies, appropriate recommendations are provided that can improve not only the implementation of the policy of patriotic education but also the level of perception of patriotism among young people. The results of the study may be useful for countries with an increased need for the development of patriotic education among the youth.

### **4. Results**

The issue of patriotic education plays an important role in the formation of effective state policy. Fostering patriotic traits among the population will be a key priority in ensuring the development of human capital. The formation of patriotic education of young people is the basis for the effective functioning of public policy in the future. Only the education of patriotic youth can shape the cultural aspect and understanding of the importance of respect for one's own country. It is important to note that it is the future generation that will implement state policy and take an active part in the development and reform of the country. Young people are a key resource of human capital in the country and play a role in shaping demographic policy. Therefore, it is worth studying the issue of patriotic education of young people through interactive, traditionally conservative, and innovative means for modern state policy.

The notion of patriotism is quite broad, as it is often the subject of speculation, which serves mainly to negatively reflect reality. Moreover, patriotism is often confused with nationalism. The formation of nationalism is a reflection of ideology, while patriotism is a more liberal form of respect and love for the country, which can be expressed in just civic or social activities, including the fulfillment of public duties, etc. Patriotism also implies loyal feelings for the country and a willingness to defend it in cultural, defense, and moral terms. One of the important manifestations of patriotism is knowledge of

one's country, namely its key symbols, actual history, knowledge of the anthem, coat of arms, and other sacred and symbolic means used in public policy.

All countries of the world are facing the problem of forming patriotic education for the youth, as the geopolitical situation is unstable. It requires the country to use and implement effective policies and involve young people in such policies. These actions are aimed at improving domestic activities and improving the work of the public sector. Current practice shows that the patriotic education of young people is no less important than demographic policy. The latter, in turn, is aimed at preserving human capital and creating a quality basis for the further functioning of the state and considering the effectiveness of its principles.

In connection with the war in Ukraine in 2022, many questions have been raised around the world regarding the analysis of human cultural values, politics, and the expediency of historical state-building. The formation of independence and freedom of choice are key values of the entire free world, which wants to establish the rule of law and provide some benefits for countries that adhere to such norms. However, the aggression against Ukraine has caused many tectonic shifts around the world. It has led to the need to use high-quality means of modern patriotic education for the youth, which will be pursued by state policy in the coming generations. Moreover, ideological education and the use of key tools to foster respect and active civic life are necessary both for the support and development of the state and for active participation in green (environmental) policy and the formation of an active volunteer or socially engaged position. For the state, volunteers and citizens with an active lifestyle are of increased value. They create genuine benefits for society and can improve the quality of life and public policy.

In modern conditions, patriotic education is held in many countries to develop patriotic youth. Also, these countries have the opportunity to conduct educational activities with an understanding of the country's history, its development, prominent historical figures, as well as key advantages and historical achievements. Therefore, the modern policy of state patriotic education is aimed at the emotional and verbal intelligence of young people to form and understand the importance of respect for their own country and leading an active lifestyle, as well as eliminating the negative factors of further inactivity. The example of Ukraine in terms of fostering patriotic education and the ability to defend one's own country in the face of military aggression demonstrates its clear benefits and awareness of the importance and value of the country. Over the past 10 years, Ukraine has created many activities to educate and train patriotic youth, as well as organize various sports competitions. Moreover, Ukraine has a widely used mechanism to improve the patriotic education of young people. This mechanism can promote development in all regions, which includes many research grants, government spending on culture and sports, and improving the quality of patriotic education.

The problem of modern politics in any country is the use of relevant and interesting means aimed at shaping patriotic education and fostering respect for the homeland. Parents are the key means and source of love for the country. It is the parents of young people who are the main source of possible formation of their worldview and patriotism. To ensure quality education, it is necessary to conduct educational activities not only among young people but also to actively involve parents in the older generation. It is necessary to pay attention to the peculiarities of modern education and the need to shape public opinion, create a positive attitude among people toward their country, and explain historical events and features. This will help shape the general outlook of young people. Since such peculiarities are important, the state's policy on patriotic education of youth should be divided into two categories. The first category is aimed at educating young people and fostering their patriotic feelings and duties to their country; the second is aimed at parents, who are the source of education

for young people. Taking these two categories into account improves the state policy of patriotic education and helps to improve the quality of such policy. More details about current measures to form patriotic education for the youth are presented in Table 1.

**Table 1.**  
*Measures to form patriotic education of the youth*

<b>Direction</b>	<b>Content</b>
<b>Conducting awareness-raising activities</b>	Conducting additional classes on fostering patriotic traits by fostering a love for the country
<b>Organization of exhibition activities</b>	Implementation of sightseeing activities to monuments of national importance
<b>Holding patriotic conferences</b>	Creating projects and conferences to improve understanding and promote patriotism among the youth
<b>Cultural tourism</b>	Organization of aesthetic and cultural tours to national monuments
<b>Holding youth competitions</b>	Creating national competitions and organizing them at the local and regional level
<b>Organization of sports and patriotic competitions</b>	Creating a personal brand based on sports culture, protecting the country's reputation on the global stage
<b>Mass cultural events</b>	Holding cultural events on specific dates and events
<b>Charity evenings</b>	Creating patriotic and charity evenings, promoting cultural qualities among the youth
<b>Implementation of patriotic upbringing in education</b>	Emphasizing the advantages of the particular country, fostering respect for the homeland, and building patriotism

Source: compiled by the author

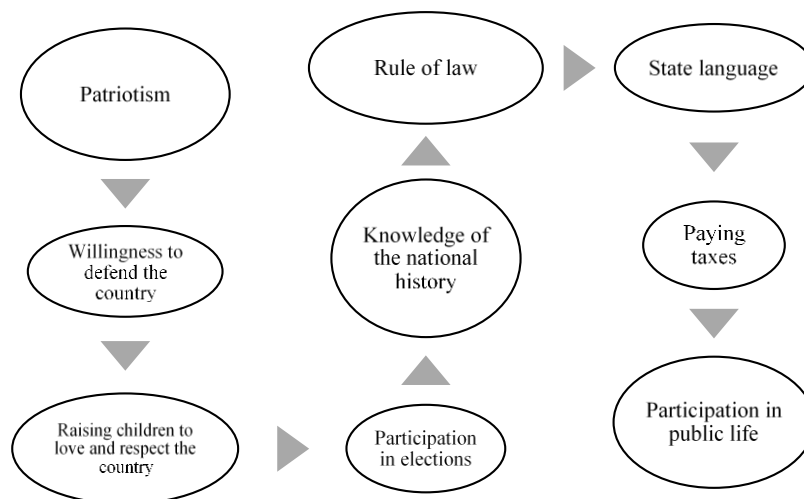
Based on the data in Table 1, the modern policy of patriotic education in the state should be implemented based on methods that promote the active participation of young people in public events and educational activities. The key aspects of the formation of patriotic education and respect for the country are the availability of knowledge about history, the reflection of the qualities of human cultural values, and favorable state policy. The formation of public administration aimed at improving the quality of social protection development and support for social expenditures, including grants, benefits, various insurance schemes, etc. will positively contribute to the formation of patriotic feelings among both young people and adults. A country that cares about its population stimulates its human capital to respond accordingly. Therefore, the formation of patriotic feelings should be based on the use of educational activities, the economic and financial sectors, and involvement in public activities.

For example, volunteerism is widely popular in Ukraine and around the world. It is also a common practice to join various public, regional, or volunteer associations that carry out socially useful activities and can improve the quality of public policy implementation and improve living standards at the local level. The use of such principles of fostering patriotic feelings will be a priority for policy implementation, as a population with a strong need to defend the interests of their country will serve as a key factor in socio-economic well-being in the future.

According to the UN, in Ukraine, in 2022, a significant number of battalion groups were provided with volunteer assistance at the beginning of the war, and a significant number of territorial defenses were created, which was made possible by patriots and the formation of patriotic feelings within the country. In times of crisis and geopolitical challenges such as war, patriots are a key resource for the state in conducting defense policy and countering information attacks. The use of patriotic education of young people at the global state level should become a priority in the implementation of strategic public policy, as the future depends entirely on the next generations, which requires rational measures to be taken today. Moreover, the state policy of forming patriotic education of young people will contribute to the qualitative improvement of education and intensify the involvement of citizens in the life of the country. In Ukraine, a striking example is the involvement of citizens in the restoration of infrastructure, and the use of additional means of defense policy regarding the participation of citizens in support works, maintenance, etc.

A modern policy of forming patriotic education for the youth can also be formed based on specialized camps for children that hold sports competitions, provide physical training, and foster a sense of patriotism in young people. The popularity of such camps will serve as a factor in the development of a further civically active population. Moreover, this will be one of the priorities among other tasks for the education of the younger generation.

For the rational use of state instruments to create and promote patriotic education, it is necessary to consider the main key features of patriotism and its components. The use of components as the main tool for ensuring the quality of further activities will serve as a tool for the further development of state policies on the education of patriotic youth. The features of such components of patriotism are shown in Figure 1.



**Figure 1.** Key components of patriotism  
*Source: compiled by the author*

The components of patriotism shown in Figure 1 can become the main areas for the implementation of the state policy of patriotic education of young people. The issue of the state



language plays an important role today. Quite often, language has been a speculative factor in strengthening international hatred and conducting information and psychological attacks. The key to building patriotism should be an awareness of the need to conduct any state policy in the official state language. Official events, as well as the work of specialized states or any other corporate institutions, should be conducted only in the state language. However, in everyday communication and in any other situations not related to public institutions or the specialized corporate sector, any language can be used. In addition, this is not enough to formulate quality policies and participate in public life. The key aspect is participation in elections and understanding of development programs. For democratic countries, the choice is a key aspect of fostering patriotism and using it as a tool to influence the implementation of the country's policies. Since the choice of politicians reflects the level of public sentiment and the desire to pursue a particular policy, elections must be held openly and fairly.

In the modern world, more and more attention is paid to the patriotic upbringing of youth. At the same time, attention is focused on the use of modern digital tools that can be used in the implementation of state policy or the implementation of an educational program. The use of digital infrastructure opens up wide opportunities for the implementation of effective means of creating and developing patriotic education of young people. With the help of digital infrastructure, you can hold remote conferences, discuss public projects, etc. The use of digital infrastructure improves the quality of education, and can spread a number of informational and patriotic sources that are aimed at fostering patriotic feelings and have an educational nature. Therefore, in today's realities, especially given the widespread use of distance education as a key format, as well as the spread of the coronavirus pandemic and the war in Ukraine, the creation of special media and the use of digital tools of influence can be considered.

The use of digital media and the creation of digital content that has a patriotic character will be much more effective in the modern sense among young people. Most of the younger generation uses social media and has basic digital skills and is much more likely to consume digital content than traditional content. Therefore, it is necessary to use the tools of public policy formation at the digital level, which will use the media and traditional communication channels to disseminate their activities in the digital space. Moreover, the use of digital infrastructure will have some key advantages, as they are widely integrated with the global community and can provide much more results than the implementation of traditional patriotic education measures. Ukraine's current policy is aimed not only at improving the quality of patriotic education but also at building a brand on the global stage. This implies active implementation of digital media, video production, and the use of digital art and 3D graphics, which is aimed at building the country's brand. A vivid example of the importance of fostering patriotic feelings among young people is Ukraine's extensive involvement in media resources through leading figures in world cinema, theater, etc. The use of such tools not only improves the quality of the country's brand on a global level but also helps to overcome the negative effects of an information attack by an aggressor country. Given such conditions, the key principles of state policy for the formation of patriotic education of young people will be the use of some educational materials, conferences, project discussions, development of public activities, and the dissemination of special digital media that will be used to improve respect for their own country. Thus, patriotic education of the youth will be one of the priorities of the policy in the current unstable conditions in which the world finds itself.

## 5. Discussion

The results of the study indicate that the qualitative formation of patriotic education of young people is a key factor in the security of the country's future, and is also a basis for the successful implementation of state policy. After all, young people will participate in most state projects and carry out their activities to ensure certain activities in public life. The state's current policy towards ensuring patriotic education is to use educational tools and various conferences. However, in the context of the development of distance education and its spread around the world, there is a need to conduct special technical research. This research will focus on possible means of creating and using digital patriotic materials. By using such tools, it is possible to improve the brand of one's own country on the world stage and to attract young people to become interested in the country's history, as well as to evoke patriotic feelings.

The war in Ukraine demonstrates the importance of fostering patriotic education among the population. Since the hostilities began in 2014, many youth patriotic camps and special events have been created in Ukraine to foster patriotic sentiment in the country. Thus, the patriotic education of youth is carried out based on the formation of state policy and the activities of many volunteer movements that are actively involved in this issue. A promising area of research will be the analysis of static data on such volunteer organizations, their impact on military operations, human capital, and the quality of educational activities. The issue of volunteer organizations and citizens with an active civic positions will be the most important means for the formation of patriotic education for young people.

A separate area for the formation of patriotic education of youth is the use of educational activities aimed not at young people, but at parents who are directly involved in the upbringing of children. Conducting educational work among parents will play a key role, as parents directly influence the formation of a teenager's worldview and instill cultural values in them. Further research may be aimed at developing activities and special projects aimed at engaging adults in discussions and forming patriotic groups. Another important task will be to involve them in civic activities, which will directly affect both the formation of their civic position and patriotic sentiments.

A promising area for further research is the use of digital tools and means that can be applied in modern conditions. These tools can serve to improve the quality of the educational process aimed at fostering patriotic sentiments among young people. Moreover, holding specialized conferences and internal youth projects can be a prerequisite for improving the quality of perception of patriotic literature and digital materials, and have positive consequences for shaping the worldview of young people.

Thus, the current state policy on the formation of patriotic education for young people remains an open question. Moreover, it can be improved following the needs of the state, global geopolitical challenges, and the nature of educational activities, since the use of language, history, and state symbols are of sacred importance for any state. Conducting analytical research on the creation and use of projects to promote patriotic education is a top priority.

## 6. Conclusions

Thus, it can be concluded that patriotic education involves the formation of respect and love for one's own country. Patriotism is different from nationalism, as it implies its liberal form of manifestation, which is used in everyday life, by spreading the love for the country through active social actions, use of the state language, and legal activities. Patriotism and patriotic education are aimed at forming a single goal, which involves the creation of cultural values in young people, based on respect for the state. The formation of patriotic education is a top priority for any state. The younger generation is the key human capital, the basis of demographic policy, and a source of ensuring the further functioning of the state. Geopolitical challenges, such as the war in Ukraine, show that the use of patriotic education and the formation of the spirit of freedom and democracy are crucial. They have enabled the Ukrainian people to resist military aggression through widespread patriotic sentiment. Based on the Ukrainian example, states need to use modern tools to influence the formation of patriotic sentiments among young people, use media resources, and conduct information campaigns aimed at fostering a positive attitude towards the state. In addition, education remains an important factor for patriotic education, as educational institutions are a key social institution where the majority of young people are concentrated. Therefore, given these features, the implementation of a patriotic education policy should be primarily initiated by educational institutions that can conduct educational projects, engage young people in public activities, and use their scientific resources to promote the quality of patriotic education. Moreover, modern educational institutions operate mainly through distance education, which directly transforms traditional approaches to both the formation of patriotic education and the methodology of its development. To improve the quality of patriotism among young people, it is necessary to use digital tools, digital content, and remote communication channels, which will positively affect the level of patriotic education among young people. The state policy on the formation of patriotic education of youth should be aimed primarily at improving the educational policy of educational institutions.

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# Psychological well-being of a pedagogue in the conditions of war

## Bienestar psicológico de un pedagogo en condiciones de guerra

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## Abstract

The research is aimed at analyzing the process of forming an educator's psychological well-being in wartime, its consequences, and the peculiarities of interaction. During the study, scientific methods were utilized to examine psychological well-being and its role as a crucial component in creating a positive psychological atmosphere within educational teams. The article highlights the significance of scientific approaches towards shaping the concept of psychological well-being. It explores the use of a pedagogue's personal psychological well-being in wartime as a means of stabilizing the social sphere

and disseminating the quality of such a policy to achieve a strategic victory while countering the information and psychological attacks of the aggressor country. The study's outcomes have the potential to enhance the ability to respond to external stimuli, leveraging emotional resources to mitigate stress and enhance the quality of the educational process.

**Keywords:** psychological well-being, stress, psychological support, pedagogical activity, social protection, social institution.

## Resumen

La investigación tiene como objetivo analizar el proceso de formación del bienestar psicológico de un educador en tiempos de guerra, sus consecuencias y las peculiaridades de la interacción. Durante el estudio, se utilizaron métodos científicos para examinar el bienestar psicológico y su papel como componente crucial en la creación de una atmósfera psicológica positiva dentro de los equipos educativos. El artículo destaca la importancia de los enfoques científicos para dar forma al concepto de bienestar psicológico. Explora el uso del bienestar psicológico personal de un pedagogo en tiempo de guerra como un medio para estabilizar la esfera social y difundir la calidad de tal política para lograr una victoria estratégica mientras se contrarresta la información y los ataques psicológicos del país agresor. Los resultados del estudio tienen el potencial de mejorar la capacidad de responder a estímulos externos, aprovechando los recursos emocionales para mitigar el estrés y mejorar la calidad del proceso educativo.

**Palabras clave:** bienestar psicológico, estrés, apoyo psicológico, actividad pedagógica, protección social, institución social.

## 1. Introduction

Current geopolitical conditions are unfavorable for Ukraine, as they have many negative socio-economic and psychological consequences for the population. Therefore, ensuring the psychological well-being of the teacher as one of the key elements of the social institution is becoming increasingly important. It has a direct impact on the quality of social and political opinion formation, as well as the psychological state of society. Due to the reduction of expenditures on the social sphere and other sectors, there is a need to effectively perform the functions of stabilizing the social environment through teachers. However, to ensure such an effective activity, it is necessary to form one's psychological state, which is based on a combination of several interdependent elements.

The formation of the psychological well-being of a teacher in war is a complex process that requires the involvement of emotional intelligence, and the ability to operate with strong-willed internal qualities, and can also serve as a factor in the transformation of the individual. The issue of psychological well-being has been studied by domestic and foreign scholars, but its development in wartime has not been sufficiently investigated, given that the war in Ukraine is the largest in the 21st century. Therefore, the modern approach to psychological well-being requires additional attention among scholars. High-quality provision of psychological well-being will serve as a factor in the successful stabilization of social protection and psychological support for children and adolescents, the population group most vulnerable to war. The problem of the psychological state of adolescents in war is the most acute due to the scale of negative events and the aggravation of the crisis. In such conditions, the teacher must carry out teaching activities

and direct efforts to form cultural and personal values in the social educational institution. The issue of the individual psychological well-being of each pedagogue is a catalyst for effective communication activity. The personal psychological climate can ensure the correct use of emotional resources because they influence the formation of worldview and cultural aspects of the moral category. Therefore, the issue of the psychological well-being of an educator in times of war and changes in the format of the educational process plays an important role both in the social space, the individual activity of the teacher, and the strategic goals of the state.

The research is aimed at analyzing the process of forming an educator's psychological well-being in wartime, its consequences, and the peculiarities of interaction. The topic is highly relevant due to the circumstances in Ukraine. It raises a socially important issue and makes it possible to use the experience of psychological well-being to minimize the negative effects of stress and war. The key task of the study is to analyze the current features and methods of forming the personal well-being of a pedagogue who performs many socially useful functions in his or her social segment and requires increased attention from the point of view of the state policy strategy. The peculiarities of the formation of psychological well-being are reflected through the use of tools for analytical assessments of modern measures in pedagogical activities and the ability to rationally use personal emotional state along with verbal and non-verbal intelligence. The study pays due attention to approaches to the concept of psychological well-being and the possibility of ensuring it in conditions of socio-economic instability. The use of psychological well-being as a tool for developing individual professional activity and the possibility of improving the state of the surrounding social environment is a priority in the study.

## 2. Literature Review

The issue of psychological well-being and the key components of its formation is studied in the scientific literature from the standpoint of creating a psychological climate and human activity (Ilgan et al., 2014; Simpson & Rholes, 2019). The ability to achieve psychological comfort and respond to stress, according to Agu and Nwankwo (2019), are the key foundations of a rational and healthy human psyche. However, in the context of war, according to Blozva (2017), any psychological state of a person is severely damaged. This negatively affects a person's activity both in society and in the inner world (Forsberg et al., 2022; Panc et al., 2012). According to Boulzaboul et al., (2020), a factor in ensuring psychological well-being is the use of internal volitional tools and emotional resources to recover and be able to lead an active life. According to Diab & Schultz, (2021), a teacher is a key element in a social educational institution that directly affects his or her psychological state and needs to be improved. Moreover, the use of tools of psychological influence on the team can form positive personal well-being. Gray & Stevenson, (2019) defines psychological well-being as a factor of autonomy, emotional rationality, critical analysis, and physical sense. The interaction of these four elements will have the most significant impact on a person's activities, the ability to interact in the social environment and to be active (Kashliuk, 2016). To improve the quality of pedagogical well-being, according to Forsberg et al., (2022), it is necessary to use qualitative mechanisms. It will stimulate the development of personal emotional resources and the formation of a quality psychological climate in the team. Kovalenko & Vyshnyahova, (2017) believes that a pedagogue performs professional activities from the standpoint of his or her values or goals, and plays a crucial role in the formation of state social capital. Using this approach will stimulate the educational community to provide high-

quality means of educational development and qualification education, and to fulfill the tasks of personal development of the student. In the context of war, according to Lukomska & Melnyk (2018), psychological well-being is the most vulnerable concept. The war changes the psychological state of the individual and exacerbates negative emotional feelings that require a comprehensive examination for their successful resolution. Moreover, the possibility of using tools that directly affect a person's ability to act effectively under stress, according to Maymon et al., (2019), is one of the key components of the formation of a teacher's psychological well-being (Stene et al., 2018). Modern scientific views on the quality of development and formation of psychological well-being are quite controversial, as some analyze the degree of quality by the consequences (Kawada et al., 2011; Stranislowski, 2019). According to this approach, perception is formed according to the actions and current activities of a person, which is a direct consequence of the psychological state. According to Ponomarenko et al., (2019), the psychological state of a person is a consequence of his or her actions. However, in wartime, predicting human activity becomes more difficult, as the emotional component is suppressed much more often than in normal conditions of peace. According to Ozersky (2019), this causes inactivity, so a predictive assessment of a person's further actions is a difficult task. Moreover, in the context of the war in Ukraine, the issue of using psychological well-being as a category aimed at improving the quality of teachers will be a priority for public policy, as it protects the information space and, according to Tytarenko (2018), performs several social functions.

Thus, the issue of psychological well-being is quite clearly outlined in the literature. However, given the Ukrainian realities, the research topic remains important and appropriate due to the lack of information about psychological problems in the conditions of war.

### **3. Methodology**

In the course of the study scientific methods were employed. These methods helped to characterize the features of psychological well-being and characterize it as a key component for ensuring a favorable psychological climate in the educational team. The search method was applied to evaluate modern scientific approaches to psychological well-being, as well as its definition in the context of war and the quality of transformation following key issues. The problem of war, which is a key catalyst for stress and the development of psychological trauma and illness, is a major issue of our time. Based on the analytical method, it has been determined that the educator is a key element of social influence, which performs the functions of stabilizing the general social space and can become a means of counteracting information and psychological attacks in a country at war. Moreover, the method of statistical analysis has served to outline the current situation in the socio-economic sphere based on World Bank data. In addition, the research methods helped to determine that the modern approach to teaching has been significantly transformed. The use of the method of deduction and induction served to define the priority principles of public policy in times of war, characterized by strengthening the defense function and the formation of a socially favorable climate.

A study was conducted on changing the format of the educational process, as well as the possibility of ensuring its implementation in conditions of instability. Based on the method of abstraction, the key priority goals for the country in the conditions of war were identified. The results of the study suggest that the modern principles of psychological well-being in the



educational environment are the teacher's state. This has a direct impact on their ability to perform professional activities and their interaction with the team. Methods have been used to outline the key elements of the formation of a teacher's psychological well-being, and their description is provided with a possible social effect.

#### 4. Results

The issue of psychological well-being remains relevant not only during the war, where it is particularly acute but also in general. The formation of a teacher's psychological well-being is a key factor in the development of students' learning abilities and the provision of specialized psychological assistance to children. The war in Ukraine has caused many transformational processes in the world, and the education sector is no exception. Teachers must demonstrate their best ethical and cultural traits and the ability to grow personally. The role of an educator is similar to that of a caregiver, which is not only to teach but also to provide quality support and significant psychological assistance. A pedagogue can act as a teacher, but his or her main role is to ensure the development of students both academically and personally. Thus, the formation of psychological well-being is a prerequisite for the quality development of students, as it is the primary source of psychological stability and a stable team.

The war in Ukraine caused destructive consequences in the socio-economic sphere both in the domestic space and throughout the world. The main expenditures of the state budget of Ukraine fall on the army, which makes the social sphere more vulnerable, since in fact more than 90% of funds are directed to defense. Social protection of the population, as well as the protection of persons affected by the war in Ukraine, is a key segment for the work of the state. Therefore, teachers need to use their own high-quality resources to improve their work with students and improve their interaction with them. Professional contact with students can contribute to the elimination of psychological instability, moral injuries, as well as the provision of first psychological support. According to statistics, the majority of children in Ukraine have been affected by the war or have someone in their family who has suffered negative consequences from the war. In addition, unemployment remains a serious problem. According to World Bank forecasts, by the end of 2023, the GDP of Ukraine may decline by 45% with the unemployment rate reaching 40%. This has a negative impact on the psychological state of families. In the face of such challenges, educators have a priority task to ensure quality work with children to maintain their morale.

The psychological well-being of educators is a top priority, as they perform socially useful functions that reduce the burden on the state in times of war and can partially stabilize the psychological state of students. Moreover, a large-scale information campaign has been launched against Ukraine to discredit the army, intimidate the population and cause stress. To minimize the consequences of such activities, a teacher should take steps that not only level this campaign but also ensure the psychological stability of students, thereby performing an important function of psychological support.

The essence of the concept of psychological well-being lies in the combination of the psychological and emotional state of a person, which ensures his or her vital activity and minimizes the effects of stress. A key factor in the manifestation of psychological well-being is the ability to respond to stress and perceive it adequately, evaluate it and act following cultural and ethical norms. The

war has caused large-scale psychological problems among the population due to the threat to life, unfavorable socio-economic conditions, and many conflicts. This issue can be resolved only with the intervention of specialists who can provide comprehensive psychological assistance and take an active part in restoring the psychological stability of the individual. This requires some measures aimed at stabilizing the emotional state. Psychological well-being, as a scientific concept, consists primarily of many components that are interdependent and cannot be mutually exclusive. They are described in more detail in Table 1.

**Table 1.**

*Components of a pedagogue's psychological well-being in war conditions*

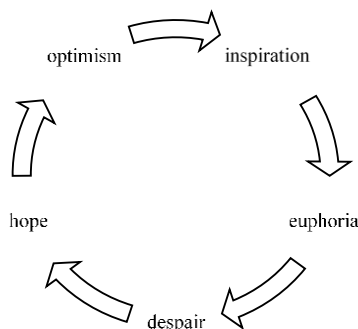
<b>Component</b>	<b>Content</b>	<b>Effect</b>
Autonomy	The ability to conduct personal activities regardless of circumstances, performing socially useful functions	Personal independence, rationality
Control of the social environment	Ability to form personal social environment and provide emotional support	Creating a positive social environment
Positive relationships in society	Formation of a positive impression, favorable relations in society	Encouraging an optimistic attitude to life
Having a purpose in life	Fulfillment of socially useful or individual goals, presence of meaning in actions	Minimizing despair and loss of hope
Personal growth	Transformation of the worldview, growth of ego, lack of conformity	Psychological stability and resilience
Critical assessment	Ability to analyze information and draw appropriate conclusions	Creating a realistic picture of life
Emotional rationality	Ability to distribute personal emotions: compassion, concern, anxiety, joy	Building emotional stability

Source: compiled by the author

Based on Table 1, it can be concluded that modern teachers need to pay attention to these components, as their development can help to achieve the most effective professional activity and stabilize the moral and psychological state of others. It is important to form and monitor the social environment and psychological climate inside, as it directly affects the well-being of the teacher and others. Critical evaluation and the ability to distribute their own emotions to appropriate things will encourage teachers to conduct effective activities and use the most successful tools to stimulate the psychological well-being of students, as they are the main team in which the teacher functions. A teacher should have a goal in life both at the individual and socially useful, global level. The realization of the importance of fulfilling the mission of ensuring the psychological well-being and support of the affected population, which in this case is the segment of students, is another front.

The information and psychological attacks of the aggressor country are aimed at destabilizing the internal political stability of the country. These attacks create many problems within households, considering the cases of war-affected children or students. Understanding psychological well-being and its ability to be cyclical is one of the factors in resisting such campaigns. For example, any emotional state is changeable and needs to be clarified according to the circumstances in which it occurs. Moreover, in today's developmental environment, teachers need to use their emotional state as a means of advantage and an opportunity to interact with the environment.

In general, there are five main stages of the psychological well-being cycle. This cycle should change periodically as a result of stimuli, stress, and destructive emotional fluctuations. The cyclical nature of psychological well-being is shown in Figure 1.



**Figure 1.** The cycle of psychological well-being

*Source: compiled by the author*

Given the peculiarities of the cycle of psychological well-being, the most important thing for a teacher is the need for effective actions at each stage, as this shapes his or her internal state and, as a result, affects the environment. Optimism is characterized as a positive outlook on the development of events, their perception, and the ability to conduct one's activities per the conditions. As a rule, optimism makes it possible to achieve certain goals that cause a short-term period of euphoria. Human physiology is designed to use positive emotions as a means of coping with stress, but the psychological exhaustion caused by a surge of dopamine and, usually, high adrenaline can lead to instability of one's well-being, which causes despair and an unstable emotional state. The stage of transition to the next cycle is the most problematic, since the correct transition should be based on the fulfillment of personal values and goals, and should be aimed at ensuring the moral upliftment of the person. The fulfillment of these aspects stimulates the transition to the stage of hope when a person finds new goals, objectives, and needs, which causes the need for active work and the possibility of using their own psychological and emotional resources to achieve it. The final stage of psychological well-being is optimism, which, just like the initial stage, involves active life and the performance of certain actions following the goal.

Considering the peculiarities of the cycle of psychological well-being, it is necessary to use correct and rational measures at each of its stages to stimulate the qualitative psychological well-being of a person. A pedagogue should be aware of the social environment and the internal state of a person and be able to analyze the primary sources, course, and development of events. Moreover, he or she should have skills in rational thinking and logical reasoning. In a martial environment, this will stimulate the formation of a positive psychological climate both in the team and at the individual level. This, in turn, will help to find effective solutions and provide students with a positive psychological state.

In the context of the war, the educational process has been significantly transformed, as most schools and universities have been damaged by shelling and hostilities, which has stimulated an active transition of the educational process to a distance format. The problem of distance

education is not only a threat to the control of the current educational process and the possibility of its development but also a decrease in the quality of communication activity, which can negatively affect the state of the team. Therefore, in such conditions, it is essential to employ all available tools aimed at ensuring the quality of psychological well-being of a pedagogue during wartime. Moreover, the development of the psychological well-being of the educator, the formation of a positive climate, and support for students can become a factor in his moral uplift and the development of the ego through socially useful activities. In the context of war, despite the formation of distance education, a teacher performs many socially useful functions that will contribute to quality development and encourage students to stay comfortably in a country with hostilities, and reduce the potential consequences of information and psychological attacks. The key principles of forming the interaction of students and teachers for psychological well-being in war are shown in Table 2.

Based on the data in Table 2, most modern teachers use digital communication tools that improve the ability not only to conduct a special educational process with the help of available technologies, but also to track and monitor the psychological state of the team. The use of information technologies will contribute to the formation of a positive mood. In addition, a teacher in war conditions should not only ensure his own psychological well-being according to the available components, which were provided in Table 1, but also pay attention to patriotic education among students, since a country in war conditions should be able to use all the necessary human resources to overcome negative consequences of information war. Educators, as members of a social institute and actually in this institute at the highest level of the hierarchy, should use communication skills to ensure psychological stability in the team.

**Table 2.**

*Forms of interaction between students and pedagogues for psychological well-being in war conditions*

<b>Indicator</b>	<b>Frequency of use, %</b>
Channels of communication between educators and students during the organization of distance learning	
Communication via messengers (Viber, WhatsApp, etc.)	95,5
Communication via phone calls	84,7
Communication via e-mail (educator sends assignments and students send completed work)	63,6
Communication via Zoom, Skype, or similar video communication tools	64,3
Use of special training programs (Google Class, Learningapps, etc.)	63,4
Daily remote viewing by students of presentation materials on subjects prepared by educators on topics for each lesson	56,8
Forms for assessing the learning achievements of students of general secondary education in online learning	
Completing independent written work (dictations, essays, presentations, etc.) and sending them to the teacher	92,7
Subject testing on online platforms	75,4
Recording students' video and/or audio responses and sending them to the teacher	64,5
Oral surveys on subjects by phone	62,3
Performing written works (independent works, dictations, creative works) online	57,8
Oral surveys in online mode	51,9

Source: compiled based on MES of Ukraine

The use of modern information technologies stimulates not only positive forms of interaction between students and teachers, but can also stimulate the development of a positive social climate. Moreover, in order to improve the quality of the educational process, it is necessary to ensure the right psychological attitude, as well as the need to acquire knowledge. The most important factor of the modern educational process should be the provision of moral support to teachers and the carrying out of educational activities regarding their performance of socially useful functions and activities, which they are involved in according to their professional criteria. To conduct such activities, teachers need to use the tools of psychological influence on the social environment and use the existing methods of supporting the student body. The formation of one's own psychological well-being should become a key and priority direction in the educational process, because human losses due to moral harm and disasters can be much more negatively affected. That is why the use of the functions of moral support will be much more important than the performance of the functions of the educational process. Undoubtedly, both are important, but the formation of one's own psychological well-being as a comfortable communication and personal climate in the team is a higher priority.

Thus, it can be concluded that the modern concept of psychological well-being consists of a number of components aimed at improving one's own moral state and the ability to perceive, analyze and take actions in accordance with stress or negative environmental stimuli. The importance of using the cycle of psychological well-being as a tool of analysis enables teachers to improve their individual psychological state and, as a result, create a positive climate in the team. The war in Ukraine had a negative impact on most socio-economic processes in the country, which requires modernization and development in accordance with the created activity. Moreover, the use of the psychological well-being of the teacher in the conditions of war will stimulate the search for optimal and rational solutions that will affect the activity of the teacher as a professional teacher and a person performing a number of socially important functions.

## 5. Discussion

The results of the study indicate that the current need for the formation of high-quality psychological well-being for both teachers and the entire population in Ukraine is the highest priority goal of the state. Moreover, we can say that the psychological state is also a certain front. To ensure effective social interaction between a teacher and his or her social institution, he or she must first develop his or her psychological well-being. It, in turn, will directly affect communication processes and the formation of opinions in the team. The pedagogue performs the functions of not only a teacher but also an individual mentor, which affects the development of the student's personality. The study of the spheres of influence of the teacher and his or her role in the formation of the future student is one of the important issues for analytical research based on statistical data on the teaching methods, pedagogical activities, and tools used.

A modern feature of pedagogical activity in Ukraine is the performance of socially useful functions, as well as the reassessment of their values, cultural upliftment, and the need for social protection to overcome the negative consequences of the war, both domestically and globally. Conducting further analytical assessments of the quality of the use and development of psychological support methods in the teacher's team will be a priority, as it will improve not only the quality of psychological stability among students but also ensure the fulfillment of the teacher's socially

useful purpose. Moreover, the introduction of such tools will stimulate the search for a rational and effective methodology aimed at forming both their psychological well-being and reflecting it on the team.

Studies in the field of the psychological context of the war-affected population, the number of officially registered cases, and the consideration of adolescent moral trauma and harm are not excluded. Conducting such analytical assessments can be a factor in developing a mechanism for eliminating negative consequences and building a high-quality system for the development of psychological well-being, both for the teacher and his or her social environment. The priority task is to ensure psychological comfort in Ukraine during the war. Countering information and psychological attacks is an urgent task, as the source of development and formation of such campaigns is the use of special media resources and social institutions. The use of modern means of communication will stimulate teachers to carry out professional activities in conditions of instability of the educational process and will serve as the best means to ensure practical activities.

Prospects for further research may be aimed at analyzing the quality of the components of psychological well-being, as well as analyzing their transformations by the development of the war. In such circumstances, the formation of psychological well-being will be a key factor in ensuring the moral and emotional favorable state of the teacher and will become one of the priority tasks in modern education. Improving the cycle of psychological well-being and the ability to act rationally following its stages will be a key advantage in teaching and pedagogical activities, as they affect both the teacher and the team around him or her. Psychological well-being as a scientific category is constantly improving. This is due to the development of digital technologies, and the availability of special infrastructure for conducting analytical research and providing statistical estimates of certain information. The problem of war in Ukraine remains the highest priority for research, taking into account all areas of its manifestation in the social environment of the population.

## 6. Conclusions

Thus, based on the study, it can be concluded that the psychological well-being of a teacher in wartime plays a key role. The teacher is a source of the formation of the emotional and moral state in the educational society. Therefore, they need to be able to shape their psychological state, as well as to take rational actions and measures to prevent stress. This is a priority task for all modern teachers in Ukraine who perform socially important functions. Therefore, to ensure such factors, it is necessary to use effective support programs for teachers, as well as to stimulate the development of tasks that will meet the modern features of pedagogical activity.

The main components of a teacher's psychological well-being are interconnected elements responsible for the ability to make the right decisions. It is about having one's personal goal, the ability to analyze the environment, and contributing to the formation of one's positive moral state. The key structural elements are autonomy, goal setting, critical assessment, control of communication in society, and emotional rationality. To ensure your psychological well-being, you need to pay attention to emotional rationality. This involves minimizing stress to the level of conducting effective daily activities without being exposed to excessive stress. Due to the war in Ukraine, the level of emotional stress in the population is very high. This contributes to the

suppression of positive emotions and provokes an excess of stress, anxiety, and empathy, which will negatively affect the educator's further activities. Therefore, the correct use of personal emotional resources will be a priority task for a pedagogue in modern conditions.

An important factor is a change in the principles of organizing the educational process, which has been transformed into a distance mode. This mode negatively affects the quality of psychological well-being of the student body. In such conditions, teachers need to create high-quality pedagogical activity and promote the development of their own and the social and psychological well-being of the team. Solving these negative problems is important from the point of view of strategic policy. Ukraine can be the best example for ensuring the psychological well-being of teachers, as the individual plays an important role, performing some socially important functions and stimulating the need for social protection. The personal psychological well-being of a teacher is one of the priority principles in the policy of the defense sector, as they directly affect social institutions, being the mechanisms for implementing state policy. Therefore, in such conditions, teachers, in addition to forming their comfortable psychological state, need to pay attention to patriotic education among students. This can be achieved through educational activities, specialized conferences, specialized discussions, etc. The psychological well-being of a teacher in wartime remains an acute issue in the context of his or her role and influence on the social space in Ukraine and any country where hostilities are taking place. The results of the study show that modern teachers need to be able to make rational decisions, manage their emotions and follow a socially useful goal that will bring the country closer to victory.

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## **Preschoolers with general speech underdevelopment socialization practices in Ukrainian and Swedish preschool educational institutions**

### **Niños en edad preescolar con prácticas de socialización del subdesarrollo del habla general en instituciones educativas preescolares ucranianas y suecas**

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### **Abstract**

The aim of the article is to conduct a comparative analysis of the socialization practices of preschoolers with general speech underdevelopment in Ukrainian and Swedish preschool educational institutions. The research methodology involved the gradual application of a set of interrelated methods, such as theoretical analysis, systematization, and generalization of data from general and specialized psychological-pedagogical and methodological literature on the researched problem. The findings suggest that there are differences in socialization practices between the two countries: Ukrainian

preschool educational institutions focus more on discipline and obedience, while Swedish institutions prioritize play and collaboration. The study concludes that socialization practices in preschool educational institutions play a significant role in supporting the development of social skills among preschoolers with general speech underdevelopment.

**Keywords:** innovative lesson structure, physical education, students, educational institutions, Romania.

## Resumen

El objetivo del artículo es realizar un análisis comparativo de las prácticas de socialización de niños en edad preescolar con subdesarrollo general del habla en instituciones educativas preescolares ucranianas y suecas. La metodología de investigación implicó la aplicación gradual de un conjunto de métodos interrelacionados, como el análisis teórico, la sistematización y la generalización de datos de la literatura psicopedagógica y metodológica general y especializada sobre el problema investigado. Los hallazgos sugieren que existen diferencias en las prácticas de socialización entre los dos países: las instituciones educativas preescolares ucranianas se enfocan más en la disciplina y la obediencia, mientras que las instituciones suecas priorizan el juego y la colaboración. El estudio concluye que las prácticas de socialización en las instituciones educativas preescolares juegan un papel importante en el apoyo al desarrollo de habilidades sociales entre los preescolares con subdesarrollo general del habla.

**Palabras clave:** estructura de lecciones innovadoras, educación física, estudiantes, instituciones educativas, Rumania.

## 1. Introduction

One of the priority directions of the development of the national education system is the search for effective ways of including children with psychophysical development disorders in the educational environment, their socialization, the leading mechanisms of which are provided by speech activity. State programs "Education" (Ukraine of the 21st century), "Children of Ukraine", National strategy for the development of education of Ukraine in 2013-2021, Law of Ukraine "On preschool education", "State target program for the development of preschool education for the period until 2017", The basic component of preschool education in Ukraine, 2006, a change in the educational paradigm, the scale and severity of social, economic, and cultural problems require raising the priority of public preschool education, forming in society an understanding of the importance of the early stages of a person's life as the most responsible period of his social formation. Orientation of preschool education to ensure full-fledged social development of children requires taking into account the peculiarities of socialization at various stages of preschool childhood. In this regard, the preschool educational institution is assigned a special role - to become a leading social institution of socialization, which ensures the creation of appropriate pedagogical assistance for preschool children in the process of socialization, directs the development of socially and individually significant personality traits and its successful functioning as a subject of its own life activities in the social environment.

Thus, the social significance of the specified problem, its insufficient scientific-theoretical and methodological development led to the choice of the research topic «Preschoolers with general

speech underdevelopment socialization practices in Ukrainian and Swedish preschool educational institutions».

The purpose of the article is the comparative analysis socialization practices of preschoolers with general speech underdevelopment in Ukrainian and Swedish preschool educational institutions. Therefore, the object of study is socialization practices of of preschoolers with general speech underdevelopment in Ukraine and Sweden.

The subject of research – the process of preschoolers socialization of with general speech underdevelopment in Ukraine and Sweden.

Task for realization of the investigation.

- to determine the essence of the process of preschoolers with general underdevelopment speech socialization in preschool educational institutions in Ukrainian and Swedish scientific dimation;
- to describe practices of preschoolers with general speech underdevelopment socialization in preschool educational institutions in Ukrainian and Swedish preschool educational institutions.

## **2. Methodology**

The research methodology involved the gradual application of a set of interrelated methods, such as: theoretical – analysis, systematization and generalization of data from general and special psychological-pedagogical and methodological literature on the research problem in order to determine the theoretical and methodological foundations and main approaches for identifying the features and conditions of socialization of preschool children with general underdevelopment of speech;

empirical – electronic questionnaires, questionnaires, direct communication with teachers for special need children and logopedists in Ukrainian and some Swedish preschool educational institutions.

The research methodology involved three stages:

the first – monitoring the current state of theory of preschoolers with general speech underdevelopment socialization in Ukrainian and Swedish preschool educational dimensions;  
the second is the providing comparative analyses of preschoolers with general speech underdevelopment socialization practices in Ukrainian and Swedish preschool educational institutions (develop the comparative table of similarities and differences);  
the development recommendations for improving the preschoolers with general speech underdevelopment socialization practices in Ukrainian preschool educational institutions.

## **3. Literature Review**

The concept of socialization of the individual has a wide meaning, acquires a substantive sound in various sciences and is studied by many scientists. Note that despite the prevalence of the

term "socialization" and the more than a century-old history of its existence, the term "socialization" does not have an unambiguous interpretation among various representatives of philosophical, sociological, pedagogical and psychological sciences. Therefore, it is necessary to consider the definition of socialization from the point of view of these sciences.

Philosophy considers socialization from the standpoint of the relationship between man and society, as a result of which, on the one hand, the development of personal intellectual and social freedom occurs, and on the other hand, the art of social dialogue, interaction, and cooperation is improved. At the same time, the socialization process as a prerequisite for social freedom and generational creativity causes the rapid development of society (Bohdanova, 2011). Individual scientists, including Pierre Teilhard de Chardin consider socialization together with personalization. The French thinker defines personalization as a stage of the emergence and improvement of an individual who considers himself a part of an organized whole, and socialization as a sphere in which separate consciousnesses and independence are united, emphasizing the depth and unpredictability of his "Ego". According to the researcher, humanity will find ways to humanize itself thanks to new forms of contact and cooperation (Teilhard de Chardin, 1965). The process of human social development is explained in different ways by representatives of various philosophical currents of the anthropological direction. Representatives of idealistic philosophy believe that human development is a spontaneous, uncontrolled, spontaneous process; development occurs regardless of living conditions; the development of a person is fatally determined by his fate, in which no one can change anything.

From the point of view of pedagogy, socialization is interpreted in close interaction with the process of education and socio-pedagogical mechanisms of socialization are determined, which indicate the content and methods of education. The process of socialization ensures the entry of a person into social communities and collectives, comfortable coexistence in them, socialization of his activities, lifestyle and thoughts, which ensures the formation of an individual as a representative of certain social communities and groups, social strata. Researchers of the problem of child socialization and personality education have in mind, first of all, the formation of readiness for an individual to realize a set of social roles. At the same time, the very process of mastering these roles involves the participation of each student in activities and learning. The social role reveals the mechanism of the child's assimilation of social experience (Vygotsky, 1996).

In psychology, there is also no consensus on this problem. According to A. Reber, the term "socialization" has two meanings. The first meaning is the process by which an individual acquires knowledge, values, social skills and social sensibility that allow him to integrate into society and behave adaptively in it, that is, socialization is a life experience. The second meaning is the process of the state taking services, industry and other institutions of society under its control for the benefit of all members (Bregeda, Bovtruk, & Dvoretzka, 1999).

Moskalenko systemized G. Andreeva conclusion about socialization and summarised, the spheres in which the entire content of the process of personality socialization unfolds are: activity, communication, and self-awareness. As for activities, in the process of socialization, the individual's "set" of activities expands, that is, more and more new types of activities are mastered: socialization occurs as the assimilation of new and new forms of role models of behavior, as a result of which the individual gradually develops an orientation in the system of

social roles. This process is accompanied by three important points. First, orientation in the system of connections inherent in each type of activity and between its various types. The product of such orientation is a personal choice of activity. As a result of this, a second process arises - centering around the main, chosen one, focusing attention on it and subordinating other types of activities to it. Finally, the third process is the understanding of the individual during the implementation of new roles and the understanding of their significance. In general, the essence of transformations in the activity system lies in the process of expanding the capabilities of the individual as a subject of activity (Moskalenko, 2008).

Considering socialization from the point of view of sociology as a science, one cannot fail to mention the famous scientist T. Parsons, whose concept is related to the understanding of socialization as the process of integration of an individual into the social system by "absorbing" common values, as a result of which the observance of universal norms behavior becomes a need of the individual, an element of his motivational structure (Parsons, 1968). It is also worth mentioning I. Kohn, who considers socialization as the process of assimilation of social experience by an individual, a certain system of social roles and culture (Kohn, 1982). Therefore, from the point of view of sociology, the conclusion of the modern theory of personality socialization is that it is formed not as an object of some external influences, but as an active subject of self-education.

Having analyzed a number of scientific studies, in particular Ukrainian scientists on the problems of socialization, we found that such scientists as A. Bogush, L. Varyanytsia, N. Havrysh, S. Kurinna, I. Pechenko in their monographic study define the essence of the phenomenon of childhood as a social formation within the age period from birth to adulthood, which is characterized by specific features, has its own subculture and is built on special social ties and relationships. This is the period of a person's life, in which the foundations of personal activity and personal attributes, values that determine the quality of future life are laid; the period when a person is most vulnerable, unprotected from the effects of the environment, social, psychological and physical violence (Bogush et al., 2006). A factor in the socialization of preschool children is the children's subculture - a socio-cultural space interspersed with the space of adult culture; a dynamic social, psychological and cultural autonomous entity with its own moral and legal norms, speech apparatus, folklore heritage and game complex. Given its inherent functions, children's subculture is an agent of personality socialization, and its structural components are: children's folklore, children's verbal creativity, children's legal code, children's games, children's humor, religious ideas, children's philosophizing, children's interests (Bogush et al., 2006). For a more thorough consideration of the problems of the social development of a child in a preschool institution, let's consider a number of scientific studies related to the socialization of a preschool child.

First of all, we paid attention to the research provided by Vertuhina V., Melnyk N., Rogalska-Yablonska, pedagogical conditions of preparation of senior preschoolers with visual deviation to school in the context of which they dedicated some pages of the article to personality socialization in preschool childhood. The researchers interpreted the concept of personality socialization in preschool childhood as the process of forming a child's personality in its interaction with the social world on the basis of the child's equal entry into the system of social relations, active development of socio-cultural experience through its subjective knowledge of the social environment and construction of the image of the social world (Vertuhina et al., 2022). According

to I. Rohalska-Yablonska et al., (2020) the specificity of the socialization of a preschool child consists in:

- a continuous change in the space of his "social maturation"; - ensuring the expansion of the degree of freedom when it is introduced into the social environment;
- development of its subjective activity and formation of social competence;
- socio-emotional development of the social environment and focuses on enriching children's lives in the socio-cultural space.

According to the researchers, the main tasks of socialization at the stage of preschool childhood should be: - ensuring active adaptation of children to new social conditions of life for them; - acquisition of socio-emotional balance and resistance to the influence of changing conditions of the social environment; - expanding and enriching the experience of constructive interaction with the people around them on an interpersonal level and building social relationships through the development of communication methods; - formation of ideas about methods and norms of communication with the environment; - development of activity, initiative, independence and responsibility as basic personality qualities; - involvement of children in the wider social environment to form ideas about people's lives in society; - formation of harmonious relationships with peers through the organization of interaction at the level of emotional communication; - building the child's social behavior in the social environment (Rohalska-Yablonska et al., 2020).

The scientist proposes to identify and control the level of socialization of the individual in preschool childhood according to the following criteria (Sîrghi & Sîrghi, 2020):

social adaptability with indicators - the child's attitude to new social conditions, the peculiarities of the child's emotional state, the dominance of instructions for interaction with children;  
social activity with indicators - existing manifestations of initiative, activity, independence;  
social competence with indicators - social intelligence as the ability to solve social problems in proposed situations, value orientations of children and their spiritual needs, the formation of social norms of child behavior.

The core of the analyzed research is the model of socio-pedagogical support of personality socialization in preschool childhood as a process of personal interaction between the one who accompanies and the one who needs it. The researcher guides the socio-pedagogical support of personality socialization in preschool childhood by the following principles: the priority of the child's interests; balance as an optimal ratio of the processes of individualization and socialization in their unity and difference; reliance on the positive, the principle of social conformity; integrated approach; dyadic interaction and openness of support (Rohalska-Yablonska et al., 2020).

If we consider the theoretical investigations of Swedish scientists we may find the following understanding and interpretation of "the socialization in preschool childhood" as a notion: the definition of socialization involves learning values, beliefs, and behaviors, and the rules that must be followed for a better coexistence, developing feelings that help in the idea of collectivity (Lembrér & Meaney, 2014). Socialization in early childhood education is of fundamental importance for the evolution of the child in the face of different everyday situations (Trondman, 2013). Watching children socialize, whether at school or in another environment where they feel

safe to do so, allows the adults around them to guide their behavior to help overcome their difficulties.

The importance of the school in this process grants autonomy to the little ones, and they start to see the world as a wide space of opportunities to interact with other people (Tsybanyuk, 2020). They begin to recognize when there is a real incentive to socialize at this stage of life. The family's presence as a supporter of the child in the school environment generates a significant improvement in learning. The importance of socialization for children implies the development of skills that may be the most diverse and necessary for the future of small explorers.

Below is a short list of skills acquired from socialization:

- Emotional skills: when the child is in the school socialization process, he/she will need to share moments, and share physical space, in addition to making concessions to his/her colleagues who will end up helping in the formation as a person of the little ones.
- Language skills: during the socialization process, the child will develop orality and at each moment will learn to express his/her feelings through oral communication.
- Math skills: When we talk about math skills that children develop through socialization, we must think about the exploration they will make of space, discovering shapes, playing, and learning with the objects that make up the interaction space (Lembrér & Meaney, 2014; St. Nicholas School, 2023).

As Sweden is an international country the scientists also consider the "preschool children socialization" as process is linked to the construction of children's cultural identity, as they observe behaviors and begin to understand and practice the social standards necessary for a good coexistence with the people around them in a mixture of discovery and overcoming (Lembrér & Meaney, 2014).

Socialisation is a process by which children acquire the skills necessary to perform as functioning members of their society (Biesta, 2007). The process involves both reproducing culture from one generation to another to ensure that societies sustain themselves over time (James, Jenks, & Prout, 1998) and producing new ideas and culture through learning to be creative (Ebrahim, 2011). For this second component of socialisation to occur, preschool children need to be recognised as being knowledgeable, active participants in the construction of their childhood and their experiences (James, Jenks, & Prout, 1998).

It's important that Swedish scientist Biesta's (2007) drew the distinction between socialisation and education. He considered socialisation to be the "insertion of 'newcomers' into existing cultural and socio-political settings" (p. 26). For him, much of what occurred in institutional settings of education was actually socialisation. In contrast, education as defined by Kant was about the self- education needed to achieve rational autonomy to become fully human. However, as Biesta further argued, this view of education could be considered a form of socialisation because it sets up what the end product of selfeducation had to be: rational autonomy. Then education of this kind also contributed to newcomers taking on the attributes of existing members of a society; those who did not have or did not gain these attributes were unable to be considered human.

If also to speak about the understanding of the preschoolers with general speech underdevelopment socialization theory we can draw to that according the Swedish latest research, language and literacy research within the framework of Swedish early childhood studies has focused on teachers' ability to create a preschool environment that is considered to be beneficial for children's language (Broman, Roth, Persson, S. (2015).

In Ukrainian scientific dimension the conclusions as for this notion is that "the socialization of children with general underdevelopment of speech as a combined process of general speech education and social formation, which ensures the development of speech and the formation of a competent approach to the development of the child's personality, the result of which is the dynamic development of his socialization" (Lemoshchuk, 2016; Rohalska-Yablonska et al., 2020). We started from the understanding that speech, as one of the main and necessary conditions for a child's personal growth and social development, is a full-fledged means of communication only when it is preserved or, in the case of speech pathology, its structural components are copied. Therefore, the leading factors that cause deviations in the development of the child's personality, related to communication, are the insufficient level of orientation of the child to active communication, as well as the insufficient mastery of communicative activities (Talaghir & Ionomescu, 2017.). The ratio of these factors constitutes the undifferentiated relationship of the child to the partner in communication and the very fact of communication.

The study by scientists of the problem of social adaptation of children with speech disorders proved that in a complex complex of developmental disorders, speech underdevelopment is characterized not only by delays in the formation of speech ability, but also often by motor, sensory, intellectual disorders, and lack of cognitive abilities. Therefore, due to the specificity of the speech disorder, the social development of children is not carried out properly. With such insufficient communication of the child with adults and peers, the rate of development of his speech and other mental processes slows down. A deviation in the development of speech negatively affects the entire mental development of the child, delays his communication with the environment, the formation of cognitive processes, thus making it impossible to form a full-fledged personality.

Theoretical approach allowed us to point out the following similarities in distinguishing the notion "preschoolers socialization" and these similarities are in the approaches in pedagogical, sociological and philosophical views on the socialization in general, the differences are in the broader meaning of preschoolers socialization in Swedish scientific dimension and it concerns the more clear avenger of the construction of children's cultural identity. If we speak about the preschoolers with general speech underdevelopment socialization theoretical reviews than the similarities are in the following aspects: the including of preschoolers with general speech underdevelopment into the educational and developmental environment provides the best socialization process for these children.

#### **4. Results and Discussions**

Current State of preschoolers with general speech underdevelopment socialization in Ukraine and Swede.



## In Ukraine

Scientists have singled out the main conditions that contribute to the successful socialization of a preschooler: - a favorable social situation of development; - the participation of adults through the achievement of the interaction of the process of socio-pedagogical activity of the preschool educational institution and the process of socialization of the child in the family; - organization of full-fledged activity and communication as leading forms of development and interaction with the surrounding world. In the process of socialization of a preschool child, such signs as: - independence are distinguished in the observance and fulfillment of these conditions. Receiving new knowledge, the child is able to understand, analyze, master them; - self-organization. This term refers to a child's ability to organize and carry out his activities without constant external control, help and stimulation from adults. As a rule, a child's self-organization manifests itself in older preschool age. Older preschoolers develop the ability to perceive tasks, plan their activities, independently monitor and evaluate them; - collective interaction. It is not enough for a child to communicate with adults for full-fledged personality development. She needs contact with children of different ages. Saame this provides the child with a wide social practice.

Taking into account the socialization indicators of a preschooler and the features of the socialization of an older preschooler with general underdevelopment of speech we aimed to analyze, generalize and single out the pedagogical conditions under which the process of socialization of such children will take place most effectively. Based on the analysis, we determined such pedagogical conditions as:

Organization of interaction of children with general underdevelopment of speech in a single socio-developmental environment of a preschool educational institution. Children with general underdevelopment of speech, the process of interaction with each other is somewhat different than in completely healthy children. As a rule, such children are enrolled in speech therapy groups for two years before school. Thus, they face the difficult task of mastering a new, foreign space and making it their own. The process of getting used to new conditions does not always go well, it is often accompanied by children's illnesses. The process of adaptation to a preschool institution or to a new group of children takes place in different ways. Some children show signs of impaired adaptive function, which occur not only during the period of getting used to new conditions and persist for a long time without adequate pedagogical intervention, but are also generally characteristic of children with speech disorders due to the peculiarities of their psychophysical development. Getting used to a new environment, entering a group of peers, establishing contact with new adults - all this is associated with emotional stress, the need to show self-affirming ways of behavior, establish communicative contact. It is known that the development defect is most acutely manifested in the situation of adaptation to new conditions of activity. The situation itself demands from a child with a general underdevelopment of speech the mobilization of all his adaptive capabilities, reveals and exacerbates difficulties that concern his emotional, personal and communicative spheres. At the same time, it is also a kind of incentive for the child to master the ways of orientation in a new situation, the manifestation of his qualities and abilities.

Development of speech communication in children with general underdevelopment of speech in game activities. Correction of general underdevelopment of speech is a complex, step-by-step and long-term process, the effectiveness of which depends on the complex interaction of

specialists, a combination of different approaches to overcoming this pathology. Speech therapy work should be carried out on the basis of the Programs of education and upbringing of preschool children «Dydyna» (child), «Dydyna v doshkilny roky» (Child in preschool years), «Dydyna ta navkolyshii svit» (Child and environment) for mass preschool institutions, as well as special programs of typical and original corrective and developmental education for children with speech disorders.

Programs of education and upbringing of preschool children are the scientific and methodological basis of the organization of corrective, preventive and developmental education of children with general underdevelopment of speech in the conditions of a special preschool educational institution and are designed for speech therapists of these institutions and provide teachers with the opportunity to more flexibly to approach the organization of corrective work in subgroups and in individual classes with children, to implement cyclical learning of the material. The leading task of correctional and developmental work in a special preschool educational institution is the formation, correction and development of speech (including communicative), mental and emotional-volitional spheres of children with speech disorders, through play activities. But in many pre-school special institutions, insufficient attention is paid to studying the state of play activities of children with speech disorders.

Unfortunately, speech therapy manuals often offer games that, although aimed at the development of speech, do not take into account the age characteristics of children, the specifics of a separate speech defect; games, as a rule, have little variation and cover only one of the links of corrective work. In this regard, the main tasks of the game in speech therapy work with older preschoolers with general underdevelopment of speech in order to develop speech communications are:

1. To create conditions for the development of general and cognitive activity, expanding opportunities for practical familiarization with various subjects and phenomena in order to master the relevant methods of action, use of objects.
2. To form a subject-game environment.
3. To deepen children's understanding of the environment, to consolidate their knowledge about the color, shape and size of objects.
4. To teach children to think, to awaken in them independent thought, to develop inquisitiveness.
5. To increase speech activity and at the same time carry out psychophysical development of preschoolers. In corrective and developmental work, speech therapists use both creative games and games with rules.

In role-playing games, elements of a plan appear in children, there is a simple plot, roles, but all this is not stable enough, and as soon as the child's attention switches to something else, one plan is easily replaced by another. Role-playing games of younger preschoolers are mainly procedural and manipulative, and their content is almost exclusively related to personal experience, observations and experiences. They interest children in the process of action itself, and not in the result to which this action should lead. The emergence of a role is associated with change orientation of the preschooler's consciousness, the ability to compare his actions with the actions of other people. This is how the transition to the story role-playing game is gradually taking place. During the organization of creative games, the teacher encourages children to create

elaborate plots on everyday topics: «Kindergarten», «Playground», «Family», «Polyclinic», «Shop», etc., in which children gain experience of relationships necessary for life in a team, learn simple ethical norms, thus socializing.

Creation of a speech-stimulating space to ensure the social experience of older preschoolers with general underdevelopment of speech. To date, the attention of scientists-pedagogues is directed to the low speech activity and insufficient motivation of speech communication of children with speech disorders, the difficulty of adequately using the various forms of cooperation mastered in various situations, insufficient or exaggerated criticality and self-criticism. Based on this, special importance is given to the construction of a special effective subject-subject space of children's life activities to ensure social experience. Forming a positive attitude towards each other is one of the steps to creating an environment in which the child will be comfortable and interact with peers. Another important step is to create conditions in which a preschool child can learn to build equal relationships with others by identifying with them. First of all, it is necessary to teach the child to adequately apply forms of cooperation and interaction during the game and other regular moments. Following these steps helps to stimulate the child to communicate and cooperate with others. The development and stimulation of speech are the most difficult points in the education of preschoolers. And they need to be carried out constantly, in all types of activities, throughout the entire pedagogical process. This requires enormous knowledge, skills, efforts, and patience from the educator. In addition, it is always necessary to take into account the individual characteristics of each child and develop them depending on his abilities, which is especially evident in children with speech disorders.

### **In Sweden**

The Swedish universal ECEC system is regulated by the Swedish Education Act (Skolverket, 2020) includes all children aged 1–5 years, and is the first part of lifelong learning within the Swedish educational system. Over 85% of Swedish children between one to five years are enrolled in preschool, and over 95% of children between four and five. The curriculum of preschool is decided by the government (Skolverket, 2019) and is based on holistic, inclusive, and ecological principles. Designed for care, development, and learning to form a whole, Swedish preschool is part of the welfare state, family policies focused on dual-earning families, and the ambition to provide a good start in life for all children. Democracy is stressed as a fundamental pillar, and the development and learning of all children is promoted. Children's participation and influence on their education are emphasized. The curriculum states preschool should offer children a good environment that is accessible for all children, and a balanced daily rhythm with both rest and activities adapted according to the children's needs and length of stay. The environment is intended to inspire children to play together and explore the world around them. Children are to be offered varied activities in different contexts, both indoors and outdoors.

Play is considered the foundation for development, learning, and well-being, yet over time academic learning and teaching have become more emphasized. Pramling Samuelsson, Williams, Sheridan, & Hellman (2016) summarized the pedagogical approach as being "one whereby both the foundation of academic knowledge and the tradition of a wholeness with play, care and learning should be integrated." (p. 446). It is the responsibility of the preschool teacher to organize pedagogical activities to promote the principles stated in the curriculum (Einarsdottir et

al., 2015), yet specific pedagogical methods are not identified. The National Agency for Education seeks to ensure that Swedish education maintains a standard of quality through national school development programs and training programs. The Swedish Schools Inspectorate evaluates ECEC to improve quality and outcomes.

As for the practices for the socialization of preschoolers with general speech underdevelopment there were a Research on morpho-syntactic challenges in Swedish-speaking children with developmental language disorder (DLD) provided by the group of investigators compared with typically developing (TD) children learning Swedish as their first and second language (L1/L2). The project demonstrated that children with DLD show vulnerabilities with verb finiteness, the possessive construction, and noun phrase gender agreement, as well as word-order in nonsubject initiated sentences. For L2-learners, word order and the noun phrase gender agreement present main challenges. We discuss to what extent these morpho-syntactic weaknesses can be explained by different theoretical accounts and identify future research needs. Surface similarities between groups may originate from different factors and more knowledge is needed to inform educational and clinical practice for both of these groups of children (Reuterskiöld et al., 2021).

The other study was aimed to characterize and compare the use of typical story grammar elements practices and global coherence level in the oral narrative of children with attention deficit hyperactivity disorder with the narrative of children without the disorder and with typical development. Those practices prove to have a great positive influence on the socialization of preschoolers with general speech underdevelopment. The children with ADHD included in this study presented difficulties to use typical story grammar elements, mainly related to the maintenance of the central theme and outcome of the story. These elements are considered fundamental for construction of narrative coherence, which justifies the lower levels of global coherence found in the oral narrative of the ADHD Group (Zenaro et al., 2019).

Swedish clinical practice regarding assessment of suspected Speech Sound Disorders (SSD) in children (Wikse Barrow et al., 2021) proved to have a great positive effect on the socialization of preschoolers with general speech underdevelopment.

The other practices which demonstrated effectiveness was the Audience Response Systems (ARS)-based measure of acceptability, applied to speech produced by children with speech sound disorder (SSD). We further explore how the suggested measure relates to an ARS-based measure of intelligibility. Finally, we explore potential differences between speech-language pathologists (SLPs), untrained adults, and children in their assessments (Strömbergsson et al., 2020).

Children's socialization into cleaning practices has demonstrated positive socialization not only with typical families but also families which have preschooler(s) with general speech underdevelopment (Fasulo et al., 2007).

The other study explores a child's emergent second language (L2) interactional competence during her first year in a Swedish immersion classroom. Within the theoretical framework of situated learning, it focuses on how she acquires expertise in a specific classroom practice: multiparty classroom talk. The data cover three periods (the early, middle, and late phases) of her first school year. The methods adopted combine a micro analytic approach with ethnographic

fieldwork analyses of L2 socialization within a classroom community. The analyses revealed systematic changes in the novice's interactional engagements. An interplay of language skills and turn-taking skills influenced her participation in multiparty talk during the three periods, casting her as (a) a silent child, (b) a noisy and loud child, and (c) a skillful student. These changes indicate that learning cannot be seen as the unilineal development of a single learner identity. It is argued that a detailed longitudinal analysis may provide important insights into the relationship between participation and L2 learning. Instead of unilineal development of a single learner identity, we may find different participation patterns linked to distinct language learning affordances over time (Cekaite, 2007).

## 5. Discussions

The grounded analysis of the trends of teachers' education in Ukrainian and Swedish pedagogical Universities allows to create the comparative table of the peculiarities of preschoolers with general speech underdevelopment socialization and to see in where these peculiarities are similar and where they differ.

**Table 1.**

*Practices in Ukrainian and Swedish preschool educational institutions*

<b>Ukrainian preschool educational institutions</b>	<b>Swedish preschool educational institutions</b>
<b>Development of speech communication in children through games</b>	Morpho-syntactic exircises
<b>Organization of interaction of children</b>	Picture support on narrative retells
<b>Creation of a speech-stimulating space</b>	Orofacial games
	Audience Response
	Children's socialization into cleaningpractices

As we can see in the Table 1. the comparative analysis demonstrates, that preschoolers with general speech underdevelopment socialization practices in Ukrainian and Swedish preschool educational institutions are in great part similar though are provided on different way and approaches. We can also see that in Sweden there are more clinical investigations on the contemporary in Ukraine – more pedagogical practices are included.

Orientation of preschool education to ensure full-fledged social development of children requires taking into account the peculiarities of socialization at various stages of preschool childhood. In this regard, the preschool educational institution is assigned a special role - to become a leading social institution of socialization, which ensures the creation of appropriate pedagogical assistance for preschool children in the process of socialization, directs the development of socially and individually significant personality traits and its successful functioning as a subject of its own life activities in the social environment.

However, in the domestic special pedagogy and psychology, according to the M. Lemoshchuk (2016) research, devoted to the study of issues of socialization of children with disorders of

psychophysical development is extremely insufficient. Although in recent years Ukrainian scientists-specialists have carried out studies related, but the question of purposeful formation of their social competences remains outside the attention of scientists and practitioners. Among children with various types of psychophysical disorders, a significant increase in the number of children with disorders of speech development - general speech underdevelopment (GSU) is recorded. Modern educational reform strategies create the necessary prerequisites for the active integration of children with SEN into the general educational space, therefore there is a need for a comprehensive study of this nosology of children, both for the purpose of further development of effective methods of diagnosis and correctional assistance, and their socialization.

In the works of psychologists and speech therapists, and it is stated that the main indicator of the level of development of children's speech in children with disorders of speech development, in particular general underdevelopment of speech, is communication skills. The works of O. Slinko et al., (2022) are devoted to the study of interpersonal relations in a group of preschoolers from (GSU). (Lemoshchuk, 2016) However, despite the attention of scientists to the speech development of children with SEN, the problem of their socialization in the pedagogical process of a preschool educational institution was not the subject of a special study. Unlike children with typical development, in whom speech activity is formed in the process of communication, mediated by the system of speech signs, children with GSU accumulate only separate speech acts and separate speech signs. Therefore, the general underdevelopment of speech in children of older preschool age complicates the process of socialization, causes a significant limitation of activity in communication, contributes to the emergence of psychological features, leads to social maladaptation of children.

Thus, the further investigation could be devoted to the close characteristics of different forms, methods and means of preschoolers with general speech underdevelopment socialization practices in Ukrainian and Swedish preschool educational institutions.

## 6. Conclusions

Theoretical approach allowed us to point out the following similarities in distinguishing the notion "preschoolers socialization" and these similarities are in the approaches in pedagogical, sociological and philosophical views on the socialization in general, the differences are in the broader meaning of preschoolers socialization in Swedish scientific dimension and it concerns the more clear avenger of the construction of children's cultural identity. If we speak about the preschoolers with general speech underdevelopment socialization theoretical reviews than the similarities are in the following aspects: the including of preschoolers with general speech underdevelopment into the educational and developmental environment provides the best socialization process for these children.

The investigation demonstrated that in preschoolers with general speech underdevelopment socialization practices in Ukrainian and Swedish preschool educational institutions are in great part similar though are provided on different way and approaches. We can also see that in Sweden there are more clinical investigations on the contemporary in Ukraine – more pedagogical practices are included.

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## **Modern technologies for forming intercultural competence in students of HEIs in the process of professional training**

### **Tecnologías modernas para la formación de competencias interculturales en estudiantes de IES en proceso de formación profesional**

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## Abstract

The research examines theoretical and methodological approaches to the development of intercultural competence among higher education students, and how it varies due to changes in the digital environment. Attention is given to interactive methods for improving intercultural competence as a source of everyday and professional discourse formation, and enhancing communication skills among students. The key principles for stimulating the development and use of technologies in building intercultural competence in higher education institutions' practices are highlighted. The study's findings can be beneficial for future professionals and can be applied in universities' practices when organizing the educational process or educational programs aimed at training future specialists.

**Keywords:** intercultural competence, communications, cultural project, interactive technologies, innovative technologies, professional discourse, foreign culture.

## Resumen

La investigación examina los enfoques teóricos y metodológicos para el desarrollo de la competencia intercultural entre los estudiantes de educación superior y cómo varía debido a los cambios en el entorno digital. Se presta atención a los métodos interactivos para mejorar la competencia intercultural como fuente de formación del discurso cotidiano y profesional, y mejorar las habilidades de comunicación entre los estudiantes. Se destacan los principios clave para estimular el desarrollo y uso de tecnologías en la construcción de competencias interculturales en las prácticas de las instituciones de educación superior. Los hallazgos del estudio pueden ser beneficiosos para los futuros profesionales y pueden ser aplicados en las prácticas de las universidades al momento de organizar el proceso educativo o los programas educativos destinados a formar a los futuros especialistas.

**Palabras clave:** competencia intercultural, comunicación, proyecto cultural, tecnologías interactivas, tecnologías innovadoras, discurso profesional, cultura extranjera.

## 1. Introduction

At present, one can observe the development of modern innovative technologies and changes in approaches to the organization of training. The corporate sector is transforming to the use of digital technologies, thereby changing the basic approaches to the formation of intercultural competence. Improving lexical and grammatical skills is made possible by creating an accessible communication process with representatives of foreign cultures who can share a valuable cultural, aesthetic, and lexical experience. The possibility of conducting such training sessions will serve as one of the major means for improving and developing specialized communication skills, which directly affects the quality of intercultural competence. In essence, the concept of intercultural competence is the ability to communicate with representatives of foreign nationalities, considering the traditions and history of their countries, which is a factor of high professionalism. In today's world, most commodity and product markets operate on the principle of globalization and are focused on a wide audience. Therefore, there is a growing demand for specialists not only with specialized skills but also with an understanding of foreign cultures and the ability to conduct professional communication negotiations, which is the foundation of intercultural competence. The practice of modern HEIs in developing intercultural competence plays an important role. It is aimed at ensuring the quality of education in the context of the development of innovative technologies that can be used in the educational process. Moreover, universities in developed countries face the problem of developing students' intercultural competence, as they aim to improve the quality of training of their specialists. To improve the quality

of intercultural competence development, it is necessary to use technologies aimed at enhancing communication skills, grammatical knowledge, and the ability to create complex lexical structures and engage in group projects. The use of group projects in educational activities stimulates the development of general skills and improves the ability to conduct professional communication in a scientific environment, which in the long run can become a qualitative factor in improving intercultural competence. Besides, the current policy of educational institutions is aimed not only at the quality of linguistic skills but also at developing qualitative abilities to understand a foreign culture and apply existing skills in practice.

The research aims to analyze modern technologies for the formation of intercultural competence of students of higher education institutions in the process of their professional training, as well as key tools of modern universities to improve such abilities. The main objective of the article is to analyze modern approaches to the development of intercultural competence and to propose the most appropriate and effective one in terms of the professional training of a specialist. The peculiarities of intercultural competence formation are studied in terms of the quality of foreign language use, complex lexical and semantic constructions, and the ability to optimally use grammatical rules in the construction of sentences and phrases. An important area of research is the identification of key perspectives and prerequisites for the development of intercultural competence, which is formed as a result of learning a foreign language and using communication in a varied discourse. The study of modern technologies used to improve the quality of communication processes and enhance understanding of foreign cultures is a priority direction for analysis.

## 2. Literature review

The issue of intercultural competence and the specifics of its implementation has received much attention among scholars. According to Abdrafikova et al., (2015), intercultural competence means the potential ability to negotiate professional and everyday discourse with representatives of foreign cultures. Meanwhile, Sain et al., (2017) believes that a key aspect of the formation and implementation of intercultural competence is the reflection of a person's grammatical, lexical, and semantic abilities and the correctness of sentences and phrases used in communication. Bakum et al., (2021) believes that intercultural competence is not only a means of communication but also the ability to understand the basic attributes of the nationality of the communicator, including language, history, and traditions.

The development of intercultural competence plays an important role in diplomatic negotiations and in modern global commodity markets, where the wide development and use of foreign languages are required (Dvorianchykova et al., 2021; Fahrutdinova et al., 2014). In particular, according to Beketova et al., (2020), the use of intercultural competence will help improve communication skills, allowing you to choose the right phrases to achieve the communication goal. Any intercultural competence, according to Batarchuk (2019), is an exchange of experience, cultural, scientific, or professional, since communication between representatives of different cultures is carried out mainly based on achieving a certain goal in the selected segment. The issue of developing intercultural competence for modern students is a priority for any university, as Mukharlyamova et al., (2018) notes since foreign language proficiency is not sufficient in itself. Moreover, she believes that a key aspect of professionalism in the use of intercultural competence is an understanding of culture, traditions, etiquette, and key principles of business negotiations, as well as the ability to conduct a conversation in a business environment. According to Mai (2018), modern universities should improve the tools for developing intercultural competence, while maintaining the principles of its development. According to Svirina et al., (2016),

the most striking example of the quality of intercultural competence development is the introduction of digital technologies.

The use of innovative technologies has many advantages (Akhmadullina et al., 2016), including efficiency, expediency, the possibility of automation, and the involvement of representatives of foreign cultures directly in the educational process (Shayakhmetova et al., 2017). According to Jordan (2016), professional training should address the peculiarities of the formation and development of intercultural competence, as it is a leading means for the development and improvement of the quality of education in the future. The issue of intercultural competence formation is emphasized by (Mukhametzyanova & Svirina, 2016), who defines it as a set of communication skills and the ability to conduct professional discourse. Bondarchuk (2021) agrees with this opinion, noting that modern education and areas of foreign language training should be based on a thorough knowledge of a foreign language as the main attribute of a representative of a foreign culture. Equally important is the ability to use varied discourse to achieve a communication goal.

The issue of lexical and semantic groups was paid attention to by Vetoshkina & Kolkhonyan (2018), who in her research determined that the use of neologisms and avoidance of archaic expressions is one of the key principles of a high level of intercultural competence. In the context of modern development, according to Wilberschied (2015), most HEIs emphasize the grammatical and lexical development of students but do not pay enough attention to the study of history and traditions. Therefore, the priority of modern universities should be to improve the quality of teaching historical disciplines and introduce innovative means to achieve a high qualification degree for students. Equally important is ensuring intercultural competence at a competitive level.

### **3. Methodology**

In writing the article, the methods of scientific research were used to determine the essence and theoretical and methodological approaches to the formation of intercultural competence and the peculiarities of its development in modern higher education institutions. The key features of intercultural competence formation are the ability to use lexical and semantic groups, the ability to build complex grammatical structures, to introduce specialized statements into one's discourse, as well as the ability to carry out cultural exchange and get acquainted with one's history. The search method was used to study current research in the scientific literature on the approaches and views of scholars on the use and development of intercultural competence in students. The method of synthesis was used to analyze certain EU universities and the quality of the educational program for students studying foreign languages.

The use of open-source databases and electronic libraries made it possible to conduct an analytical study of practical means of using technology in the educational process. These technologies are aimed at improving the skills of forming intercultural competence and introducing professional and variable stylistic discourse that can be applied in any social environment. Based on the use of the abstraction method, it is proposed to use modern technologies that can improve the quality of mastering intercultural competence and accelerate its development.

The introduction of such technologies into the practice of modern higher education institutions can become a key advantage in the educational market and significantly improve the quality of education among students in the process of professional training. The formation of high qualifications through the development of intercultural competence was analyzed from the standpoint of the development

of modern digital technologies that can improve the organization of the educational process and form the most appropriate tools for its use in the practical activities of students.

The methodology of the study is based on the use of tools aimed not only at the formation of personal abilities but also at the possibility of their further development in the conditions of the student's educational activity. Based on the method of deduction, the most effective means for the development of intercultural competence, which can contribute to the improvement of lexical and grammatical skills and the quality of ethical communication, was identified. Based on the above methodology, the key results of the study can be outlined.

#### **4. Results**

In writing the article, the methods of scientific research were used to determine the essence and theoretical and methodological approaches to the formation of intercultural competence and the peculiarities of its development in modern higher education institutions. The key features of intercultural competence formation are the ability to use lexical and semantic groups, the ability to build complex grammatical structures, to introduce specialized statements into one's discourse, as well as the ability to carry out cultural exchange and get acquainted with one's history. The search method was used to study current research in the scientific literature on the approaches and views of scholars on the use and development of intercultural competence in students. The method of synthesis was used to analyze certain EU universities and the quality of the educational program for students studying foreign languages. The use of open-source databases and electronic libraries made it possible to conduct an analytical study of practical means of using technology in the educational process. These technologies are aimed at improving the skills of forming intercultural competence and introducing professional and variable stylistic discourse that can be applied in any social environment. Based on the use of the abstraction method, it is proposed to use modern technologies that can improve the quality of mastering intercultural competence and accelerate its development. The introduction of such technologies into the practice of modern higher education institutions can become a key advantage in the educational market and significantly improve the quality of education among students in the process of professional training. The formation of high qualifications through the development of intercultural competence was analyzed from the standpoint of the development of modern digital technologies that can improve the organization of the educational process and form the most appropriate tools for its use in the practical activities of students. The methodology of the study is based on the use of tools aimed not only at the formation of personal abilities but also at the possibility of their further development in the conditions of the student's educational activity. Based on the method of deduction, the most effective means for the development of intercultural competence, which can contribute to the improvement of lexical and grammatical skills and the quality of ethical communication, was identified. Based on the above methodology, the key results of the study can be outlined.

**Table 1.***Means of development and formation of intercultural competence*

<b>Technologies</b>	<b>Characteristics</b>
<b>Training language and grammar structures</b>	Organizing learning activities to focus on the development of students' grammatical skills
<b>Forming lexical and semantic groups</b>	Formation of the ability to use complex lexical and semantic constructions
<b>Using interactive technologies</b>	Implementation of digital technologies and high-quality interactive learning tools in the educational process
<b>Implementation of intercultural and cultural projects</b>	Ability to use the organizational skills of the teaching staff to organize collective projects aimed at studying foreign cultures or performing with representatives of foreign culture
<b>Involvement of foreign specialists in educational activities</b>	The possibility of involving a representative of a foreign culture in the educational process to improve the quality of linguistic and semantic aspects of speech
<b>Improving the quality of foreign competence</b>	Increasing the number of class hours on grammar, history, and cultural features of the language
<b>Practical application of acquired skills</b>	Conducting practical training at the university or using it in professional activities
<b>Group projects</b>	Conducting group projects that can be useful in educational activities
<b>Communication and organization of foreign language training</b>	Encouraging communication with foreign language speakers, organizing speaking clubs at the university

*Source: compiled by the author*

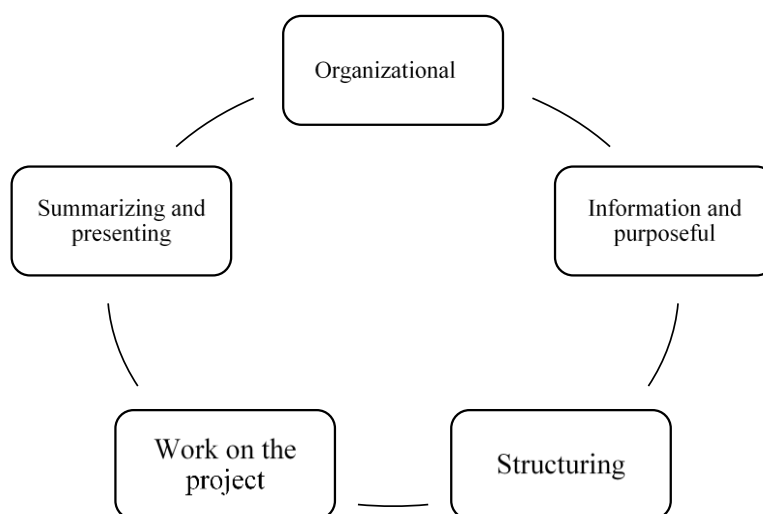
The activities proposed in Table 1 can be used to improve the quality of students' interaction with representatives of the foreign diaspora. In addition, they can improve their ability to use lexical and grammatical structures in their professional or practical activities. The application of these measures will serve as a key source of specialized skills development and can contribute to improving the formation of intercultural competence of students of higher education institutions in the process of professional training.

Despite innovations in teaching, the principle of organizing students' work is one of the main means of improving and developing their intercultural competence. Regardless of the technologies of modern learning, the formation of skills is based on the development of verbal intelligence and cognitive skills of the student. For this purpose, the most effective modern tool is the use of intercultural and cultural studies projects. The key difference between a cultural and an intercultural project is the implementation of research on the origin, characteristics, and development of a foreign culture in the first case, and the joint implementation of a research project with representatives of a foreign culture in the second case. Such an approach will stimulate the improvement of the quality of internal communication between students and improve knowledge in the field that is most needed to develop intercultural competence. Digital technologies and digital infrastructure can be used to organize a cultural project. The conditions of distance learning provide the project with advantages over traditional educational tools, such as greater efficiency, scale, and the ability to attract representatives of foreign cultures regardless of their physical location. At the same time, the key modern technologies

for improving and developing intercultural competence are tools for shaping the cultural process, which will help to increase the efficiency of the development of grammatical and lexical-semantic groups. To achieve this goal, it is also necessary to develop students' grammatical skills and the ability to use phrases that are most appropriate to the discourse environment.

When organizing a cultural project in an educational institution, as the most effective tool for developing intercultural competence, it is necessary to use digital technologies and pay attention to setting tasks and forming the ultimate goal for students. To rationally distribute the work on the content of such a project, it is necessary to use tools for dividing its implementation into several structural stages containing a set of specialized activities. More details on the peculiarities of the formation of the stages of a cultural project are shown in Figure 1.

According to the figure, it can be determined that the implementation of a cultural project involves five key stages, each of which involves operational work. At the organizational stage, the purpose, content, and quality of the project are planned to improve students' intercultural competence. The next stage involves preparing, collecting, and analyzing available information that can be used in students' practical activities. At this stage, it is especially important to use relevant and reliable information to gain knowledge about the use of certain phrases, conduct your research on a particular issue, etc. The structuring stage involves the use of systematization of the collected information, division of work, formation of the operational component, and application of forecasting methods to determine the feasibility of the functional stages of the proposed project at the current time. This stage includes the operational implementation of the cultural project, which will affect the development of intercultural competence. Also, at the structuring stage, it is planned to interact or engage foreign specialists, access foreign sources or use any information that can improve the quality of the formation and development of intercultural competence.



**Figure 1.** Stages of the cultural project implementation

*Source: compiled by the author*

The "work on the project" stage involves the implementation of all planned operational stages of the cultural project that were approved by the participants at the structuring stage. In fact, at this stage, work is done on the key principles of the project and the correction of mistakes. The final stage of a

cultural project is summarizing and presenting it to a wider audience, if possible, or to an internal student audience. At this stage, as a rule, general conclusions are drawn, various statistical data are used, and the results obtained during the implementation of the cultural project are characterized. If this project is presented at an educational institution, the teacher can assess the quality of the student's knowledge and determine the degree of improvement of intercultural competence based on an audit, lexical and semantic means.

Using this approach to improving intercultural competence is a top priority in modern universities, as it affects the ability to perform basic tasks and the ability to operate with scientific information, analyze it and use it in their research. Furthermore, during a cultural project, a student can deepen his or her knowledge of the cultural aspect of the research topic, become more familiar with a foreign culture, and identify the basic principles of interaction with it. In modern conditions, cultural studies projects can be implemented with the help of specialized digital technologies that improve the quality and speed of research projects and involve representatives of other cultures, which has a positive impact on the level of student's knowledge. For this purpose, a higher education institution should have a digital library, and digital infrastructure, and encourage students to use special research tools. The use of such tools stimulates intercultural communication and promotes the study of foreign cultures, which increases students' intercultural competence and is useful in their professional activities.

The results of the study indicate that modern technologies for the formation of students' intercultural competence in higher education institutions are an important factor, as they help to improve the quality of practical application of students' knowledge, enrich their vocabulary and grammatical skills, and develop a cultural understanding of representatives of other cultures. The use of a cultural project as the main tool for developing intercultural competence is one of the priority approaches for modern universities to help improve the quality of students' intercultural competence.

## **5. Discussion**

To further develop the intercultural competence of students of higher education institutions in the process of their professional training, it is necessary to pay attention to the variability of the organization of the educational process. This will help to improve students' grammatical and communication skills, as the biggest problem for them is the ability to use grammatical structures and build complex lexical groups, which directly affects the quality of communication with representatives of foreign cultures. To achieve the communication goal, students need to understand the peculiarities and take into account the discourse environment, as well as use appropriate lexical expressions taking into account the cultural characteristics of the interlocutor. Thus, the study of the quality of the use of certain phrases in business communication, as well as the possibility of practical development of such abilities, is most relevant as they relate to the professional preparation of students for professional activities.

Modern universities tend to use digital tools to improve the quality of the organization of the learning process, as well as the academic disciplines themselves. Moreover, the development of digital literacy is one of the priority tasks of any university. Therefore, the use of digital infrastructure to achieve a high level of intercultural competence is one of the key tasks of modern universities. Furthermore, the use of digital technologies in professional activities can serve as a factor in improving existing skills for students and will be a key aspect of their professional qualification development. In the context of the modern development and spread of the quality of education, an important means of achieving the communication goal is to understand the cultural context of the interlocutor, which is more accessible in the context of the globalization of digital technologies. The availability of digital libraries and



technologies of communication with representatives of foreign cultures stimulate further empirical research in HEIs on the effectiveness of the use of such technologies in the practical development of students' intercultural competence.

The matter of cultural project usage has been covered in the article. However, the peculiarities of the organization and the improvement of the mechanism of its implementation at each stage remain relevant for research. It is worth noting that in recent years, the use of interactive technologies and group projects has been the most appropriate means to achieve communication, scientific and professional goals. The issue of modern cultural projects should be studied in terms of the approach to the organization, planning, and operational part of the project, as this approach can provide many benefits for modern students. It can improve not only their lexical and linguistic abilities but also their overall intercultural competence.

An important direction for further research is to study the peculiarities of the organization of the educational process and to find optimal and rational approaches to the development of students' intercultural competence using modern and innovative digital technologies. The analysis of the quality of intercultural competence development can be carried out in multicultural teams and considered from the standpoint of forming effective lexical abilities and grammatical skills. Modern technologies for the development of intercultural competence of students of higher education institutions are quite diverse. However, the practical aspect of using these technologies in professional activities requires improvements in terms of professional discourse, grammatically correct communication, and the possible use of complex lexical and semantic constructions.

## 6. Conclusions

The study shows that modern technologies for the formation of intercultural competence are based on the principles of organizing the educational process, which is laid down by the university itself in its educational policy. The development of digital technologies and the globalization of world commodity markets increase the need for specialists with a high level of intercultural competence. This, in turn, requires improving the quality of communication and finding effective means of communication. Equally important is the possibility of improving the principles of professional discourse and highly specialized speech in line with the existing social environment. Intercultural competence is a set of professional skills and grammatical abilities of a student, the ability to apply complex lexical and semantic constructions, use appropriate phraseology, understand a foreign culture and conduct business negotiations. In such conditions, the use of innovative technologies to improve the quality of intercultural competence plays a key role. The results obtained allow us to determine that the most effective means for developing intercultural competence is the use of a cultural project. Since it improves students' communication skills, improves the quality of understanding of foreign cultures, and develops the ability to conduct research, it has a positive impact on the educational process. In addition, it has some advantages during the presentation, as it helps to improve professional discourse in public speaking. The current policy of most educational institutions in developed countries, including Poland and Germany, is to use two forms of education: in the official language and a foreign language. However, regardless of the format of education chosen by students, the quality of intercultural competence is improved through foreign language courses, excursions to foreign cultures, and the spread of intercultural diaspora in the educational institution itself, which has a positive impact on the overall level of intercultural competence. Modern practices of universities to improve their brand and quality of education include student exchange, which can have a positive impact on the formation of intercultural competence. Moreover, the prospects of modern technologies

used in the practice of developing intercultural competence are the implementation of cultural projects that can be carried out under the supervision of a teacher and aimed at improving students' grammatical, lexical, linguistic, and cognitive abilities, which will positively affect their further educational and professional activities. Under these conditions, modern technologies for the formation of intercultural competence are based on the use of digital technologies and special communication channels that allow them to improve the quality of understanding of foreign cultures and improve their professional discourse.

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## **Modern didactic system of open education in ukraine: problems, solutions**

### **Sistema didáctico moderno de educación abierta en ucrania: problemas, soluciones**

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#### **Abstract.**

The emergence of an open education system is associated with the growing interest of the population in obtaining an educational product of a higher level and dissatisfaction with the implementation of educational needs through traditional education. The article aims to provide a comprehensive analysis

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<sup>1</sup> Professor Khayruddinov contributed significantly to this research but unfortunately passed away before its publication. His co-authors wish to recognize and honor his valuable contribution to the work and express their gratitude for his efforts in advancing knowledge in this field.

of the current state of open education in Ukraine, including an evaluation of its strengths and weaknesses, and to propose a methodology for addressing its problems. The article presents the definition of open education, the essence, purpose, subject. The main initial methodological ideas of open education include the idea of activity, consistency, and reflection. These ideas require an understanding of education as an integral part of social activity, consideration of the individual within the system of life, and the use of various forms of informational influence for the formation of a creative personality. Additionally, the article emphasizes the integration of the structural elements of didactics to generate a holistic pedagogical process. Using it in practice, it will not allow the teacher to drop one of its elements, replacing it with another. Such a construct can be the key to the success of open education in the present and in the future.

**Key words:** open education, didactic system, individualization of education, information technology, international educational space.

## Resumen

El surgimiento de un sistema educativo abierto está asociado al creciente interés de la población por obtener un producto educativo de mayor nivel y la insatisfacción con la realización de las necesidades educativas a través de la educación tradicional. El artículo presenta la definición de educación abierta, la esencia, finalidad, materia. Se señalan como principales ideas metodológicas iniciales de la educación abierta las siguientes: la idea de actividad, que exige una comprensión de la educación en el contexto de la inclusión integral del individuo en la actividad social: práctica social, ciencia, educación, etc.; la idea de consistencia, que considera la inclusión integral del individuo en el sistema de vida; la idea de reflexión, que consiste en el hecho de que se proporciona la posibilidad de utilizar todas las formas de influencia informativa en una persona, sobre la base de la cual se lleva a cabo la formación de una personalidad creativa. La organización del aprendizaje abierto contribuye en gran medida a la individualización de la formación y brinda a los estudiantes la oportunidad de un ritmo individual de consideración material, una elección independiente de un camino de aprendizaje, contribuye a un aumento en la independencia y objetividad del control por parte del maestro; proporciona la libertad de elegir el momento y el lugar de la formación, así como animar a los investigadores educativos a buscar y desarrollar tecnologías de enseñanza innovadoras. El aprendizaje abierto refleja la unidad de los componentes tecnológicos, pedagógicos y de contenido de un proceso pedagógico holístico. Los elementos estructurales individuales (objetivo, contenido, método (tecnología), forma y resultado) de la didáctica no se consideran de forma aislada, por separado, sino que se integran entre sí, se generan unos a otros. Será imposible en la práctica real utilizar sus elementos individuales de forma aislada, como suele ser el caso de la didáctica clásica. En este sentido, la teoría es armoniosa, lógica y completa. Usándolo en la práctica, no permitirá que el maestro deje caer uno de sus elementos, reemplazándolo con otro. Tal construcción puede ser la clave para el éxito de la educación abierta en el presente y en el futuro.

**Palabras clave:** educación abierta, sistema didáctico, individualización de la educación, tecnologías de la información, espacio educativo internacional.

## 1. Introduction

Open education today is being developed in many countries of the world as a new form of education in the emerging information society. In Ukraine, the development of the open education

system is at an early stage. The use of open learning technologies is carried out mainly as part of traditional education.

In the context of the spread of the coronavirus, distance learning and the use of certain computer technologies in teaching children and adults are widely used as a forced measure in the activities of educational institutions of the country. The society's attitude towards innovations is ambiguous: from acceptance as a panacea for all socio-economic and psychological-pedagogical problems, to blocking innovations on the part of teachers and parents who are not prepared for new functions and responsibilities in the field of education.

For these reasons, there is a need to create a "new didactics" or, more precisely, new didactics that meet both the realities of the educational situation in modern Ukraine and the specifics of the emerging information society.

In recent years, didactic scientists have been actively working on solving these issues, going far beyond their research field and interacting with colleagues in other human sciences. This intense research activity stretched out over a decade and a half and gave rise to a number of models of modern didactics. These "images of didactics" are represented by several research teams led by famous scientists (Bondar, 2005; Savchenko, 1997; Osmolovskaya, 2014)

The didactics that embarked on this search was called new or digital didactics, since the current generation is already immersed in the virtual world. Traditional didactics was based on one concept, while modern didactics was based on many pedagogical concepts.

As V. Okon (1990) emphasizes, learning is a multilateral process that includes various elements of its various directions. This versatility of teaching allows us to use for each degree of the educational system, for each specific learning situation, in a peculiar way, the possibilities and individual psychological characteristics of both students and the teacher himself, the advantages of one direction or another.

The traditional teaching system was based on the linear principle of presenting the content of the educational program and constructing curricula, the use of appropriate educational technologies, which is implemented through classroom and lecture-seminar forms of organization. It assumes that pupils and students study the subjects of the educational program strictly sequentially in the established amount in specific terms in terms of a group or audience.

## **2. Methodology**

The information society often demands a non-linear way of teaching. It is for this that special teaching methods have been developed. Methods that form a person's ability to perceive the right information in the right place and at the right time. As elements of a non-linear learning process, the organization of the learning process can be considered, which includes: classless course preparation, involving block-modular construction of courses, content and time modules; a mobile (dynamic) schedule that allows for the rational use of study time and a differentiated approach to the distribution of the training load of the teaching staff. The teacher guides the educational and cognitive activity of students, while simultaneously stimulating their independent work,

activity and creative search, which become system-forming components of the educational and cognitive activity of students.

One of the most important features of the modern educational situation is the expansion of the capabilities of the educational information environment, in which the education sector will function now and in future, which leads the educational process out of the traditional classroom system and is accompanied by the emergence of new forms of its organization. It is noted that the formation of the professional competence of a tourism specialist takes place in search of a new paradigm in the socio-cultural environment (Pletsan, 2018), and the role of creativity for the preservation of historical and cultural heritage remains unchanged (Pletsan et al., 2021).

The emergence of an open education system is associated with the growing interest of the population in obtaining an educational product of a higher level and dissatisfaction with the implementation of educational needs through traditional education.

Modern trends in global development are associated with the formation of a democratic, open society. In the field of education, the ideas of openness are embodied in the open education system, which is created under the influence of current changes taking place in society, and due to its high dynamism, it fully corresponds to modern social realities.

In recent years, with the development of global processes in the field of education, individual publications began to appear in periodicals, which reflect the problems of forming a single international educational space (Scott, 2000; Osterwarld Konrad, 2001; Afanasyev, 1981; Grebnev, 2004; Smirnov, 2004, etc.).

In the pedagogical science of countries, there is still no single definition of open education. Open refers to distance education. The most commonly used concepts are "e-learning", "e-education", "open education", "web-training".

Today open education is understood in different ways, such as an open social system that adequately responds to changes in the educational needs of the population; as a social institution regulating free access to scientific information and mastering a complex of professional knowledge throughout a person's life; as an education that provides a variable choice of forms and methods of teaching, etc.

In our opinion, in the future, some integral, synthetic form can be ideally considered, towards which, during modernization and development, all currently known forms of education, including modern preschool education, will strive evolutionarily. This form is conceived as some kind of ideal that absorbs all the best of the existing forms in the present and which may appear in the future. This is our understanding of an open education (OE).

The pedagogical space of the open education system reflects the following principles. In the open education system, in the preparation and implementation of training, in which each student has the opportunity to choose the goals, content, method, place and time of training, and training organizations have the opportunity to go different ways in the provision of educational services that meet the requirements of the labor market and social needs.

The essence of open education lies in its general availability to all categories and segments of the population, regardless of age, race, social origin and financial well-being with progressive digital technologies.

The open education system is a set of didactic, technical, informational and organizational approaches that implement the principles of open education.

The goal of open education is to prepare learners for full and effective participation in public and professional fields in the information society; the formation of an integral (self-conscious) personality in the process of its socialization.

The subject of open education can be defined as the interaction and connections of the following components of the system: a specific social personality — an educational institution — social practice — science — communication. (Khayruddinov, 2019: 20-25).

With this approach, it becomes clear that open education is a form and method of organization (or self-organization) when an educational institution, being distributed and open, creates conditions for the integral inclusion of a person in social practice, education, science and communication.

In open education, the child is busy constructing and managing open situations. Fundamentally, by an "open situation" we mean an independent effective child's action, the algorithm of which is not predetermined, the child himself determines his position in it, chooses the strategy of behavior and the product of the activity that will be presented as an educational result (Babych, 2013).

Open education leads to the following understanding of openness such as, the educational system is "open" to the external environment, i.e. exchanges various resources with it (information, human, material). The openness of the training content (information resource) is manifested in the following aspects: a) the design of educational programs, taking into account the most modern ideas about the subject of training; b) creation of didactic and methodological conditions for the introduction of content into the educational process on the part of students; c) prompt exit (if necessary) outside the scope of a meaningful standard, curriculum, meaningful lesson plan (for example, Internet search and use of the information obtained directly during the lesson).

The educational system can also exchange material and technical resources with the environment (use of equipment, buildings, premises of external organizations; field, etc. classes). The main flow of resource exchange is directed from the external environment to the educational system; the reverse flow in significant volumes is possible only in the systems of higher and postgraduate education, when students really affect the external environment already in the learning process. This side of "openness" can be called social and pedagogical interaction.

The main principles are: consistency, accessibility, interactivity, variability, flexibility, independence, communication, feedback, non-competitive admission to an educational institution, open planning, freedom of choice of time, pace, place of study, free development of individuality, etc.



The basis of open education should be formed by its philosophy, which makes it possible to have a holistic vision of educational systems, their advantages and disadvantages; clarifying the main holistic guidelines; forming an integrative idea of education as a social institution, the kind of spiritual production and reproduction, the sphere of culture and one of the most important spheres of socialization of the individual.

The following can be taken as the main initial methodological ideas of open education:

- the idea of an activity, according to which education cannot be reduced to any particular type of educational process, for example, to the assimilation of materials, the expansion of knowledge, skills, etc. On the contrary, this idea requires an understanding of education in the context of the integral inclusion of the individual in social activity: social practice, science, education, etc.;
- the idea of consistency, according to which the educational model cannot consider in isolation the educational process, production activities and communication of people, but, on the contrary, should consider the integral inclusion of the individual in the system of life;
- the idea of reflection, consisting in the fact that it is possible to use all forms of informational influence on a person, on the basis of which a creative personality is formed (Khayruddinov, 2019).

The creation of an international open education system is carried out by imparting the properties of openness to national educational systems and their integration into a single international educational space. The formation of an open education system implies, in fact, the formation of an open educational space that combines the resources of the education system with the latest information technologies, introducing open learning technologies into practice. The main thing for these technologies is to provide training regardless of the presence of students in an educational institution.

Openness makes the education system able not only to perceive innovative tendencies from the outside, from a changed society, but also to meet this external influence both by internal needs and the ability to change the existing, but outdated forms of teaching academic disciplines and managing the educational process. These internal needs play a decisive role in the development and consolidation of innovative trends in education.

The basis of the educational process in the open education system is the purposeful, controlled, intensive independent work of the student, who can study in a convenient place, according to an individual schedule, with the availability of special teaching aids, while maintaining, however, the possibility of personal contact with the teacher.

Openness initiates the design of new educational spaces and environments based on network interaction, the combination of virtual reality technologies with the capabilities of the Internet. The organization of open learning greatly contributes to the individualization of education and provides an opportunity for students to have an individual pace of material consideration, an independent choice of a learning path, contributes to an increase in the independence and objectivity of teacher control; provides the freedom to choose the time and place of training, as

well as encourages educational researchers to search and develop innovative teaching technologies.

Open learning reflects the unity of the technological, pedagogical and content components of a holistic pedagogical process. Individual structural elements (goal, content, method (technology), form and result) of didactics are not considered in isolation, separately from each other, but, are built into each other, generate each other. It will be impossible in real practice to use its individual elements in isolation, as is usually the case with classical didactics. In this regard, the theory is harmonious, logical and complete. Using it in practice, it (theory) will not allow the teacher to "throw away" one of its elements, replacing it with another. Such a construct can be the key to the success of open education in the present and in the future.

### **3. Methodology**

The methodology of research involve a literature review of the concept of open education, its purpose, and subject. This helps establish a theoretical framework for the study. The study analyze the integration of the goal, content, method (technology), form, and result elements of didactics into each other to generate a harmonious, logical, and complete theory. The literature review was conducted by searching academic databases, such as Google Scholar, Web of Science, and Scopus, for relevant peer-reviewed articles and books related to open education and the didactic system in Ukraine. The search was conducted using a combination of keywords, such as "open education," "distance learning," "e-learning," "didactic system," "teaching principles," "learning outcomes," and "Ukraine." The inclusion and exclusion criteria were also set to ensure that only relevant studies were included in the review.

After the initial search, the identified studies were screened based on their titles, abstracts, and full texts to select the relevant ones. The selected studies were then analyzed and synthesized to identify the key themes and issues related to the didactic system of open education in Ukraine. The literature review process also involved critically evaluating the quality of the identified studies, including the methods used, the sample sizes, and the validity of the findings. The findings from the literature review were used to inform the research questions and hypotheses of the study and to provide a theoretical framework for the study. The gaps identified in the literature also guided the selection of research techniques and the data collection process to ensure that the study addressed the key issues and challenges facing the didactic system of open education in Ukraine. Overall, the literature review process was a critical part of the study, and it ensured that the research was grounded in the existing knowledge and provided a solid foundation for the study's findings and conclusions.

The article discusses the main initial methodological ideas of open education, which include the ideas of activity, consistency, and reflection. These ideas are based on the principle of induction, which involves drawing general conclusions from specific observations or experiences. In this case, the observations and experiences of students and teachers in open education are used to generate ideas about the system as a whole.

The article also discusses the integration of the goal, content, method, form, and result elements of didactics into each other, which generates a harmonious, logical, and complete theory. This

integration is an example of deductive reasoning, which involves drawing specific conclusions from general principles. In this case, the general principles of didactics are used to inform specific aspects of open education, such as goal-setting, content selection, and teaching methods. Overall, the article uses a combination of inductive and deductive reasoning to explore the concept of open education and its potential for success in Ukraine. Inductive reasoning is used to generate initial ideas and insights, while deductive reasoning is used to apply general principles to specific contexts and situations.

In addition the study combined both qualitative and quantitative data collection methods. The quantitative data collection involved administering surveys to students and teachers in open education programs in Ukraine. The surveys were designed to collect data on the participants' demographic characteristics, experiences with open education, and perceptions of the didactic system of open education in Ukraine. The survey data were analyzed using descriptive statistics, such as frequencies and percentages, to provide a quantitative overview of the key issues and challenges facing the didactic system of open education in Ukraine. The qualitative data collection involved conducting semi-structured interviews and focus groups with students and teachers in open education programs in Ukraine. The interviews and focus groups were designed to collect data on the participants' experiences and perceptions of open education, their views on the didactic principles

Finally, the research conclude with a discussion of the potential of open education as a key to success in the present and future, including the challenges and opportunities that lie ahead for the system.

#### **4. Results and discussion**

An analysis of the psychological and pedagogical literature and educational practice of the country showed that today, within the framework of the traditional education system, new forms of organizing the educational process are being implemented, aimed at using the capabilities of the information educational environment (modular learning, distance learning, classless coursework, teaching in open studios, using network communication tools (tele-conferences, audio-video conferences, web forums, chats, blogs; internet portals; wikis; electronic mailing lists; white boards; mental maps, etc. (Kameneva, 2019).

The general characteristics of the new forms are openness, focus on the use of the educational information environment of the school, changes in the connections of the basic didactic relationship between teacher and student, teacher and the content of educational material, teacher and educational content, teacher, student and information environment of the school.

However, as our research in the cities of Odessa, Mykolaiv and Kherson regions of Ukraine shows, the use of ICT in teaching did not lead to essential changes in the learning process.

According to the level of use of virtual education systems innovative educational technologies, three areas can be distinguished:

1. Educational institutions, whose all work is based exclusively on Internet technologies.

Everything is carried out through the worldwide network: the choice of a training course, its payment, classes with students, the transfer of test assignments and their verification, as well as the passing of intermediate and final exams. Such training centers are called virtual universities, but there are not so many of them yet. This direction is at the initial stage of active implementation, but the advantages of its use are undeniable.

2. The most numerous areas are educational institutions that combine various traditional forms of full-time, part-time and distance education with technological innovations on the Internet. For example, some higher educational institutions are converting part of their training courses into a virtual form, namely, they create language classes for teaching foreign languages without a teacher, etc. In turn, distance education centers, although they rely on Internet technologies, are at the same time do not give up the practice of conducting face-to-face examination sessions. In any case, only part of the process will be computerized.
3. Training centers for which the Internet serves only as an internal communication medium. They can create business card sites for themselves that post curriculum information (plans), seminars, student timetables, university news, photographs and virtual tours, and library catalogs. In fact, this is just an advertisement for traditional higher education institutions, which in itself does not carry any academic load.

In the new edition of the Law of Ukraine "On Education" emphasized that "Citizens of Ukraine have the right to free education in all state educational institutions, regardless of gender, race, nationality, social and property status, character of work, ideological convictions, membership in parties, attitudes towards religion, religion, health status, place of residence and other circumstances".

An important innovation is the legalization of various forms of education. In particular, the law establishes the institutional, individual and dual forms of education. Forms of education such as home, network, and external education become equal in legal terms with classical institutional forms. This innovation allows for individualization of the educational process, which gives people a real alternative to receive a quality education. Distance education in Ukraine has existed for over fifteen years and has many supporters.

The document also identifies three forms of education: formal (official raising the level of education), informal (raising the level outside the official system of advanced training – trainings, circles, courses) and informal (self-education), which creates the basis for the introduction of a fundamentally new form of information society – open learning within the framework of a single educational space in Ukraine and other countries of the world as a whole.

Ukraine takes an active part in the creation of a single international educational space. Since the end of the 20th century, the country has undergone extensive modernization of the education system, aimed at its democratization and development "as an open state and public system."

Along with the gaining momentum of integration processes aimed at promoting national education towards openness to the European community, an information-open education system using distance learning technologies is emerging in Ukraine.

The high social significance of education both for the whole society as a whole and for each person individually, determines the urgent need for a clear designation of theoretical, conceptual and socio-organizational problems of reforming Ukrainian education and an effective search for ways of their practical solution.

All this requires the transition of the didactic teaching system to a higher level of complexity, the organic inclusion of innovative approaches to teaching, significant changes in the purpose of teaching and relations between the participants in the educational process, the use of new organizational forms, methods and innovative pedagogical technologies (Kameneva, 2019).

That is why the question of the formation of a high-quality and high-tech open education system is currently becoming acute.

## **5. Conclusions and research prospects**

Today it is becoming more and more obvious that the classical model of education has actually exhausted itself and it no longer meets the requirements for educational institutions and education by modern society and production.

If earlier a student went to school for knowledge, today knowledge has ceased to be an end in itself. To know does not mean to be ready to use this knowledge. People began to acquire education outside the school walls, through various influences from the media and communication with peers from other educational institutions, regions and countries. This position is reflected in the thesis: from teaching to learning – as an independently organized person and selectively directed educational activity, in its various types and forms.

In pedagogical science, there is still no single definition of open education. The following features are distinguished: openness of education to the future; integration of all methods of human exploration of the world; development and inclusion in the processes of formation of synergistic ideas about the openness of the world, the integrity and interconnectedness of man, nature and society; free use of various information systems, which today play no less a role in education than direct communication with a teacher; personal orientation of the learning process; the psychological attitude of the student to the super task. In this connection, education is in the process of constant search and change, all the time forming new guidelines and goals; changing the role of the teacher; the transition to joint actions in new non-trivial situations in an open, changing, irreversible world.

The educational system of Ukraine has a huge scientific, cultural and spiritual potential and opportunities that can ensure its further progressive development based on the principles of open education. At the same time, new means of information and communication should not interrupt, cut off cultural values and traditions of national education, but continue and enrich them, open up new opportunities for obtaining quality education.

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## Introduction of interactive teaching methods in modern schools

### Introducción de métodos de enseñanza interactivos en las escuelas modernas.

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### Abstract

Modern society puts forward new challenges for education, one of which is training people who are able to express critical opinions, find a way of communication in a new territory, who effectively establish new connections in a fast-moving reality. Intension, activity, independence, creativity, the ability to adapt to rapid changes – these personality traits are becoming the most important at the current stage of developing literature, and their formation requires using new approaches to the process of teaching literacy. Therefore, the purpose of the academic paper is to clarify the

development of using innovative, non-standard, as well as critical thinking methods of teaching and learning at modern schools. In the course of the research, the following methods were used and applied, namely: analysis, synthesis, generalization, explanation and qualification of data. By the way, such outstanding modern and foreign scientists as O. Pometun, L. Pyrozhenko, as well as V. Bepalko, V. Monakhova paid particular attention to studying the issue of interactive learning methods and made a significant contribution in this direction. They explain innovations in education as an opportunity for interaction, being in the mode of conversation, dialogue, action. Moreover, their studies show that interactive learning makes it possible to significantly increase the percentage of learning the material, as it affects not only the student's consciousness but also his feelings. The development of interactive learning elements can be found in the scientific works of V. Sukhomlynskyi, the works of innovative teachers of the 70-80s (V. Shatalov, E. Ilyin, S. Lysenkova, Sh. Amonashvili, etc.), the theory of developmental learning.

**Keywords:** Education, the future generation, modern schools, the evolution of education, innovative methods.

## Resumen

La sociedad moderna plantea nuevos desafíos para la educación, uno de los cuales es formar personas que sean capaces de expresar opiniones críticas, encontrar una forma de comunicación en un nuevo territorio, que establezcan efectivamente nuevas conexiones en una realidad que se mueve rápidamente. La intensidad, la actividad, la independencia, la creatividad, la capacidad de adaptarse a los cambios rápidos: estos rasgos de personalidad se están convirtiendo en los más importantes en la etapa actual del desarrollo de la literatura, y su formación requiere el uso de nuevos enfoques para el proceso de alfabetización. Por lo tanto, el propósito del artículo académico es aclarar el desarrollo del uso de métodos de enseñanza y aprendizaje innovadores, no estándar y de pensamiento crítico en las escuelas modernas. En el transcurso de la investigación se utilizaron y aplicaron los siguientes métodos, a saber: análisis, síntesis, generalización, explicación y calificación de datos. Por cierto, destacados científicos modernos y extranjeros como O. Pometun, L. Pyrozhenko, así como V. Bepalko, V. Monakhova prestaron especial atención al estudio del tema de los métodos de aprendizaje interactivo e hicieron una contribución significativa en esta dirección. Explican las innovaciones en educación como una oportunidad para la interacción, estando en el modo de conversación, diálogo, acción. Además, sus estudios muestran que el aprendizaje interactivo permite aumentar significativamente el porcentaje de aprendizaje del material, ya que afecta no solo a la conciencia del alumno sino también a sus sentimientos. El desarrollo de elementos de aprendizaje interactivo se puede encontrar en los trabajos científicos de V. Sukhomlynskyi, los trabajos de maestros innovadores de los años 70 y 80 (V. Shatalov, E. Ilyin, S. Lysenkova, Sh. Amonashvili, etc.), la teoría del aprendizaje evolutivo.

**Palabras clave:** Educación, la generación futura, escuelas modernas, la evolución de la educación, métodos innovadores.

## 1. Introduction

Modern society puts forward new challenges for education, one of which is training people who are able to express critical opinions, find a way of communication in a new territory, who effectively establish new connections in a fast-moving reality. Intension, activity, independence, creativity, the ability to adapt to rapid changes – these personality traits are becoming the most



important at the current stage of developing literature, and their formation requires using new approaches to the process of teaching literacy.

In this regard, the issue of using innovative, non-standard, as well as developing critical thinking, literacy styles is of particular importance.

Therefore, the Concept of the New Ukrainian School (Hrynevych, 2016) defines the importance of using tutoring styles. In the tutoring process, styles are used that teach students to make their own choices, connect what has been learned with practical life, and take into account the individuality of the education seeker.

Ultra-modern seminaries widely implement interactive learning styles of elementary school students in order to achieve significant effective results in the process of assimilating knowledge and its practical use. Interactive styles in the primary school are considered a way of organizing the students' educational and cognitive workload, ensuring their assimilation of the learning content and the achievement of literacy claims during the performance of certain tasks.

Using interactive styles and exercises in tasks and outside lessons helps students acquire new knowledge, obtain vital skills and abilities in an intriguing and active educational manner, contributing to the formation of important skills and abilities and developing an cross-cutting character, defined in the State Standard of Primary Education (Pidgurska et al., 2023).

Interactive literacy is a special form of joint efforts aimed at creating comfortable literacy conditions in which every student feels successful and intellectual. The educational process takes place in the conditions of constant, active interaction of all students and the teacher.

Interactive literacy is a special form of joint effort aimed at creating comfortable literacy conditions in which every student feels successful and intellectually engaged. The educational process takes place in an environment of constant, active interaction between all students and the teacher.

The purpose of the academic paper is to reveal the meaning and features of using interactive learning methods at the lessons in educational establishments, as well as to investigate, clarify and justify the features of their application and effectiveness.

## **2. Literature review**

Scientists and educators have noted that interactive learning styles and forms of literacy are most effective when used in the educational process for acquiring knowledge, developing skills and abilities and forming individual paces of the student's personality (Nuthall, 2012; Rohrer & Pashler, 2012; Wininger et al., 2019; El-Sabagh, 2021).

The pedagogical dictionary gives the following description: "Interactive literacy (from the Latin Interaction - trade) - literacy based on the interaction of students with the educational territory, the educational sphere, which serves as a sphere of access to knowledge" (Honcharenko, 1997).

One of the abstract principles of establishing the New Ukrainian School is the transition from “filling” the child with knowledge to competent education. Accomplishing this task is, to a great extent, related to using similar styles that encourage comparison, bracketing, analysis, visualization of the results of one’s conditioning, etc. Similar styles are interactive learning styles of young students (Kostanjevec et al., 2018).

Interactive styles are styles of teaching literacy in the process of which the student and the teacher are in the mode of discussion, and dialogue with each other (Shevchuk & Fenrich, 2005). This is cooperation, collective teaching of literacy teacher-student, student-student (Guerra & Guevara, 2017). At the same time, the teacher and the student are equal subjects of education. Interactive commerce excludes the dominance of one side of the educational process over another and one opinion over another (Pometun & Pyrozhenko, 2011). During such communication, students learn to be popular, communicate with other people, think critically and express well-founded opinions (Lau et al., 2020).

The purpose of interactive interaction includes (Kovalova et al., 2016):

1. Creation of conditions for involving all participants in learning the process.
2. Providing every education seeker with the opportunity to understand and reflect on what he knows and thinks.
3. Creating an atmosphere of work, interaction, and cooperation.
4. Providing comfortable learning conditions that would give each participant a sense of success, ability, intellectual security, and significance.
5. Productive learning, constant interaction with life, application of acquired knowledge in practical and everyday activities (Use of interactive teaching methods).

Being in interactive commerce, the student and the teacher are equal, original subjects of the educational process (İlçin et al, 2018). They consistently define the goal of loading, the object, the subject, the means of loading, and the training tasks. During such a joint hunt, thoughts, knowledge, and work styles change, as a result of which reflection and evaluation of the achieved results take place (Shaw et al., 2015). Education seekers are aware of what they have achieved in a certain position of knowledge, what they know, how they express their emotional attitude to the object of literacy, how they maintain evaluative judgments, and how their particular experience of creative efforts has been changed (Harackiewicz & Hulleman, 2010).

Interactive styles cannot be “art for art’s sake”. They should easily implement the purpose of the task; they should simply lead to the expected outcomes. The true essence of interactivity introduces an element of unpredictability. Therefore, the result is, on the one hand, the influence of drugs on the part of the manager (trainer), and on the other hand, it is the result of a whole complex of reactions that occur during the performance of the task. A study group is not just a collection of individuals for whom the leader conducts classes thanks to these styles; the group creates a new creative educational quality.

### 3. Methodology

The study was based on classical methods of pedagogical science. To carry out the theoretical analysis, a comprehensive review of the literature was conducted to identify the different interactive teaching methods that have been introduced in modern schools. The search for relevant articles was conducted using various academic databases such as Google Scholar, JSTOR, and Scopus. The articles were identified using specific keywords such as "interactive teaching methods," "modern schools," "technology in education," and "active learning." The articles were screened based on their relevance to the research question and their quality, as assessed by their impact factor, citation rate, and peer-review status.

For the practical observations, we conducted a case study of a modern school that had introduced interactive teaching methods in its curriculum. The case study involved observation of classroom activities and interviews with teachers and students. The school was selected based on its reputation for being innovative in the use of technology in education. The observations were carried out over a period of two weeks, during which time we observed the teaching and learning activities in various classrooms and interviewed several teachers and students.

To ensure the rigor of the study, we used data triangulation to cross-validate the findings from the different data sources. The data sources included observations, interviews, and documentation such as lesson plans and student work samples. The triangulation involved comparing and contrasting the findings from the different sources to identify any discrepancies or inconsistencies. We used this method to increase the credibility and reliability of the study's findings.

### 4. Results

Interactive styles of teaching literacy are interesting and productive for children. They develop creative abilities of schoolchildren, their cognitive interests. Using interactive tutoring styles in tasks, an opportunity arises to get rid of the complications of students with a low level of academic achievement. Educational material can intrigue schoolchildren and thereby give them the joy of their own success. While applying such tasks, children persistently argue, communicate, and try to prove their point of view. Schoolchildren learn to work in a group, and also develop their communication skills.

The integration of studying at NUS with the help of interactive styles involves modeling life situations, using joint games, working out a common problem based on the analysis of circumstances and the relevant situation, etc. Interactive styles of teaching literacy are generally divided into two groups – group-based and advanced. These styles are used in different tasks, stages of a particular task, with different claims and are the most widely used in a particular moment.

Group styles include: "Working in dyads", "Working in threes", "Alternating threes", "Carousel", "Working in small groups", "Aquarium".

The essence of the interactive system "Working in dyads", which is actively used at NUS, is that schoolchildren work in pairs, completing tasks. Working with brackets requires the exchange of ideas and allows you to quickly perform exercises that are time-consuming or nonsolvable under normal conditions (promoting an event, essay, information in general, repeating tasks, events, etc., polling each other, polling a friend). After that, one of the friends reports the results to the class.

The system "Working in threes" is a complex work in dyads. Conducting a discussion, exchanging opinions, summarizing or, on the negative side, distinguishing different opinions in threes is stylish.

"Carousel" is one of the infamous interactive styles used in color assignments in elementary school. Students sit in two circles — inner and outer. The inner circle is immovable, and the outer circle moves. There are two options for using the system: for discussion (there are "paired arguments" with each other, and each member of the inner circle has his own, unique justification), or for information exchange (students from the outer circle collect data while moving).

The interactive system "Working in small groups" involves the allocation of seats. A "speaker", the leader of the group, follows the rules during the discussion, reads the task, determines the speaker, and encourages the group to work; a "clerk" keeps records of the work results, helps in summarizing the results and their presentation; the "mediator" watches the time, prompts the group to work; the "speaker" easily expresses the opinion of the group, reports on the results of the group's work.

There is an opportunity to choose an expert group from stronger students. They work alone, and when the results are released, they review and condense the information.

In addition to the interactive styles listed below, the system "Aquarium" is prominent in interactive literacy and commerce. In this system, one micro group works independently in the center of the class, and presents the result after discussion; the rest of the groups listen without being watched. After that, the groups of the visiting circle assess the group's performances and their own achievements.

The most famous styles of teaching primary literacy are as follows: "Big Circle", "Microphone", "Rules without boundaries", "Brainstorming", "Mosaic".

"Big Circle" and "Microphone" are relatively similar styles of interactive literacy. The essence of the "Big Circle" system is that students sit in a circle and take turns speaking on a particular issue. The discussion continues as long as there are people willing to speak. The teacher can take the floor after the discussion.

And the "Microphone" system is, in fact, a kind of big circle. Students quickly take turns talking about the problem, passing an imaginary "microphone" to each other.

A good comprehensive interpretation of a big circle is the "Rules without boundaries" system. The learner's response is the persistence of a raw judgment, similar to "one can draw the following conclusion", "I figured that out".

"Brainstorming" is a well-known interactive system, the essence of which is that all students take turns expressing absolutely all, even erroneous, opinions about a problem raised. Expressed opinions are neither discussed and nor condemned until the end of the conversation.

"Mosaic" is a system that combines both group and advanced work. Small groups perform colorful tasks; then they are reformed so that each newly created group has experts on every aspect of the problem discussed (for instance, each primary group anatomized one poem by T. Shevchenko; after reforming the groups, the first new group should embody the motifs of all the studied runes, the alternative – ideological load, the third – images, the fourth – form).

Previously accumulated experience in Ukraine and abroad convincingly proves that interactive styles contribute to intensifying and optimizing the educational process. They provide the students with the opportunity:

- to lubricate the process of assimilation of knowledge;
- to analyze educational information, find imaginative ways to assimilation of educational material;
- to learn to formulate one's own opinion, express it correctly, justify one's point of view, argue but not fight;
- to pretend different social situations and to enrich one's own social experience through additions to different life situations;
- to listen to another person, to admire an essential opinion, to strive for dialogue;
- to teach to form connections in a group, to determine one's place in it, to avoid conflicts, to be decisive, to strive for negotiations;
- to find a common result of problems, to develop the skills of designing, independent work, and performing a creative workshop.

The following principles of interactive literacy are distinguished:

Principle of loading – to achieve the set claims, each student should persistently participate in the communication process and persistently interact with others.

The principle of open feedback – giving group members an opportunity to express their thoughts, ideas or calls for tasks set. Group members learn how other people perceive their manner of communication, acceptable style, and behavioral characteristics thanks to the constant use of feedback.

The principle of experimentation – involves ensuring students' active search for new ideas and ways of solving the tasks. This principle is very important both as an example of a behavior strategy in real life and as an impetus for the development of creativity and individual initiative.

The principle of trust in communication – it is precisely that the particular association of group space during tasks aims at the common fashion of placing student and teacher in a circle facing each other to change the established positions of scholars and ideas about how classes should be conducted and organized.

The principle of equivalence of positions – this means that the teacher does not seek to dump learning on students, but acts together with them and on an equal footing. In turn, each student has the opportunity to act as an organizer and a leader.

Practicing skills includes the following stages:

- explanation of the action algorithm to the participants;
- demonstrating an example of how to perform these actions;
- working out the sequence of actions in pairs (small groups);
- demonstration of the work of one or two pairs/groups (optional);
- support, confirmation of participants' successes;
- consolidation of experience through homework, during other classes.

A trainer or trained persons can conduct the demonstration of skill; sometimes it can be replaced by a video demonstration.

Once the skills are improved and visually demonstrated, the other participants should be given the opportunity to alternately apply the particular skill. This can be done in twos, threes or small groups so that each student has time to practice.

After doing the exercise, the coach offers the actors to kindly and encouragingly note the advantages and disadvantages that they noticed while practicing the skill. He also participates in the discussion; as a rule, he completes it, supplements and summarizes the conclusions of the actors.

In order to consolidate the skill, one can give a task to apply the skill during the next week in different situations and analyze one's behavior and its results.

The whole class can hold conversations. Moreover, they are much more effective in groups, especially if the class is large and time is limited.

Group discussion maximizes the efforts and contributions of each party. Discussion helps students clarify their ideas, and comprehend passions and positions. Discussion in groups makes it possible to learn more about each other. It stimulates the free exchange of ideas, and increases the responsibility for students to understand better and pay attention to the passions and positions of others. Working in groups develops the skills of active listening, empathy, cooperation, confident gesture and endurance.

The method "Peer-to-peer" is peer-to-peer teaching (for instance, teenagers teach their peers). This approach is most effective in the youth environment. After all, teenagers have great authority among their peers. Similar instructors have similar life skills, and common interests, and

approximately the same age. Thus, they are often more respected and their opinions are taken into consideration.

The cycle of equal training has three stages:

- The first stage is the selection and training of instructors.
- The second stage includes training by trained instructors in their target groups.
- The third stage includes monitoring of instructors' activity and additional selection of new instructors.

Volunteer teachers conduct classes in interactive styles, in particular, use games with participation and analysis of life situations.

For instance, the teacher of the basics of health can involve specially trained scientists from among scientists of universities or scientists of pedagogical universities to conduct particular classes. Assemblies from among the students of the class can also help the teacher conduct visual demonstrations, organize joint games, write down proposals during brainstorming, carry out tests and count the opinions of scientists, etc. (Blyth, 2018).

In order to effectively help the teacher, other teachers must undergo trainings. These trainings will allow them to learn to hear accurately, understand the passions of other personalities, encourage and support them to express their opinion, participate in conversations. When involving peer instructors, the teacher should make sure they are properly inclined, defining their role and tasks in the task, show how they coped with them after completing it.

## 5. Discussion

Scientists and educators have noted that interactive learning styles and forms of literacy are most effective when used in the educational process for acquiring knowledge, developing skills and abilities and forming individual paces of the student's personality.

While applying interactive technologies, students can:

- analyze educational information, creatively approach the study of educational material and, thus, make the assimilation of knowledge more accessible;
- learn to formulate one's own opinion, express it correctly, prove one's position, argue and discuss;
- learn to listen to another person, respect an alternative opinion;
- simulate various situations, enrich one's own social experience through inclusion in various life situations;
- learn to build constructive relationships in a group, avoid conflicts, resolve them, seek compromises, strive for dialogue and consensus;
- improve and develop the skills of project activity, independent work, fulfillment of creative works.

The studies conducted by the National Learning Center (Maryland, the USA) in the 1980s show that interactive literacy can dramatically increase the chance of mastering the material, forasmuch as it affects not only the student's knowledge, but also his desire and will.

The results of these studies are reflected in the figure entitled "Educational unit":

- Lecture-5%
- Reading-10%
- Visual and auditory perception-20%
- Demonstration-30%
- Group Discussion-50%
- Practical exercises-75%
- Teaching others (practical) -90%

The summary scheme shows that the lowest results can be achieved under conditions of unstable literacy (lecture - 5, reading - 10, visual and auditory perception - 20, demonstration - 30), and the highest - under conditions of interactive literacy (group discussion - 50, practical classes - 75, teaching others or direct knowledge operation - 90). These are average stationary data. Therefore, the results may differ in individual cases, but on average every teacher can trace this pattern.

## 6. Conclusions

The analysis of cutting-edge pedagogical literature led to similar conclusions that the special value of interactive learning styles lies in the fact that students learn effective cooperation and optimization of the educational process.

On the other hand, interactive styles of literacy are part of orientational literacy, since they contribute to the socialization of the being, awareness of a person as part of a group, one's part and opportunities. The teacher acts only as an educator and annotator of students' results in the process of interactive literacy training. Students perform the main work alone, relying on their own experience of trading in groups, as well as on the ability to express their own opinion and analyze the classmates' viewpoints.

In addition, using interactive styles allows for achieving such an atmosphere in the classroom that stylishly promotes cooperation, understanding and friendliness, as well as competent communication. Subsequent investigations are planned to be conducted in the direction of further thorough study of the issue of "functioning of interactive learning styles in practice".

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## **The innovative structure of physical education lessons for students in romanian educational institutions (late XIX - early XXI Century)**

### **La estructura innovadora de las lecciones de educación física para estudiantes en instituciones educativas rumanas (finales del siglo XIX - principios del siglo XXI)**

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### **Abstract**

The research aims to establish the regularity of promoting the implementation of the innovative structure of PE lessons for students in Romanian educational institutions (late XIX - early XXI century). As a result of the study, it was found that students of educational institutions noted that coordination exercises (98.3%), game and competitive exercises (95.5%), breathing exercises (94.1%), rhythmic exercises (93.8%), exercises in various and imitation walking (92.4%), etc. have a positive impact on the development of physical culture in students. It was found that teachers most often use the following game exercises in the innovative structure of physical education lessons: "One and Two" (95.6%), "Do this, I do that!" (95.5%), "Crabs and Shrimps" (89.7%), "Train" (89.6%), "Chapel Hijack" (89.2%), "Boat" (89%), etc. It has been found that teachers use cooperative group learning (89.7%),

interactive methodological and organizational complex (89.2%), and multimedia technologies (89%) in PE lessons.

**Keywords:** innovative lesson structure, physical education, students, educational institutions, Romania.

## Resumen

La investigación tiene como objetivo establecer la regularidad de la promoción de la implementación de la estructura innovadora de lecciones de educación física para estudiantes en instituciones educativas rumanas (finales del siglo XIX - principios del siglo XXI). Como resultado del estudio se encontró que los estudiantes de instituciones educativas señalaron que los ejercicios de coordinación (98,3%), ejercicios de juego y competitivos (95,5%), ejercicios de respiración (94,1%), ejercicios rítmicos (93,8%), ejercicios en varios y la imitación de caminar (92,4%), etc. tienen un impacto positivo en el desarrollo de la cultura física en los estudiantes. Se encontró que los profesores utilizan con mayor frecuencia los siguientes ejercicios de juego en la estructura innovadora de las lecciones de educación física: "Uno y dos" (95,6%), "Haz esto, ¡haz aquello!" (95,5%), "Cangrejos y Camarones" (89,7%), "Tren" (89,6%), "Chapel Hijack" (89,2%), "Barco" (89%), etc. aprendizaje en grupo (89,7%), complejo metodológico y organizativo interactivo (89,2%) y tecnologías multimedia (89%) en las clases de EF.

**Palabras clave:** estructura de lecciones innovadoras, educación física, estudiantes, instituciones educativas, Rumania.

## 1. Introduction

Any educational system is constantly dealing with the education and training of the younger generation. This phenomenon of education lies in anticipating the evolution of society as a whole and in determining the future needs of students to ensure that students adapt to differentiated variables such as the environment, technology, or legal conditions (Rus et al., 2019 Sîrghi & Sîrghi, 2020).

Physical education of students has a long tradition in the educational system of Romanian educational institutions. The first features related to the teaching of physical education in Romanian educational institutions dating back to 1776. In the first half of the nineteenth century, physical education was not one of the leading disciplines in the educational system. In 1832, two physical education teachers worked in the educational institutions in the Principality of Wallachia. The official introduction of physical education as an academic discipline in Romanian educational institutions was accepted by the Law on Education of 1864, where Article 113 stated that physical education and vocal music were compulsory educational disciplines in Romanian educational institutions (Hanțiu & Stănescu, 2011).

The period of the late 19th century - the first third of the 20th century in Romania is marked by the intensive development of physical education and sports among all segments of the population, especially children and youth. During this time, Romania saw the intensive development of public organizations in the relevant sports - clubs, federations, as well as "professional emigration". Coaches and instructors in gymnastics, fencing, athletics, and other sports came to Romania.

There was the implementation and introduction of legal acts in the period from the end of the 19th to the beginning of the 21st century. These acts regulated the formation of the system of physical education for students, and the government made the first attempts to organize training for teaching physical education (Tsybanyuk, 2020).

As a result of the implementation of new legal acts aimed at regulating the education system (European Commission, 2011), new curricula have been developed for most school subjects, including physical education. The development of the curriculum for a given school subject is determined by the realities faced by the educational process, the legal system, the social order, the learning needs, and the cultural and geographical context in which the process takes place (Radu et al., 2015; Talaghir & Icomonescu, 2017). The desire to adapt and update the physical education curriculum for secondary education is part of a broader process of modernizing Romanian education in this direction. Therefore, scientists are trying to achieve a common vision of the importance of teaching PE to students in Romanian educational institutions (Rus et al., 2019).

The research aims to establish the regularity of promoting the introduction of an innovative structure of physical education lessons for students in Romanian educational institutions (late XIX - early XXI century). A survey will be conducted on the Internet to determine the ability of educational institutions to effectively use innovative methods of PE for students.

Research objectives of the article:

1. To survey students to establish certain features of the innovative structure of physical education lessons for students in Romanian educational institutions (late XIX - early XXI centuries).
2. To determine the dynamics of the evolution of the structure of physical education lessons in Romanian educational institutions (the 90s of the XX - XXI century).
3. To differentiate the parts of the physical education lesson of Romanian schoolchildren.
4. To analyze the methods, means, and techniques used to study the innovative structure of physical education lessons for students in Romanian educational institutions.
5. To analyze the structure of physical education lessons in Romania.

## **2. Literature Review**

Recent studies show that in the works of Romanian scholars, which have been united in the historiography of scientific research, the peculiarities of PE of the population of the Romanian lands of different historical times have been analyzed - the recognition of PE as the basis for the formation of intellectual, conscious, patriotic united youth, the role of physical exercises in maintaining health, strengthening performance and harmonious development of the body, the emergence and introduction of school physical education and sports, development of professional Romanian terminology, actualization of folk bodywork traditions, physical activity needs of girls and the genesis of the system of training qualified specialists (Grosu, 2013, Ionescu, 1972; Ionescu, 1982).

Over the past 50 years, physical education has undergone a differentiated shift from a traditional focus on sports skills to a broader emphasis on health and fitness and lifelong physical activity (Bocarro et al., 2008; Jago et al., 2009; McKenzie & Kahan, 2008). The reason is that all over the world, all PE programs are being reduced or minimized and/or eliminated from primary and secondary school curricula (Hardman & Marshall, 2009; Puhse & Gerber, 2005).

Health, leisure, and physical education professionals around the world play an important role in developing strategies to address the significant increase in the number of obese children and youth. Due to modern conditions, there is a need to use the latest forms of pedagogy. In addition, more effective integration of health and physical education programs for students is needed. Attention should also be paid to supporting the development of a healthy, active lifestyle throughout life. It is necessary to explore ways to use innovative technologies in teaching physical education in educational institutions, as well as to review the way teachers are trained in PE (Edginton et al., 2011a; Edginton et al., 2011b; Cărstea, 1999; Chiriță, 1972; Dragnea, 2000; Mitra, 1974; Prodea & Văidăhăzan, 2010).

According to the WHO, the state of health of an individual is a representation of a person's good physical, mental, and social condition. As health is considered the main goal in all national, regional, and local strategies, it has an impact on the social, demographic, and individual levels. At the national level, the Romanian Ministry of Health implements programs aimed at preventing overweight and obesity by promoting a healthy and balanced active lifestyle. An example of the desire to implement the WHO recommendations in this regard is the organization of pan-European events, such as the European Anti-Obesity Day. The Ministry of Education, Youth, and Sports of Romania is the body that regulates the number of educational hours for physical education curricula and participates in the development of strategic projects through structural funds aimed at promoting a healthy lifestyle through special educational programs (World Health Organization, 2010). The law regulating PE and sports activities in Romania states that "physical education and sports are state-supported activities of national interest" (Portal Legislativ, 2000).

The use of modern programs of physical education and health work with students involves the modernization of the educational process in Romanian educational institutions in all forms of physical education based on the use of innovative pedagogical technologies. Experts focus on the fact that a radical restructuring of the educational process of physical education in educational institutions is needed. It is important to improve the educational content in the PE discipline, especially its main structural components (theoretical, practical, and pedagogical control). It is also essential to implement innovative approaches in the structure of PE lessons. These approaches involve taking into account the psychophysiological patterns of students' development, selecting the appropriate optimal level of students' physical activity, and satisfying the needs of students in the appropriate types of physical exercises.

Modern innovative approaches to the acquisition of theoretical knowledge in the discipline of physical education, which are interconnected with the formation of the basic foundations of a healthy lifestyle of students, the acquisition of knowledge by students about the benefits of physical exercise, do not always take into account the peculiarities of development and interests of students. This problem necessitates the search for innovative approaches to the process of forming theoretical knowledge in students, which is noted as a compulsory component of physical

education, which to some extent influences the involvement of students in sports. Theoretical training in the discipline of physical education is obliged to play the role of the most basic factor that accentuates the full life of the individual, promotes the disclosure of differentiated inclinations and abilities, and the acquisition of skills in any type of professional activity (Pangelov et al., 2022).

The current curricula of Romanian educational institutions in physical education and sport are designed for primary, secondary and high school, which currently represent a somewhat differentiated structure from one educational cycle to another. The physical education curriculum as a normative document of the educational process establishes and allows each teacher to form specific skills in students, using as means the content categories that he or she considers effective, corresponding to the characteristics of the class and specific conditions of activity. The PE curriculum is concentric in nature in the sense of repeating content to reinforce skills and to promote the phenomenon of transfer of new skills and the development of physical and mental abilities. As a result, the content taught during one school year will be repeated in the next school year. The current form of the physical education curriculum is a transitional stage to the future approach, which will be based on the development of a new unified system of physical education (Badicu, 2015).

Thus, it can be assumed that physical activity plays a truly important and even dominant role in the healthy growth and development of students. Moreover, it can be seen as a developmental factor not only in the physical but also in the psychological sense of the word, as a factor that integrates practical skills into everyday life. Thus, the previous curriculum (Ministry of Education and Research, 2003; 2004; 2005) was replaced by new curriculum documents (Ministry of National Education, Research and Innovation, 2009; Ministry of National Education, 2013), which are applied since the 2015-2016 academic year (Ministry of National Education, 2017).

Thus, the study of the innovative structure of physical education lessons for students in Romanian educational institutions (late XIX - early XXI centuries) is insignificantly reflected in scientific publications in the form of theoretical research and practical research. However, the issue of promoting the implementation and introduction of an innovative structure of physical education lessons for students in Romanian educational institutions remains relevant and open for further research.

### **3. Methodology**

The realization of the purpose of this study involves the use of such research methods as:

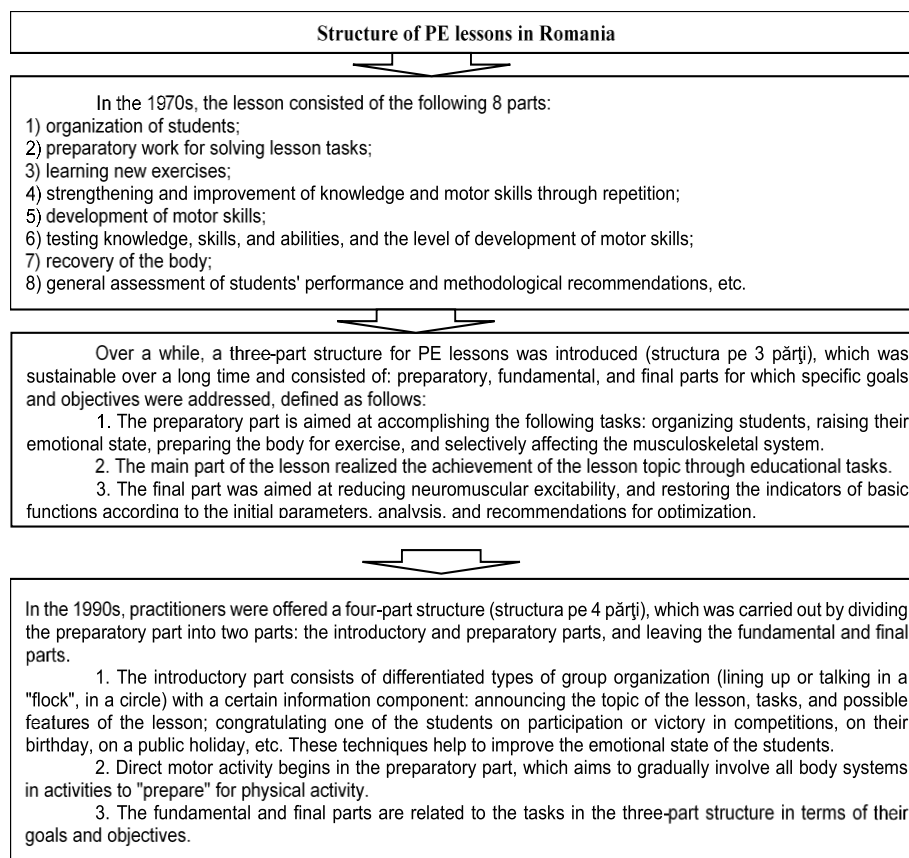
- systematic and logical analysis to determine the structure of physical education lessons in Romania;
- the method of information synthesis to determine the dynamics of the evolution of the structure of physical education lessons in Romanian educational institutions (the 90s of XX - XXI century);
- generalization of the latest scientific publications related to the analysis of methods, tools, and techniques used to study the innovative structure of physical education lessons for students in Romanian educational institutions;

- a comparison method for differentiating parts of the physical education lesson of Romanian schoolchildren.

To determine certain features of the innovative structure of physical education lessons of student youth in educational institutions of Romania (late XIX - early XXI century), the study was conducted using descriptive statistics, the data of which were provided as a result of a survey using MS Forms Pro. The survey was conducted to determine the perceptions of students about the innovative structure of physical education lessons for students in Romanian educational institutions. An online survey was conducted from October 24, 2022, to January 20, 2023, which collected information from 2500 students of the following educational institutions: Colegiul Național De Informatică "Tudor Vianu", Colegiul Național "Vasile Alecsandri", Colegiul Național "Zinca Golescu" Pitești, Colegiul Național 'Dr. Ioan Meșotă' Brașov, Colegiul Național "Gheorghe Lazăr". These participants answered questions about their learning experience, motivation, expectations, and overall satisfaction with the innovative structure of physical education lessons. This online survey addressed the following research questions: 1. What exercises in the innovative structure of physical education lessons in Romanian educational institutions have a positive impact on the development of physical education in students? 2. What game exercises are most often used by teachers in the innovative structure of physical education lessons in Romanian educational institutions? 3. What innovative technologies are used in the innovative structure of physical education lessons for pupils' youth in Romanian educational institutions?

#### **4. Results**

It should be noted that the structure of physical education lessons in the country is constantly evolving - the number of parts, their purpose, objectives, duration, etc. are changing (Figure. 1).



**Figure 1.** Structure of PE lessons in Romania

*Source: Compiled by the authors based on official data of Ardelean (2000), Serghi (2016), Ministry of Education (1989), Portal Legislativ (2000), and Didactic Premium (2022)*

It has been found that the three-part structure is also used in modern conditions - during training or in physiotherapy sessions: "where the content and purpose of the lessons are more limited". A comparative characterization of the purpose of each of the four parts (structura pe 4 părți) of a PE lesson is presented in Table 1.

**Table 1.**

*Comparative characteristic of parts of PE lesson of Romanian schoolchildren*

Allocation options	The purpose of the introductory part		The purpose of the fundamental part	The purpose of the final part
	Introductory	Preparatory		
<b>Three-part structure</b>	-	Gradual involvement in physical activity	Achievement of the immediate topic of the lesson	reduction of neuromuscular excitability, restoration of basic functions according to the initial parameters, analysis, and recommendations for optimization
<b>Four-part structure</b>	Announcing tasks, organizing the group, and improving the emotional state of students	Gradual preparation of the body for exercise		

Source: Compiled by the authors.



Reforming the system of PE for Romanian students, initiated by Law No. 69/2000, has made adjustments, including to the structure of the main form - the lesson. The basis of the changes was the introduction of an innovative structure by "links" or "moments" (*structura pe verigi*), a characteristic feature of which was the division of content into small units in a constant, coordinated sequence. Let's consider the links (L) of the modern structure, which are schematically represented in Figure 2, which include:

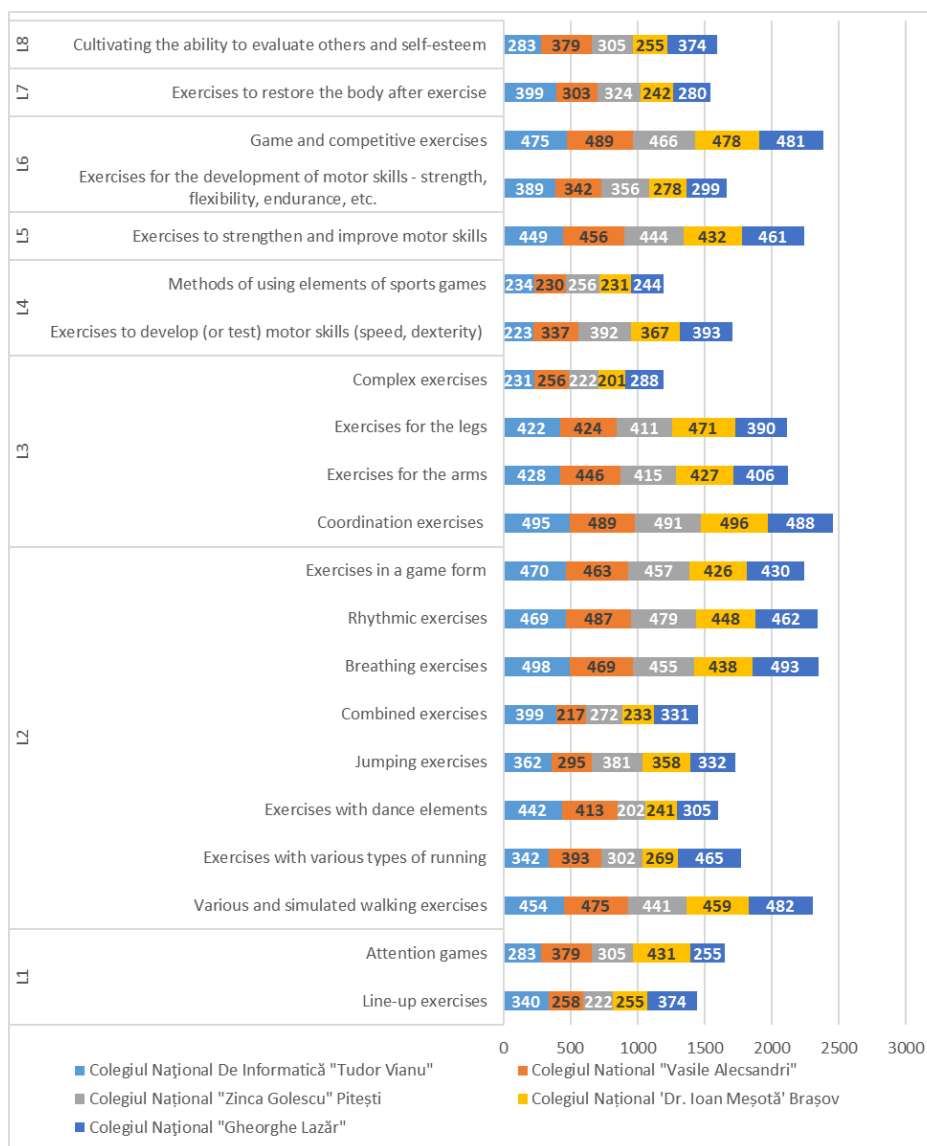
- L 1. Organizational measures;
- L 2. Preparing the body for exercise (general "warming up" of the body);
- L 3. Exercises of selective influence on the musculoskeletal system: "optimization of physical development";
- L 4. Exercises to develop (or test) motor skills (speed, dexterity);
- L 5. Realization of the lesson topic: "teaching, strengthening, improving and testing motor skills".
- L 6. Is dedicated to the development and monitoring of motor skills such as strength and/or flexibility and endurance.

The next two (L7 and L8) fulfill the tasks of the final part and provide for the body's recovery after exercise (L7) and an informative component: analysis, recommendations, acknowledgments, announcements, etc. (L8).

The field <b>"Three-part structure"</b>	The field <b>"Four-part structure"</b>	The field <b>"Structure by links"</b>
The field <b>"Preparatory part"</b>	The field <b>"Introductory part"</b> The field <b>"Preparatory part"</b>	Oval <b>L1</b> Oval <b>L2</b> ----- Oval <b>L3</b>
The field <b>"Fundamental part"</b> ----- The field <b>"Final part"</b>	The field <b>"Fundamental part"</b> The field <b>"Final part"</b> -----	Oval <b>L4</b> ----- Oval <b>L5</b> Oval <b>L6</b> Oval <b>L7</b> ----- Oval <b>L8</b>

**Figure 2.** Evolution of the structure of PE lessons in Romanian educational institutions (the 90s of the XX - XXI century)

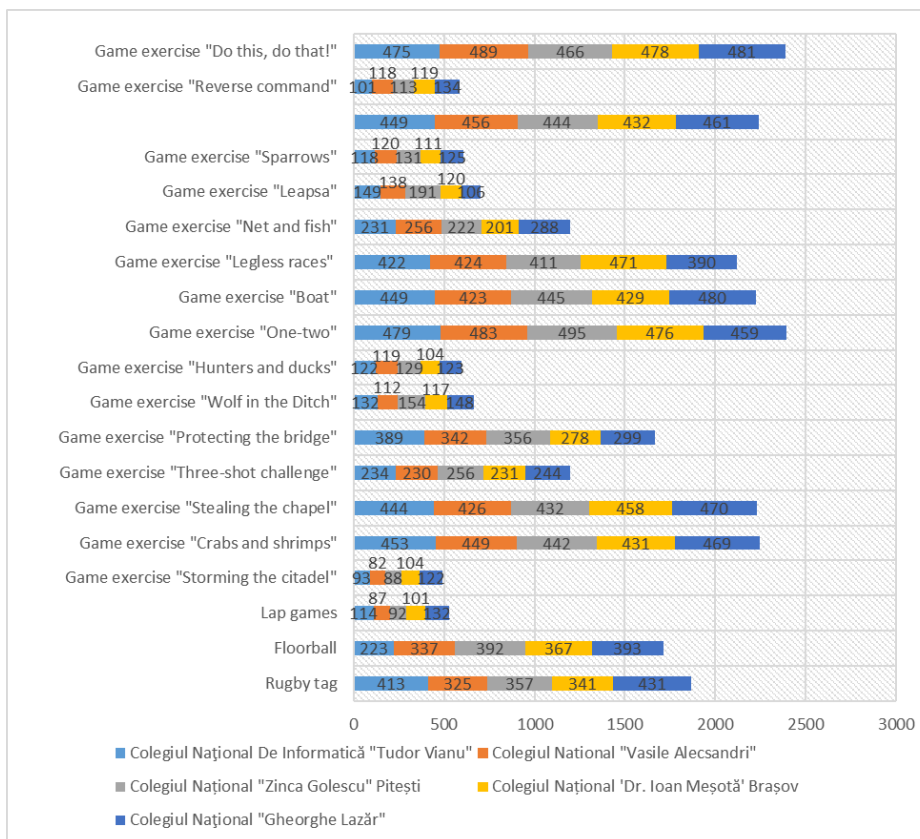
To analyze the innovative structure of physical education lessons for students in Romanian educational institutions, a survey of students of the following educational institutions was conducted: Colegiul Național De Informatică "Tudor Vianu", Colegiul National "Vasile Alecsandri", Colegiul Național "Zinca Golescu" Pitești, Colegiul Național "Dr. Ioan Meșotă" Brașov, Colegiul Național "Gheorghe Lazăr". They answered the questions: "Which exercises in the innovative structure of physical education lessons in Romanian educational institutions have a positive impact on the development of physical culture in students?" and the students noted that coordination exercises (98.3%), game and competitive exercises (95.5%), breathing exercises (94.1%), rhythmic exercises (93.8%), exercises in various and imitation walking (92.4%), etc. have a positive impact on the development of physical culture in students (Figure 3).



**Figure 3.** What exercises in the innovative structure of PE lessons in Romanian educational institutions have a positive impact on the development of physical culture in students?

Source: Compiled by the authors.

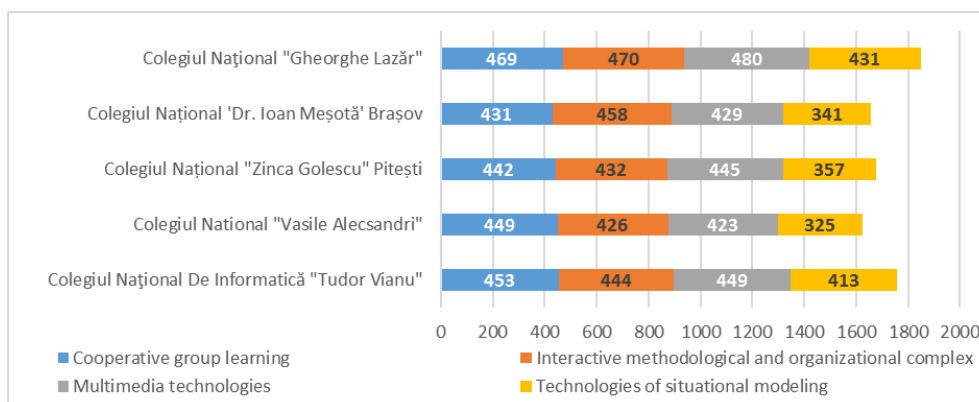
It was found that teachers most often use the following game exercises in the innovative structure of physical education lessons in Romanian educational institutions: "One and Two" (95.6%), "Do this, do that!" (95.5%), "Crabs and Shrimps" (89.7%), "Train" (89.6%), "Chapel Hijacking" (89.2%), "Boat" (89%), etc. (Figure 4).



**Figure 4.** What game exercises are most often used by teachers in the innovative structure of PE lessons in Romanian educational institutions?

Source: Compiled by the authors.

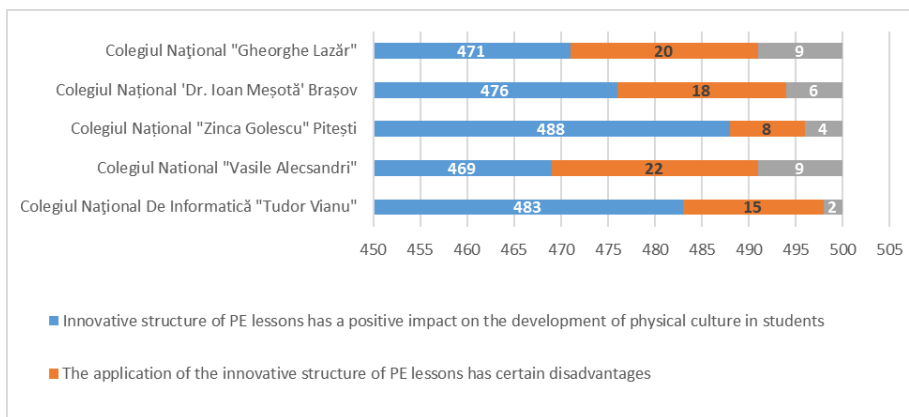
To analyze the use of innovative technologies in the innovative structure of physical education lessons for students in Romanian educational institutions, it was found that teachers use: cooperative group learning (89.7%), interactive methodological and organizational complex (89.2%), multimedia technologies (89%) (Figure 5).



**Figure 5.** What innovative technologies are used in the innovative structure of PE lessons for students in Romanian educational institutions?

Source: Compiled by the authors.

The effectiveness of the innovative structure of physical education lessons for student youth in Romanian educational institutions in 2022 was evaluated. A significant number of students noted that the innovative structure of physical education lessons has a positive impact on the development of physical culture in student youth (95.5%). A smaller number (3.3%) were not sure about the positive impact of the innovative structure of physical education lessons on the development of physical culture in students. The rest of the respondents noted that the innovative structure of physical education lessons contains certain disadvantages (1.2%) (see Fig. 6).



**Figure 6.** Analysis of the innovative structure of PE lessons for students in Romanian educational institutions

Source: Compiled by the authors.

## 5. Discussion

The results of the study of the innovative structure of physical education lessons for students in Romanian educational institutions (late XIX - early XXI century) led to the following conclusions. Nowadays, education all over the world is undergoing a process of deep modernization, primarily due to modern trends and policies of using innovative technologies in the preparation, the conduct of classes, and the assessment of knowledge (Sîrghi & Sîrghi, 2020).

It has been determined that everyone, both theorists and practitioners, are inclined to believe that regardless of where, when and with whom the physical education lesson is held, it must necessarily solve the problem of preparing children as a subject of influence for the load - emotional, physical, mental; optimal (Ardelean, 2000; Serghi, 2016); implementation of this load with the appropriate reaction of the body and adaptation to it (Grosu, 2013); gradual transition from a state of activity to a state of rest (Ionescu, 1972; Ionescu, 1982).

It has been established that the innovative structure of the physical education lesson for schoolchildren in modern Romania allowed for the use of the experience of previous theoretical and methodological developments, to consider the specifics of the present. The emergence of modern types of physical activity and sports as well as their rapid spread were considered. Moreover, it has been possible to notice changes in the interest and motivation of children and youth to exercise. The impact of the dramatic difference in the material and technical support of schools and the different levels of training of specialists has also been identified. It was possible to introduce new ideas for organizing this subject in an educational institution. Thus, one of the

ways to optimize the process of physical education of students, which is successfully used by Romanian teachers, was to diversify the content of the physical education lesson through the use of coordination exercises (98.3%), game and competitive exercises (95.5%), breathing exercises (94.1%), rhythmic exercises (93.8%), exercises in various and imitation walking (92.4%), etc.

Although modern PE lessons are organized in Romanian educational institutions according to a link structure, experts are still discussing the effectiveness of the implemented changes in the organization of lessons, namely the innovative structure of physical education lessons, and determining their impact on the content of physical education of students (Serghi, 2016).

Consequently, in the process of using the innovative structure of physical education lessons for students in Romanian educational institutions (late XIX - early XXI centuries), teachers will face differentiated problems following changes in educational requirements for students. Its in-depth study will lead to increased attention to improving the innovative structure of physical education lessons for students in Romanian educational institutions to promote the development of physical culture in students.

## 6. Conclusions

As a result of the analysis of the innovative structure of physical education lessons for schoolchildren in Romanian educational institutions (late XIX - early XXI century), it was found that many problems require special methodology and research methods. The results of the study have shown that the use of such innovative methods of PE of student youth not only diversifies physical activity but is also considered useful for their development. These methods have some advantages over other types of physical activity. They are relevant for modern children and do not require expensive equipment. The elements can be mastered by children of both younger and older preschool ages. Thus, in the course of the study of modern methods of teaching and upbringing in physical education lessons in Romanian educational institutions, it was found that for an effective and high-quality physical education lesson, the teacher should select differentiated teaching methods that will interest and motivate students to engage in physical education. However, it is not necessary to include almost all existing teaching methods in one lesson, as students may not understand their idea and the need for their further implementation during the lesson.

The practical significance of the study is that the conclusions and recommendations developed by the author and proposed in the article can be used in the process of forming a new innovative structure of physical education lessons for students in Romanian educational institutions, and the widespread use of the innovative approach should be taken into account when developing new curricula of the new standard. Promising directions for further scientific developments in this area are the study of advanced foreign experience in the formation of an innovative structure of physical education lessons for students in educational institutions. Further research can be aimed at improving the curriculum using innovative methods based on an innovative approach that will stimulate the educational sphere and improve teaching activities in the educational space to promote the development of physical culture in students.

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## Digital transformation of education in the context of the realities of the information society: problems, prospects

### Transformación digital de la educación en el contexto de las realidades de la sociedad de la información: problemas, perspectivas

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#### **Abstract**

Scientific exploration aims to identify the level of synergy in the educational environment between society and the digital world. The task is to determine the balance between traditional social principles and innovative information and digital technologies. The methodology of scientific research is provided by a general scientific and philosophical-scientific arsenal, focused on social-humanitarian and information-technological dimensions. The level of influence of the information and digital cluster on the public understanding of education remains a debatable issue. There are increasing reservations about the failure of society to respond appropriately to the risks associated with the digitalization of education. The findings of this research point to two dichotomously oriented formats of manifestation

of the digitalization of education in the socio-cultural space: internal-external and horizontal-vertical. A promising direction of the study of digital transformations in the context of the information society is to develop balances through which digitalization will introduce an innovative model in the educational system without violating the traditional educational paradigms, concerning primarily the multinomial aspect in education. The results of the study highlight the controlling and regulating function of the information dimension as a prerequisite for the effectiveness of innovation processes in education.

**Keywords:** digitalization of education, digital learning, ICT, educational innovations, philosophy of education.

## Resumen

La exploración científica pretende determinar el nivel de sinergia en el entorno educativo entre la sociedad y el mundo digital. Se trata de determinar el equilibrio entre los principios sociales tradicionales y las tecnologías digitales y de la información innovadoras. La metodología de la investigación científica viene dada por un arsenal científico y filosófico-científico general, centrado en las dimensiones social-humanitaria e informacional-tecnológica. El nivel de influencia de la agrupación de la información y lo digital en la comprensión pública de la educación sigue siendo una cuestión discutible. Cada vez hay más reservas sobre la incapacidad de la sociedad para responder adecuadamente a los riesgos asociados a la digitalización de la educación. Las conclusiones de esta investigación apuntan a dos formatos dicotómicamente orientados de manifestación de la digitalización de la educación en el espacio sociocultural: interno-externo y horizontal-vertical. Una dirección prometedora del estudio de las transformaciones digitales en el contexto de la sociedad de la información es desarrollar equilibrios a través de los cuales la digitalización introduzca un modelo innovador en el sistema educativo sin violar los paradigmas educativos tradicionales, concernientes principalmente al aspecto multinomial en la educación.

**Palabras clave:** digitalización de la educación, aprendizaje digital, TIC, innovaciones educativas, filosofía de la educación.

## 1. Introduction

The modern information society is relatively new in its sociocultural advancement. The key components of this community are focused on innovation, progress, and development. Information acts as the main source of the rational and moral dimension of the participants in the educational process. Technologies are designed to ensure the creation and broadcasting of informative content. Thus, a new educational paradigm was formed, the foundation of which is informativeness, communicativeness, digitalization, and technologization. New principles of educational activity were established according to the same principle: dynamism, accessibility, and openness.

“The digital transformation of learning processes is guided and supported by the integral use of technological, human, organizational, and pedagogical factors. Learning 4.0 aims to equip students with cognitive, social, interpersonal, and technical skills, among others, considering the needs of the 4th industrial revolution and global challenges” (Oliveira & de Souza, 2021).

Among the main manifestations of the digital transformation of education, we identify virtual and augmented reality, the use of artificial intelligence, gamification, STEMization, the Internet of Things, big data analysis, etc. (Zain, 2021; Skakun, 2021). All of these elements are integrated into the social

consciousness in one way or another, so their use in education is already verified by society. Digitalization encompasses the educational level at both the everyday practical and strategic macro levels (Xiao, 2019). The information society is a definition that combines issues of both attitudinal interpretations of digital or technological transformation and includes material and technical issues related to infrastructure, organization, etc.

## 2. Methodology

General scientific methods allow us to investigate the fundamental aspects of the development of information and digital impact on the education system. Thanks to scientific analysis, we form a systematic view of digitalization as an integral part of the educational process. Taking into account the specifics of the study, scientific-pedagogical (pedagogical experiment, classification) and socio-scientific methodologies (statistics, classification) are actualized.

The methodological cluster focused on the study of future prospects of digital transformation in the educational space requires special attention (Chrásková & Chráska, 2021). Forecasting and modeling, thanks to which strategies of coexistence of innovative and traditional segments in the educational system are developed, are actualized first.

As we study digital technologies in education in the context of the information society, it is necessary to involve scientific sociology as a method of the research of public trends and opinions about innovations in education.

- The philosophical-scientific methodology is represented by two classical manifestations:
- dialectical, expressing the contradictions arising in the sphere of education between innovative ICT-strategies and traditional educational formats;
- synergetic, providing interconnections and mutual influence formed in the educational cluster of the modern information society.

Relevant now are scientific and pedagogical methodologies that use elements of digital transformation. In particular, multimodality adapting to personalized learning (Rof, Bikfalvi & Marques, 2022).

Since we are dealing with a rather powerful and comprehensive trend in society and education, it is obvious that the methodology of behaviorism, which can trace the behavioral characteristics of all stakeholders of the educational space, will be important (Zhang, 2021).

If we reduce to a common denominator all available methodologies specializing separately on digitalization, separately on educational discourse, on social moments, we get a methodological model of digital pedagogy (Väättäjä & Ruokamo, 2018).

In the public consciousness digital transformation is associated with progress, so in the context of development, digitalization is also considered in education (Sarker et al., 2019).

## 3. Literature Review

The problem of the digitalization of education in theoretical scientific and humanitarian discourse has gained prominence with the rapid development of information and digital technologies. In recent years, studies of digital transformation in the educational sphere have become more relevant in a

practically oriented dimension, as the COVID-19 pandemic has confronted the academic community with a situation where the digital world has completely replaced the traditional educational process. Understandably, the results of this extraordinary but global phenomenon have interested many scientists, educators, methodologists, sociologists, culturologists, and philosophers. On the essential characteristics of digital transformation in the educational space notes Balyer & Öz (2018). An academic vision of digital technological innovation is presented by Balyer & Öz (Benavides et al., 2020). The impact of digitalization on a separate cluster of education, higher education, is concretized (Lazar, Panisoara & Panisoara, 2020).

The societal paradigms that shape the conditions for the emergence and development of digital transformations in education are characterized by Oliveira & de Souza (2022). The humanistic paradigm of the latest educational sociocultural development is actualized by Rašan (2021). García-Peñalvo (2021) points out the negative sociocultural impact of digital technologies in education. Separate studies focus on further perspectives and potential transformations of the digital world in the information society (Bygstad et al., 2022). Ways to improve the effectiveness of the digital world in education are suggested (Sarker et al., 2019).

#### **4. Results and Discussion**

Globalization is a key trend of modern public development. Of course, education is designed to fully provide all the processes for the development of globalization processes. However, unlike the political, economic, or cultural segments, education is guided by other tools. Digitalization is meant to transcend physical and institutional boundaries (Bygstad et al., 2022). Defining this definition is an emphasis on overcoming boundaries rather than breaking them. The digital world is rather difficult to delimit or set boundaries for itself. When educational segments are located on digital platforms, they automatically acquire the status: "without borders". This is how the openness and accessibility of education in today's information society is formed. At the same time, the erasure of borders makes it impossible to control educational content that could potentially have anti-scientific or anti-human influences.

For any society, a vital element is the management system that regulates all processes (Balyer & Öz, 2018). In an educational setting, the management issue does not arise as acutely because traditionally mentoring roles have been endowed with the necessary leverage to not only guide educational applicants, but also the authority to shape effective communication between educational stakeholders. The impact of ICTs on education has touched this segment as well, transforming fundamental management models in a certain way. Firstly, a completely new managerial unit appeared - an administrator (software, network, infrastructure). Secondly, the relationships that used to take shape in a certain community have undergone changes, as the technological-digital cluster has taken over some of the functions of an educational process participant at any level, and the means of communication have expanded considerably.

Currently, in the public consciousness, the format of sustainable or sustainable management is considered the most relevant management model (Abad-Segura et al., 2020). We get a contradiction between the main trend of educational development and social realities (see Fig. 1).



**Figure 1.** Social format of management and innovative promotion of education

Source: authors' own development

To align the principles of governance and innovative digital development has become a change management strategy (Jackson, 2019). Digital transformation in all areas of public activity has become synonymous with success. The use of ICT provides a competitive advantage. This principle has become basic to educational strategies. Competition generates a need for improvement, which information and digital technology has successfully addressed. Digital transformation has significantly changed the organizational and administrative structure of education. Digitalization involves the simplification of processes through supercomplex things. Education is now targeted to develop new methods and practices that will aim to improve the educational process (Alenezi, 2021). Digital transformation responds to contemporary societal demands, among which the concept of pragmatism is dominant. The main feature of the full existence of society is the formation of a system of laws and rules governing all processes. In the education of the digital society, too, a system of norms and controls is formed. A kind of reference framework has been used to introduce the digital format into the educational system (García-Peñalvo, 2021). Society in general, and the educational community in particular, seeks to control all moments related to the digital transformation in the industry:

- regulation of software activity protocols;
- control of technological manifestations of digitalization;
- regulation of information flows;
- streamlining communication measurements;
- compliance with moral and ethical standards.

People's social behavior is an important key to social development (Singh, 2022). We can state that education and the digital world have become two powerful platforms for shaping human behavior. Whereas education and family were formerly considered along with professional activities or religious beliefs, the digital world is steadily gaining this place. If we consider education and technology in a single synergetic field, then the interaction that would be relevant to such a combination would be astounding in its potential impact on the individual and society. It is hard to imagine a more effective method of flooding human opinions than the combination of the teaching and learning arsenal of education and the practically oriented cluster of the digital world. "Globalization and digital disruption have led to transformative innovation. Educational institutions must develop quality human resources, knowledge, competencies, and skills appropriate to different changes. Therefore, it is necessary to develop systems and a variety of supporting factors that are relevant at the same time. With regard to teaching and learning systems, service systems, and infrastructure, there is an emphasis on improving the structure and system of educational management so that they are flexible, efficient, and effective in terms of quality and standards of international education" (Tungpantong, Nilsook &

Wannapiroon, 2021). The creation of cyber-physical systems, the use of artificial intelligence, and the use of virtual and augmented reality formats are becoming mainstream in information society education (Harteis, 2017). The main dilemma now facing society is not whether to implement digital transformation in education, but whether to fully (Malott, 2020).

One of the debatable questions of the level of coverage of education clusters by the processes of digitalization is which component of education is most covered by the elements of digital transformation. For today's information society, it is not simply a matter of identifying the educational leader in the issue of digitalization by elementary curiosity. Statistics in the modern educational system is one of the main methods for identifying problematic phenomena, determining the level of effectiveness or relevance, and predicting further use.

Digital transformation covers all levels of education. The higher education cluster is more permeated by the technological process when viewed through the sociocultural dimension (Benavides et al., 2020). Applicants to higher education actually become specialists in the labor market immediately after obtaining the appropriate qualification level. The period of study in higher education is more about acquiring skills and competencies than knowledge in the classical sense. If in primary or general school the information segment is focused on the presentation of knowledge and worldview principles, then higher education requires the information learning content to be practically directed. It is no coincidence that such concepts as soft-skills and digital-skills have characterized the higher education system in recent decades.

The COVID-19 pandemic has recognized the inevitability of digital transformation in the education system (Marks, AL-Ali & Atassi, 2020). At the same time, understanding the maturity process of digital transformation remains a problematic issue. At least the pre-pandemic period was saturated with discussions about the integrity and perfection of ICT strategies in the educational space. There were many pros and cons of the total digitalization of education. The COVID-19 pandemic actually ended the debate, because, during this period (which continues to this day), which is quite long for the educational process, the digital educational format did not become a supplement or alternative to the traditional format, but completely replaced it.

This state of affairs is alarming for scholars because it is impossible to determine the maturity of the process of digital transformation of education. Therefore, the educational community is in a state of uncertainty. On the one hand, there is excitement about the potential of the digital world, which has flooded the educational life; on the other hand, there is a lack of understanding of the mutual influence of education, technology, information, and society. All this forms the potential dangers that generally characterize the information society. For example, modern society has already faced an economic crisis, largely due to information and digital capabilities. Consequently, mechanisms for analyzing crisis phenomena and ways out of them in the digital world already exist. Whether they will be useful for education can be seen in the near future.

Using the existing potential of the digital world in education, society is increasingly aware of the further prospects of digitalization. At present, the possibilities of digital technology do seem limitless (Demartini et al., 2020). In this regard, educational strategies that will still regulate these processes must be actualized. It would be reckless to allow the uncontrolled functioning of ICTs in the education system because there are threats of leveling the personal qualities of participants in the educational process (see Table 1).

**Table 1.**

*Participants in the educational process in the context of digital transformation*

<b>Digital transformation is controlled by social regulators.</b>	<b>Uncontrollable processes of digital transformation for education.</b>
The role of the teacher is shifting from mentoring to coordinating.	The role of the teacher is devalued and becomes statistical rather than active.
Education applicants can use the synergy of comprehensive information resources and their teaching and learning support.	Education applicants gain unlimited access to educational content but lose the focus of methodological guidance on the acquisition of knowledge or professional skills.
The administration of the educational institution uses digital learning as one of the effective ways to organize the educational process.	The administration of the educational institution gives the full advantage to digitalization, which gradually but irreversibly leads to the decline of the traditional educational model.

Source: authors' own development.

The information society has its own nature, so all the processes taking place in it are also brought to a common paradigm. A common position is also formed for the participants of the educational process (Teräs, Teräs & Suoranta, 2022). Society is historically structured in such a way that it requires interpretations of any processes, especially new ones. Thus, with regard to digital transformation in education, tools describing the benefits of digitalization and the positive aspects of digitalization, in general, have become in demand (Santos, Batista & Marques, 2019). The educational community must first provide a clear and comprehensive answer as to whether the digital transformation is effective for them. Then, a comparative analysis is actualized, when an attempt is made to identify the advantages and disadvantages of the traditional and innovative format in education. Finally, the scientific and pedagogical discourse will be able to draw its conclusions on the implementation of ICT. At the same time, public institutions will draw their conclusions about the feasibility of using digital technologies in the educational system and determine acceptable levels of intensity of this process, which will not damage the fundamental target principles of education.

On the sociocultural phenomenon of the digitalization of education Rašan (2021), points out that the purpose of education is not only the formation of knowledge or skills but also the integration into social institutions. The digital transformation in this process provides the rational and material components, while the moral-spiritual remains under the control of humanization. Thus, the creation of a balance between humanization and digitalization ensures the functioning of a harmonious system in the educational environment and society as a whole. For all the accessibility and openness of digital transformation, there are still many points that need to be interpreted (Lazar, Panisoara & Panisoara, 2020).

## 5. Conclusions

Thus, digital transformation has become an integral part of the modern educational space. The scale of the use of information and digital technologies requires increased attention from social institutions. The information society has enough means to control and regulate all the processes associated with the introduction of innovative formats in education to preserve existential and axiological dimensions in this sphere. Digital transformation in education is inevitable, but it must be clearly defined and understood by all participants in the educational process in the long run.

In the practice-oriented dimension and theoretical and methodological level, digital transformation is realized in two manifestations:

- internal-external (the use of digital technologies within the educational system as a result of the evolution of the system itself or as a consequence of the imposition of economic, infrastructural, or cultural realities);
- horizontal-vertical (implementation of digital technologies by the participants of the educational process by agreement or by instructions or recommendations of management or public opinion).

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## Higher art education in the European Union: Innovative technologies

### Enseñanza artística superior en la Unión Europea: Tecnologías innovadoras

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### Abstract

The modern development of information technologies has significantly influenced the transformations in the system of learning and teaching in European institutions of higher education of art. The purpose of the article is to analyze the use of innovative technologies in teaching methods in modern higher art education in the countries of the European Union. General scientific methods of analysis and synthesis were used to write the article. The results identified the main philosophical principles on which modern principles of educational work are based, in particular the democratization of the educational process, taking into account modern requirements in teaching and creative work. It has been established that classical models of teaching activity are in crisis due to the use of digital

technologies and digital education. In higher educational institutions of France, Germany, Austria, and Latvia, art departments and universities use E-learning and engage temporary lecturers and artists to conduct classes. Content analysis of syllabi and educational programs of art institutions and faculties of higher education in the countries of the European Union was also carried out. The conclusions emphasize the fact that in the educational environment of European countries, the formation of digital and informational competence of students is emphasized.

**Keywords:** artistic higher education, European Union, digital technologies, pedagogical innovations, digital competence.

## Resumen

El desarrollo moderno de las tecnologías de la información ha influido significativamente en las transformaciones del sistema de aprendizaje y enseñanza en las instituciones europeas de educación superior de arte. El propósito del artículo es analizar el uso de tecnologías innovadoras en los métodos de enseñanza en la educación superior de arte moderna en los países de la Unión Europea. Para redactar el artículo se utilizaron métodos científicos generales de análisis y síntesis. Los resultados identificaron los principales principios filosóficos en los que se basan los principios modernos del trabajo educativo, en particular la democratización del proceso educativo, teniendo en cuenta los requisitos modernos en la enseñanza y el trabajo creativo. Se ha establecido que los modelos clásicos de actividad docente están en crisis debido al uso de las tecnologías digitales y la educación digital. En los centros de enseñanza superior de Francia, Alemania, Austria y Letonia, los departamentos de arte y las universidades utilizan el aprendizaje electrónico y contratan a profesores y artistas temporales para impartir las clases. También se llevó a cabo un análisis del contenido de los planes de estudio y los programas educativos de instituciones artísticas y facultades de enseñanza superior de los países de la Unión Europea. Las conclusiones destacan el hecho de que en el entorno educativo de los países europeos se hace hincapié en la formación de la competencia digital e informacional de los estudiantes.

**Palabras clave:** enseñanza superior artística, Unión Europea, tecnologías digitales, innovaciones pedagógicas, competencia digital.

## 1. Introduction

The development of educational processes in the XXI century. is characterized by the special importance of humanistic social development, based on theoretical ideas, logical constructions, and historical and methodological concepts, on the global difficulties of modern society and multi-vector possibilities of design in the future. New interpersonal relations are accompanied by overcoming complex problems, the exploration of new aspects of teaching skills, the growth of information volumes, generalization, and the systematization of knowledge. At the same time, modern requirements, still institutionalized in society, make more intense intellectual reflections on the future and the prospects of humanity, which encourage a renewed interpretation of history, the achievements of the past and contradictions, the heat of real realities. At the same time, we are aware of a process in which the main achievement is not a complete and exhaustive description of the educational phenomenon, but a call for new solutions and attempts to form theoretical images of the future.

Global challenges have also become palpable. The COVID-19 pandemic and related quarantine restrictions, among other things, demonstrated that distance education is quite a full-fledged way of achieving educational results. The use of digital methodologies for organizing the educational process has shown effectiveness and promise for future use, but these processes require more detailed analysis based on further research, as rapid changes of technological nature allow for adjustments and updates of the educational process in the future.

Higher art education is not immune to these trends. In particular, the latest teaching methods have combined with the potential of digital technologies, which has developed into a beneficial symbiosis of pedagogical ideas and possibilities for their implementation. At the same time, the issues of updating the system of art education, the study of developmental paradigms, the evolution of digital teaching methods, etc. need further updating. Particular attention should be paid to the methods of art education in European countries, as their best practices are very important for developing countries to emulate.

The article aims to analyze higher art education in the European Union and to investigate the possibilities of using innovative technologies in it, to identify possible difficulties and prospects for further development.

## **2. Theoretical Framework or Literature Review**

The problem of using innovative technologies in EU art education has been partially researched. Mainly scholars have paid attention to the advantages and disadvantages of using digital technologies through current global changes. For example, Prokopenko (2021) analyzed the main technological challenges to the global digitalization of the education system. On the other hand, Safonov, Usyk & Bazhenkov (2022) noted the inevitability of the digitalization of the educational industry, characterized the threats and challenges of the modern digital transformation process of education. Based on a comparative analysis, Rani, Kaur & Sharma (2022) determined that the whole world faces many global educational problems, especially in developing countries. This negatively affects the development of digital education naturally developing in megacities. Also valuable for this study are the works of art historians and educators who have investigated the peculiarities of the transformation of art and culture education. In particular, Baldacchino & Vella (2013) described the phenomenon of Mediterranean art education through the lens of the concept of orienting to local, regional, and global notions of learning. The main trends in the development of art and educational culture were characterized by the collective of Ferro et al., (2019). At the same time, Kárpáti (2019) investigated key aspects and trends of art education in Central and Eastern Europe. Popyuk (2020) identified the integrative relationship of art education in Ukraine and Europe based on an analysis of the development of artistic metal art. Hickman et al., (2019) analyzed key contemporary concepts, phenomena, problems, and solutions in the international encyclopedia of art and design education. Sickler-Voigt identified the importance of The Choice-Based Art Curriculum and described how the various components come together to form meaningful lecture plans. A well-crafted Choice-Based Art Curriculum, with its anticipated and unpredictable outcomes, is professionally rewarding and inspires students to learn. At the same time, the authors conclude that an effective choice-based art curriculum has a logical order and is based on prior learning to ensure that all learning elements are unified.

## **3. Methodology**

To achieve the objectives of the study were used theoretical methods of pedagogical knowledge: analysis, synthesis. The analytical principle was applied in order to determine the current state of art

teaching, to characterize the content of educational programs and methods used in the implementation of education. The work is also formed based on the method of abstraction, which is based on the transition of analysis from general theoretical provisions to the formation of specific recommendations and generalizations. At the same time, based on comparativistic method a comparative analysis of educational approaches and methods used in the EU countries has been carried out.

The question of further implementation of innovative technologies in the field of education of culture and art is investigated with the help of the prognostic method. The article is also formed on the principles of critical analysis of educational programs and syllabuses of disciplines, the key purpose of which is to investigate the process of using certain innovative methods of teaching in EU institutions.

#### **4. Results and Discussion**

##### **Philosophical trends and their influence on the development of contemporary art education**

The dynamics of the development of modern society draws the attention of higher education to a certain set of fundamental and basic issues, to overcome which depends on the further formation of its cultural and attitudinal features, familiarity, and mastery of modern achievements in professional work. Relevant epistemological innovation of this process is the interconnectedness and interdependence of philosophical systems and learning and pedagogical process. It is the philosophy of education that occupies several important aspects of the cooperation of all major forms of knowledge acquisition and many other varieties of professional work: from the most abstract and general to the specific manifestations of all things general in each case, individuals, and certain separate activities (Ferro et al., 2019). From this perspective, philosophy and education are in permanent inseparable relations, conditioning and mutually influencing each other. At the same time, the separate and almost identical important problems of contact between society and the outside world are just as equally important for philosophical scholarship as they are for the development of pedagogical thought in higher education.

The main importance of philosophy for higher art education in particular is that by comparing different practical concepts of teaching and the organization of the educational process, establishing the basis of each of them, and critically examining them, this science selects the limits of the educational system and the pedagogical ideas used, which can become a promising basis for finding a consensus of different points of view on the problem (Baldacchino & Vella, 2013). Also, the philosophy of educational technology points to specific reference points that reorganize the educational system itself, offer some new axiological reference points for the formation of new projects and transformations of educational systems and pedagogical thought in general.

Also, based on philosophical trends it is possible to determine the main vectors of the modern development of art education (Kurbanbaev & Omorkulov, 2018). In particular, the main vectors of the modern development of art education in the EU countries can be considered as: humanization; humanitarianization; national orientation; socio-cultural compliance; tolerance and openness; special emphasis on the organization of artistic and learning and cognitive activities, not just educational; transition from a reproduction of knowledge to creative activities, comprehension of new material; formation of educational conditions for successful self-actualization; educational interaction and cooperation;

Art institutions of higher education institutionally are among the unified system of higher education, which is characterized by special models of learning, spiritual education through creative work, creation of artistic worldview forms, humanistic axiological features that create a life orientation (Holochwost et al., 2021).

An important change is individualization, which is directed to the formation of creative achievements during the learning process, the emergence of emotional experiences at different stages of learning new knowledge, interesting and non-standard presentation of information, activation of creativity, and manifestations of self-expression in art and creative work. It is important to assimilate national and universal reference points.

Analyzing the general spheres of modern higher art education development in European states, it is possible to point out several main transformational tendencies (See Table 1).

**Table 1.**

*The main trends of characteristic changes in art education in the EU countries*

<b>Trend</b>	<b>Statement</b>
Transformations of the main elements and models of higher education	First of all, we are talking about the crisis of classical models and systems of obtaining education, as demonstrated by the introduction of distance education. In this regard, new fundamental philosophical and pedagogical ideas in the sociology of education, in general within the humanities were formed. As a result, experimental and alternative methods of teaching art disciplines in universities were created.
Integration of art education with the philosophy of humanization (which has already been partially discussed) and digitalization of education	Modern promotion of art education the rapid evolution of all its varieties leads to close integration with the world culture. First of all, we are talking about the democratization of educational processes, the creation of separate research teams of teachers and students, the formation of a system of lifelong learning focused on the permanent learning process, turning to the ideals of humanism and posthumanism. The digitalization of art education also includes the use of modern computer technology and software, an appeal to asynchronous learning, and the possibility of choosing new curricula.
An appeal to the traditions of national pedagogical art schools, higher education, and culture in general, which demonstrate diversity in the unity of European art and, accordingly, its research and teaching	The principle of unity in diversity corresponds to the modern slogans of European integration, aimed at overcoming the negative effects of globalization.

*Authors' development*

An important distinctive feature of the personnel strategies of contemporary European art universities for a long time has been the habitual support of the art-pedagogical schools, which have been formed over the years and which restored their personnel potential at the expense of the best graduates, who imitated the methods of teachers' work (Safonov et al., 2022). The vectors of contemporary art education development show a different approach - using the opportunities of international teachers' exchange, organization of seminars, master-classes, and separate cycles of lectures. This enables art institutions of higher education to exchange experiences, to attract famous art experts, artists, and

teachers from other universities, etc. to teach. For European universities, this trend is quite natural, as they have sufficient resources for higher education institutions to reach the international level of teaching, a gradual steady increase in the quality of teaching, staffing of teaching staff, the use of progressive innovative digital methods of work.

### **Aspects of digitalization of art education**

According to European researchers, with the use of digital technology in visual arts classes, students have opportunities to develop and maintain an impressive portfolio of finished work that can be used in potential employment, shared with teachers, or other higher education applicants (Schneider & Rohmann, 2021). The concept of critical inquiry and peer review can be developed when students begin to observe their people's work. Students can critique each other's art-related work. Students can actively use technology to collaborate with other students. With today's digital techniques, this kind of collaboration can take place regardless of distance, though also during traditional classroom instruction - opportunities to eliminate the boundaries of limited space are no small application actively used in today's curricula (Hickman et al., 2019).

An important feature of modern teaching has also become special classes (thematically) devoted to the use of Internet resources for student research using modern visual and audio technology capabilities, video editing, creating 3-D models for sculptures, etc. (Prokopenko, 2021). By doing so, learning goes beyond the reproduction of conventional lecture diagrams. The use of digital technology also provides students with the help they need to create their own original artwork and form projects that help develop practical skills (Ferro et al., 2019). With the use of the latest digital technology, there is also the opportunity to develop themes and techniques for artwork that greatly increases higher education applicants' awareness of current art trends.

In the online learning system, European universities have formed their own E-learning resources and platforms on which the learning process is organized (Rani et al., 2022). On the other hand, European universities implement specific educational solutions for their online visitors. The e-learning platforms created contain many different topics and are designed for different target audiences. Students visiting such resources or platforms generally work with didactically composed multimedia content (Popyuk, 2020). However, e-learning based on university platforms tends to affect the implementation of continuous learning processes and lengthy visits. On the other hand, e-platforms allow users to actively participate in various international educational projects and creatively interact with other users. Several European universities (France, Germany, Austria, and others) combine their E-learning into a professional global service called web2.0. This additionally allows applicants to interact and communicate and even form new content. Several educational games and quizzes can be found on the web pages of such universities.

Despite this, effective use of online resources is not possible without the parallel creation and promotion of media literacy disciplines. Consequently, many European universities focus on media literacy and the development of digital and information competence in all disciplines (Sickler-Voigt, 2019).

### **Educational art technology**

In EU countries, pedagogical art technologies correspond to globalization and information trends in the development of society. In particular, technologies of developmental, collective, interactive,

modular learning are actively used. The content of interactive learning consists in dialogicality, cooperation between the teacher and the student. In addition, learning is formed as a series of interconnected problem situations and implements, as a rule, group work of students. This affects the emergence of trust and cooperation in the learning team (Kárpáti, 2019). At the same time, the technology of level differentiation is a method of building the learning process, which allows maximum satisfaction to each participant, taking into account the possibility of mastering the material. Integral technology performs the role of a method of learning based on the identification of related elements in different educational subjects: problems, events, plots. This method also involves combining it in a new system with a specific goal.

Important attention in the EU countries is paid to the technology of learning through the prism of research. The main purpose of this method is for students to gain experience in research activities, which in turn affects the development of critical thinking and creativity. Consequently, many students devote most of their time to independent research work. In addition, in the process of training future art historians a significant role is played by the game, project technologies, case-method, etc. (See Figure 1).

European states are developing modern unified curricula in the field of culture and art (Sprague, 2016). In particular, in France, training is organized on the modular system of education. For this reason, students-future professionals in the field of culture and arts can receive official documents annually, which facilitate their entry into the labor market without completing their studies. This is realized by the characteristic principles of compiling programs of study in higher education institutions or specialized art schools and other institutions - teachers form them based on specific blocks of disciplines. This contributes to the fact that students receive an intermediate qualification certificate after several years of study (Khojasteh et al., 2020). Such modules (blocks) in French universities are designed in such a way that they implement the basic requirements of professional training of a future art specialist. This experience is useful because such a system of training responds flexibly to the needs of the labor market and motivates young people to seek employment. The importance of training programs can also manifest itself in their content (Serdyukov, 2017). For example, the value of such a part as pedagogical practice can vary (depending on the discipline) from 0 to 50% of the total educational period.





**Figure 1.** Basic learning technologies of art.  
*Authors' development*

At the same time, in the conditions of digitalization, it is relevant to obtain information competence, the vector to which is addressed in the activities of modern European universities. Art historians with information competence in their activities can effectively implement critical analysis of information sources, use expedient ways of selection, interpretation, systematization of media texts. Such specialists are also able to resist various information manipulations and propaganda, actively use computer programs and online resources in their work and rationally combine traditional educational methods with digital ones (Holochwost et al., 2021).

However, in order to prepare such a specialist, special methodological materials should be compiled, which contain a methodology for the organization of training that is based on problem-based, productive, heuristic forms of learning, affecting the development of independence, teaching to explore the structure of the media text (Kárpáti, 2019). For example, in Germany, the teaching of culture and art takes place through the prism of the formation of multicultural, digital competencies. Berlin University of the Arts, containing faculties of design, fine arts, music, where digital and

information, and communication technologies are actively used. At the same time, education at the Faculty of Design is aimed at developing information literacy in students: such disciplines as: "information culture", "art and media", "visual communication", "social and business communication", etc. In the Netherlands, the main emphasis of teaching comes down to a person-centered approach to teaching, which uses project technologies and case-methods, the technology of learning "as research". Students acquire relevant digital, multicultural, creative competencies and skills. For example, Maastricht University has a Faculty of Arts and Social Sciences, where the main focus of education is on the practical activities of an art specialist. The key disciplines of the Faculty of Arts and Social Sciences are aimed at acquiring knowledge of the regularities of the educational process under conditions of globalization of education, skills to apply modern digital resources, analyze artistic technical and software tools, navigate various standard applications and organization of traditional and contemporary art. At the same time, students are taught how to organize modern and traditional art techniques based on the use of modern innovative resources and portals. Consequently, in the Netherlands, the educational process is aimed at the implementation of modern interactive software tools, Internet resources of educational purpose, and the acquisition of practical experience in the use of educational and methodological developments taken from the local and global information networks by the students. Consequently, special attention should be paid to media education and the formation of media literacy in the learning process.

The University of Latvia has a Department of Education, Psychology, and the Arts where art teaching is implemented (Andersone, 2020). The formation of practical skills is the main focus in the system of training of future art professionals, but also in Latvia, the main emphasis is on the unification of the principles of education, art, and psychology through the implementation of innovative methods.

## 5. Conclusions

So, the latest technologies are actively used in higher art education. In particular, we are talking not only about the technological aspect of the problem but also about the theoretical and pedagogical foundations of work. For example, modern paradigms of humanization of higher education focused on the formation of students' personalities, their worldview, skills, and abilities. Classical models of teaching since the introduction of distance education are experiencing a tangible crisis, as a result of which certain experimental methods of teaching in higher education institutions have been formed. Conformity to the principle of unity in diversity, which is a part of modern European integration aimed at overcoming the negative consequences of globalization.

An important factor in the development of higher art education today is the use of digital technologies, as a result of which applicants for higher education can get a considerable portfolio of their works already during their studies - this can be used in employment, which is valued in the European labor market. The analyzed experience of European higher art education demonstrates the active involvement of digital innovative technologies in education. Universities in France, Germany, Austria, Latvia combine their E-learning environment, forming a global learning service web2.0. its use, as well as the involvement of new approaches in teacher training (in particular, the focus on the temporary invitation of lecturers and artists), allows significantly updating of the content of training, conducting it in accordance with modern European labor requirements.

Appropriate is also the appeal to the development of media literacy. For this reason, art universities and faculties in Europe note the formation of digital and information competence in applicants.

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# **Informatization and digitization of the educational process in higher education: main directions, challenges of the time**

## **Informatización y digitalización del proceso educativo en la enseñanza superior: principales orientaciones, retos de la epoch**

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## **Abstract**

The relevance of the study is due to the need to rethink the educational paradigm in a rapidly developing digital environment. Given the creation of new information and digital learning technologies, scientific paradigms are changing towards the formation of an innovative educational infrastructure of HEIs. The article aims to investigate the main directions of the challenges of

implementing informatization and digitalization in order to form an ecosystem of an innovative educational environment. The article is based on the use of methods of theoretical pedagogical research: analysis, synthesis, induction, and deduction. The study of scientific literature showed that, despite the large number of scientific papers covering the issues of informatization and digitalization, the question of the need to bring modern educational standards to the realities of a digital society still remains unresolved. The results of the study were the actualization of the main challenges and directions of implementation of informatization and digitalization of higher education in order to improve its efficiency in the modern conditions of development of society. Practical significance: the study of the features of the practical implementation of the tools of the digital educational environment and the disclosure of their benefits.

**Keywords:** digital environment, educational technology, digital innovation, higher education, blockchain, MOOC.

## Resumen

La pertinencia del estudio se debe a la necesidad de replantear el paradigma educativo en un entorno digital en rápido desarrollo. Dada la creación de nuevas tecnologías de la información y el aprendizaje digital, los paradigmas científicos están cambiando hacia la formación de una infraestructura educativa innovadora de las IES. El objetivo del artículo es investigar las principales direcciones de los retos de la aplicación de la informatización y la digitalización para formar un ecosistema de entorno educativo innovador. El artículo se basa en el uso de métodos de investigación teórica pedagógica: análisis, síntesis, inducción y deducción. El estudio de la literatura científica mostró que, a pesar del gran número de artículos científicos que abordan las cuestiones de la informatización y la digitalización, la cuestión de la necesidad de adaptar las normas educativas modernas a las realidades de una sociedad digital sigue sin resolverse. Los resultados del estudio fueron la actualización de los principales retos y direcciones de la aplicación de la informatización y la digitalización de la educación superior con el fin de mejorar su eficiencia en las condiciones modernas de desarrollo de la sociedad. Importancia práctica: el estudio de las características de la aplicación práctica de las herramientas del entorno educativo digital y la divulgación de sus beneficios.

**Palabras clave:** entorno digital, tecnología educativa, innovación digital, enseñanza superior, blockchain, MOOC.

## 1. Introduction

The modern world has entered the era of the fourth industrial revolution, Industry 4.0, which imposes special conditions on the implementation of most activities. First of all, the modifications have affected the industrial and economic sectors in general, but their transformation is not possible without the training of qualified personnel. Focusing on global informatization and digitalization, there is a need for more extensive training of subject matter specialists. It is no secret that in the realities of the XXI century, the key resource is relevant, reliable information, including the ability to search and analyze it. Professional perception and processing of the received information allows organizing the educational process more effectively and efficiently.

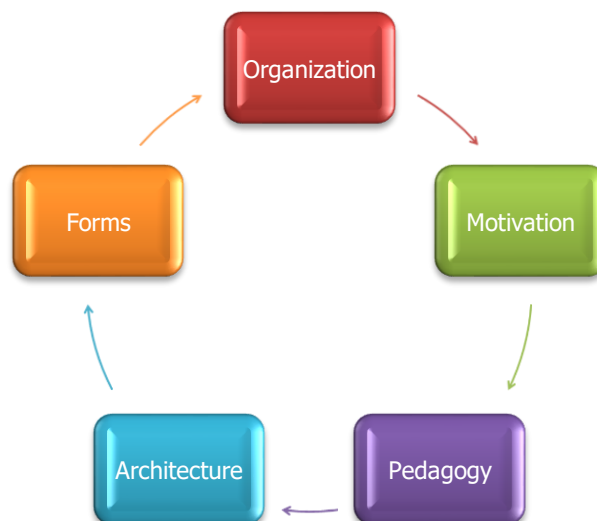
Despite the existing strategies of development in the field of education and the formation of modern methods and techniques of education, the issue of transition to distance learning is the

most acute. The COVID-19 pandemic has made significant adjustments, especially in terms of accelerating this transition. And the war in the center of Europe has shown the need for further development of the distance form of education. Of course, the formation of a clear and coherent system capable of seamless communication between educators and students within a few months is almost impossible. The main limitations arising in the process of adaptation to the forms of distance learning can be described by several characteristic aspects, namely the lack of equipment with digital means of communication, weak digital literacy, lack of self-organization, etc. It should be noted that these problems can still be attributed to both teachers and students.

There are also difficulties due to the rigid requirements for educational programs. The systems of educational standards do not have sufficient flexibility and only recently they began to be reconstructed to fit the new formats of education. It is quite obvious that the introduction of any changes in the standards is inert and unable to solve all the problematic issues instantly.

If we talk about higher education institutions, the degree of their readiness can be considered as a maximum. This is primarily due to the extramural and distance learning programs already being implemented, as well as part-time programs with partial or full use of e-learning. The situation in secondary vocational and secondary general education is less encouraging because, first, not all programs can be digitized, and second, this transition is complicated by technical unpreparedness for its implementation (Williamson, 2021).

The prospects of information and digital transformation of education are most logically considered on the example of higher education institutions, since this approach, as described earlier, has a positive experience of a real implementation. In addition, some global features characterize the digital environment of HEIs (Figure 1) and allow a segmented study of approaches to the formation of the new learning process in the field of distance learning.



**Figure 1.** Conceptual model of the digital environment of higher education institutions  
Developed by the authors of the article based on content analysis

Some of the blocks in the picture most clearly reflect the real picture of current digital learning. The transition from indivisible courses to microformats is already being actively implemented in many digital learning platforms. Obsolete approaches based on long-term fundamental disciplines are hardly implemented in a distance format due to the low level of audience coverage and high threshold of entry. Passive listening is now insufficient for rapid mastery of academic subjects.

Only active student action can lead to the greatest productivity and maximum learning impact. In a digital environment, the emphasis must be on personalizing the student and pushing back on personality traits, which precludes the use of single learning tools. This requires a larger pool of resources and more time (Selwyn, Pangrazio, Nemorin & Perrotta, 2020).

The aim is to investigate the main directions and challenges generated by the informatization and digitalization of the educational process in higher education.

## 2. Literature Review

Today the issue of informatization and digitalization of education in higher education is dealt with by a significant number of scientists from different scientific fields (pedagogy, psychology, computer science, sociology, etc.). The article by Kryvoshein, Vdovenko, Buriak, Saienko & Kolesnyk (2022) examines the implementation of informatization and digitalization in the professional training of future managers. The authors of the article cover the experience of EU countries. To study the peculiarities of the introduction of information technology in the educational process, it is important to rely on the study of the effectiveness of digital learning technologies. Thus, the article by Horytska (2022) examines the effectiveness of the index approach to learning. With the beginning of a large-scale military invasion of Ukraine, special attention is paid to the peculiarities of the functioning of the distance form of education. The article by Sherman, Puhovskiy, Kambalova, & Kdyrova (2022) examines the peculiarities of distance education organization in Ukraine during martial law. The authors draw attention to the high efficiency of this form of education using digital educational technologies and note that the future of education is associated with a comprehensive informatization of education. Wallin, Koro-Ljungberg, & Eskola (2019) discuss the use of digital technology in the study of history disciplines. The authors point out that informatization and digitalization methods open up new possibilities for the study of historical sciences. Prospects for the development of digitalization in education are discussed in Suoranta et al., (2022). The authors give a forecast of the development of digital education in the future. Also, the article by Mishchenko (2022) considers the prospects of digital education development in Ukraine. Particular attention is paid to the need to introduce innovative digital technologies in distance learning. The authors consider the most popular informatization and digital means of organizing the educational process. Particular attention is paid to the need to develop information and communication and digital competencies of both teachers and students HEA. Jandrić et al., (2019) consider the development of digital science in the future. The authors pay special attention to the transformation of the educational sphere under the influence of the development of future digital technologies. A significant role in this process, according to the authors, will play innovative learning technologies and the development of integrated digital educational devices. The article Wojciech, Sobczyk, Waldemar, & Pochopień (2021) examines the specifics of preparing teachers to implement innovative digital technologies in the educational process. The authors investigated the digital competencies necessary for HEA

workers to organize the educational process by means of informatization and digitalization. The article also considers the main didactic tools of digitalization of higher education. The authors highlighted popular innovative digital technologies, informatization tools, etc. Also, of particular interest for this study are the works devoted to the study of the experience of the educational process during the COVID-19 pandemic. Rosak-Szyrocka, Żywiołek, Zaborski, Chowdhury, & Hu (2022) discuss the main problems related to the educational process during the pandemic. Attention is also paid to the peculiarities of using digitalization tools for the educational process in a distance education setting. Rapanta, Botturi, Goodyear, Guàrdia, & Koole (2021) address the issue of the educational process after the pandemic. The authors explore the balance between digital innovation technologies and didactic teaching methods. Despite the large number of works devoted to informatization and certification of the educational process, there are still a low number of unresolved issues. The scientific literature does not cover the issue of creating a new educational paradigm, which would take into account the need to use digital tools during the organization and conduct of training in the HEIs.

### **3. Methodology**

Using interdisciplinary methods, the organizational forms and features of the infrastructure of digital transformation were analyzed, which allowed to acquire a new quality of research, actualizing its perspective and relevance. The completeness of the study was ensured by the use of modern comparative methods, actualized in the context of source and comparative historical, analysis of scientific literature, legislative and other legal acts. Specific tools were also used for comparative-historical research: the integrity and completeness of information, spatial and temporal correspondence were analyzed. Visibility, representativeness of the results of scientific research provided the use of applied methods of digital humanities: content analysis, visualization of research results. The basis of scientific research was the source analysis of Internet resources, in particular - periodicals, of different types and kinds of organizations, analysis and comparison of their relevant indicators (quality, quantity, etc.), ranked by us in the synchronous and diachronic plane; scientometric analysis of articles in the above periodicals (journals, scientific collections, almanacs, and conference materials); visualization of results through methods of information data visualization (representation) and summarization of the results.

The core materials of our work were the Ukrainian legal framework, in particular: 1. The concept of digital transformation of education and science in Ukraine (Ministry of Education and Science of Ukraine, 2021). 2. Strategy for development of higher education in Ukraine for 2021-2031 (Ministry of Education and Science of Ukraine, 2022). 3. Laws of Ukraine "On Higher Education" (Law No. 1556-VII, 2014). The above-mentioned normative legal acts helped to identify the current state, trends, and prospects of development of the process of digital transformation of education and science of the Ukrainian state. Scientific research had a number of stages: the first stage consisted in the analysis of the source base of research (scientific literature, regulatory framework) and the outline of goals and objectives of scientific work; the second - aimed at analyzing the state of digital transformation of the educational and scientific sphere of the Ukrainian state, highlighting the key features and trends of development, representation of the most representative forms of influence of the above process on the educational and scientific area of Ukraine; the third stage summarized the results of the study: it organized the conclusions



and highlighted his own vision of the prospects of digitalization of the educational and scientific sphere of the Ukrainian state.

#### **4. Results and Discussion**

The core of the learning process is intensive independent and interactive work of the student with the learning material, including video lectures, slides, methodological recommendations for the study of the discipline, and the implementation of control tasks, final testing, and final tests. E-learning is the implementation of educational programs using information and educational and digital resources, information and communication technologies, technical means, as well as information and telecommunication networks that ensure the interaction of participants in the educational space.

In today's information society, the main means of informatization and digitalization are a personal computer, an interactive whiteboard, software, etc. With the help of networked means of digitalization of education, it becomes possible to conduct virtual training sessions online, audio and video conferencing. A new generation of educational information technology has emerged that allows for more effective teacher-student interaction (Rahrouh, Taleb, & Mohamed, 2018).

Distance learning dates back to the 1920s. With the advent of information technology, e-learning is getting better. At the present stage, the problem of the gap between the possibilities of educational technologies and their actual application in educational institutions is evident. The situation is complicated by the rapid updating of ICTs (the emergence of artificial intelligence, multilingual interface, virtual reality, geoinformation systems). In addition, the informatization of education is slowed down by the relatively low competence and psychological unpreparedness of teachers and the administration of educational institutions (especially the older generation), as well as the insufficient equipment of educational institutions with information and communication technologies. The creation of organizational and methodological support in the field of educational technology is closely connected with the system of training and retraining of personnel in education, as well as with the material and normative base of ICTs (Jensen et al., 2022).

Informatization of education is often understood exclusively as the introduction of information and telecommunication technologies into the educational process. However, training only in the technical aspects of computer use does not cover all the activities of educational institutions. Students also need to know how to correctly select and use educational electronic resources.

The use of digital tools makes it possible to introduce new specialized computer-related curricula into educational programs, as well as to transform traditional programs not directly related to information technology. The processes of determining the qualifications of graduates, selection, and formation of the contingent of HEI students are increasingly informatized.

One of the main results of the informatization of education is total individualization, in which both positive and negative sides can be distinguished. Individual approach to a student positively influences the quality of education. However, "dialogue through the computer" significantly reduces the activity of language, which is the body of objectification of human thinking. The

widespread use of digital technology leads to a reduction in social interaction, the curtailment of social contacts (Ledger & Fischetti, 2020).

In recent years, the development of computer technology has led to the allocation of hardware group of multimedia. Their characteristic feature is the ability to process and provide information of different types. Multimedia tools are particularly important for education, because they stimulate cognitive aspects of learning, increase motivation, develop skills of collective cognition, and form a deep understanding of the material. Thus, further informatization levels out the shortcomings of the years of introduction of computer technology in education and allows the implementation of educational technology at a new level.

The educational process becomes more flexible with the appearance of great opportunities for modeling expensive or dangerous experiments ("virtual reality"), visualization of macro- and microcosm. The emergence of global telecommunication computer networks and their integration with multimedia and virtual reality technologies is called the sixth information revolution. At present, the total volume of knowledge in the world is doubling annually. Colossal volumes of information in electronic educational resources detach from the material, borrowing ready-made solutions and works do not contribute to the effectiveness of learning. In addition to technical and psychological, there are problems of a pedagogical nature associated with the lack of consistency in the development and use of disparate information resources. The effectiveness of the learning process is also reduced because of the impossibility of universal training of teaching staff in the conditions of modern informatization.

There is an urgent need to create a unified system of information resources and technologies supplemented by uniform methodological requirements and recommendations. Most of the information resources for use in the educational process are characterized by a low pedagogical level. The reason for this situation is that computer-based instructional programs are often created by experts in programming and not in a particular discipline. At the same time, teachers with extensive teaching experience are usually poorly versed in new information and telecommunication technologies. The goal of informatization of education is to train subject teachers who are capable not only of applying new technologies in their professional activities but also of developing ICT tools.

Currently, higher education is a process of teaching and scientific leadership, but soon there will be a transition from direct instruction to mentoring, and further to research coordination. Common trends in modern education can be considered to be:

- increasing its inclusiveness;
- individualization of education;
- "reduction" of educational trajectories (offering educational solutions in a compact form);
- opportunities for a student to master several modules (macro-courses) at once;
- application of interdisciplinary approaches in education, development of interdisciplinary cooperation in the design and implementation of relevant educational programs.

Digital trends in higher education include:

- application of virtual reality technology in addition to the existing distance technologies;
- The transition from the formation of hard skills to soft skills, which involve the development of creative thinking, the desire to develop, and the ability to organize themselves (especially for students of technical specialties);
- elimination of interference in related branches of knowledge (economics and law, etc.) based on digitalization;
- application of online technologies in the educational process, allowing “individualization” of students' learning trajectories, especially for people with disabilities;
- penetration of online education elements into the traditional system (offline) of education. For example, the use of the Skyeng educational environment for teaching English.

Digitalization of education today is built based on creative thinking, imagination, the desire to develop. The task of higher education is to promote the formation of creative skills, which today is more important than formal knowledge. The task of the teacher (tutor/mentor) is to give the student an impetus for development. The digitalization of the educational process also affects the organizational aspects of HEIs:

- increasing the efficiency of research management;
- automation of management processes at the university;
- application of distributed ledger technology (blockchain) for secure storage and rapid transfer of information. In many ways, virtual and augmented reality technologies, online management of the educational organization, big data technologies allow collecting information about the needs of students based on demand/supply, adapting educational programs (Saienko, Kurysh & Siliutina, 2022).

The digitalization of the higher education system is based on:

- 1) Digital transformation of the educational process itself as an environment for implementing the latest methods, techniques, and means of learning to ensure the training of highly qualified professionals with the skills and ability to confidently solve professional problems using modern software and information and communication technologies.
- 2) Digital transformation of higher education system management, including the introduction of advanced information technologies in the processes of implementation of management functions of educational institutions (the use of artificial intelligence in predicting the progress of students, the needs of the economy of young professionals in the context of specialties, etc.); organization of the use of educational resources of institutions (application of cloud technologies to form a unified educational network) and the promotion of their educational services at the international
- 3) Improvement of ICT competence of higher education teachers, as well as specialists of state administration bodies that implement policies in the field of education.

Digitalization in education offers many opportunities, but at the same time requires changes in methodology, approaches to student learning. In particular, we are talking about open access to electronic educational resources of universities, performed at a high level. For example, the use of educational platforms: Coursera, Alison, Prometheus, etc.

Mentioning mass online educational courses (MOOCs), it can be noted that they are built into professional and educational programs in different ways. Three scenarios can be distinguished:

- 1) MOOCs as web support for the traditional implementation of the educational process. To intensify the latter, up to 30% of resources are allowed using MOOCs.
- 2) Blended learning involves the partial replacement of classroom sessions (mostly lectures) with MOOC resources (up to 80% online).
- 3) Online learning, involving academic freedom, replacing traditional learning with MOOCs with a mentor/ tutor (up to 90 to 100% online) (Tsekhmister et al., 2021).

When it comes to MOOCs, universities are reluctant to use someone else's online education platforms and are not themselves ready to completely switch to an online format. In addition to university platforms, the corporate sector is also willing to offer its own educational platforms (Udemy, etc.). Table 1 compares the most popular distance education systems.

**Table 1.**  
*Comparison of distance education systems*

<b>Program product name/evaluation parameter</b>	<b>eLearning Server 4G</b>	<b>Moodle</b>	<b>WebTutor</b>
License	Commercial	Open	Commercial
Architecture	Closed	Open	Closed
Number of users	Unlimited	Unlimited	Unlimited
Schedule control	+	+	+
Forum	+	+	+
Chat	+	+	+
Different types of verification	+	+	+
Mobile version	-	+	+

Developed by the authors of the article based on content analysis

The B2B and B2C education segment often experiences a shortage of personnel, particularly methodologists for the development and implementation of educational projects. Corporate educational services are characterized by the following specific features:

- practice-oriented, consumer-oriented;
- application of the “experts teach the experts” model;
- Evolution from online education to consulting, business coaching;
- online education is built into the business process, contributes to the long-term perspective of the business;
- active use of referral, adaptive, supportive services;
- Partnerships with other organizations implementing the concept of “B2B and B2C education” (Jarke & Breiter, 2019).

Blockchain is a distributed storage system where storage devices are not connected to a common server. This database stores an ever-growing list of ordered records called blocks, each block

contains a timestamp and a link to the previous block. Thanks to encryption, the user can only modify the part of the database that he owns, from which he has "private keys", without them it is impossible to write to the file. Encryption also ensures that all copies of the database are synchronized across all users so that if a blockchain is edited all changes are immediately visible to other users.

The security of blockchain technology is ensured through a time-stamping decentralized server and peer-to-peer connection networks. The result is a database that is managed autonomously, without a center. This makes blockchains very convenient for logging events and data transactions, identity management, and source authentication.

Blockchain technology is being seriously considered for use in education. The list of services provided by admissions committees and dean's offices is extensive, covering both primary work with applicants and organizational support of students, including academic trips. Depending on the size and structure of the HEA, the list can include traditional tasks as well as specific responsibilities (credit accounting for transfer students, escorts, time management training, financial aid, etc.) (Jarke & Breiter, 2019).

Blockchain, even at the admission stage of the HEA, will be able to make fraud related to falsification of grades, legitimacy of athletic and other achievements, grounds for benefits, misrepresentation of personal data, etc., impossible. In addition, blockchain will help popularize and legitimize online learning, which will greatly reduce unemployment worldwide: giving people who have no offline education a chance to get an online education (Rahardja, 2022).

Studies of the scientific literature have established that the key socio-psychological features of the formation and implementation of the digital model of higher education can include the following:

- 1) Changes in the social role of the teacher and approaches to its performance. Firstly, from a primary source, a carrier of knowledge and skills, he becomes a navigator, determining the optimal trajectory for the purposes of the course acquaintance with the knowledge bases. Secondly, the teacher must develop the ability to prepare educational products that deliver learning information to the audience in the form of an intense stream that includes simultaneously broadcast, text, graphics, video, and sound. In addition, his attitude to digital technologies should also change: from the means that complement traditional teaching approaches to new ways, technologies of training specialists with higher education.
- 2) Changing the motivation of learning and the approach to students' mastery of knowledge. Firstly, the dynamism of social processes and the shortage of time give rise to the desire to get the essence of events and problems in a short time, which leads to the formation of "clip" thinking. Secondly, frequent use of "on-demand" information search system from a multitude of simultaneously operating information sources creates conditions for consolidation of fragmentary type of perception of learning information. This approach allows us to study a certain aspect of the phenomenon under study, but it can make it difficult to form a unified view, cause-and-effect relationships, and the genesis of the development of the situation. Third, the desire to solve many problems simultaneously in a limited time allows you to develop problem-solving thinking. In such a situation, students do better with collaborative

projects than with individual tasks; they strive to get quick result, avoiding long-term planning of step-by-step work. Fourthly, the individualization of the learning process and the content of training sessions based on information educational resources contributes to the development of self-learning skills and self-monitoring of knowledge as elements of individual student manageability. Fifthly, the level of digital literacy of a student becomes a key factor ensuring academic success and success in various activities, as well as determines the nature of his communication in interaction with others.

- 3) Transformation of the system of requirements to specialists' competencies. Firstly, abilities and skills that are not available for full algorithmization and robotization (imagination, non-standard, initiative, leadership, etc.) become the most demanded. Secondly, there is a need to form "digital competencies of the future" (language mobility, cooperative-creative thinking, ability to work in interdisciplinary environments, understanding of global problems, health management skills, financial literacy, etc.) (Dumford & Miller, 2018).

In conclusion, we can identify the main advantages of digital learning using distance learning technologies:

- 1) Freedom of access. The student gets the opportunity to study almost anywhere without interruption of the main work. Distance learning using information and digital technologies allows teachers and students to be at a considerable distance from each other, including in different cities and countries. Access to learning materials is available at any time of the day or academic period.
- 2) Personalization of learning. Involvement of people with disabilities in learning, equal education opportunities regardless of financial security. New technologies allow making visual information alive and dynamic, building the learning process itself, taking into account the active interaction of the student with the learning system.

## 5. Conclusions

Education is a field that, in theory, and practice, cannot stand still. Through it passes a huge flow of people who are ready for the challenges of real life. And despite the fact that the system of digitalization of education is not ideal, we can offer several ways of solving this problem. In the next decade, digital technologies in education will help improve the work of educational organizations due to new developments in information and communication technologies.

One of the purposes of informatization of the educational process is the creation of a uniform information space of an education system on a national scale as a result of the integration of information environments of educational institutions. Pedagogical information technologies used for its functioning are based on the theory of pedagogy, psychology, computer science, management, as well as the possibilities of modern information and telecommunication technology. An educational portal is currently being developed at many ZHEs. In the future, the local informational educational space will become part of the world one. The introduction of information technology accelerates the transfer of knowledge and experience, increases the quality of education, helping people adapt quickly and successfully to the environment and social changes. Informatization has a positive impact on education, opening up new opportunities in improving the forms and methods of the educational process.

The value of knowledge as a foundation for personal growth in the era of computer networks and electronic reference books has significantly decreased. Most mental tasks today are taken over by computers. What is required from a modern person is not so much memorization, storage, and reproduction of information as the ability to navigate in information flows, be flexible in intellectual activity, learn new strategies of thinking, self-learn, search, and attract the missing resources to solve problems. That is why it is important for modern students not to get a ready-made set of knowledge, but to develop skills of self-development and self-education.

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## Higher pedagogical education in the European Union: Innovative technologies

### Educación pedagógica superior en la Unión Europea: Tecnologías innovadoras

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#### Abstract

Higher teacher education in European countries has undergone a remarkable transformation due to the constant convergence of educational systems and institutions of higher education in Western Europe. The aim of the article is to analyze the experience of using innovative technologies in higher pedagogical education in the European Union countries. Methods of analysis and synthesis, prediction, comparison, and abstraction were used to realize this main task. The results traced the main innovative technologies popular in European pedagogical universities. The effectiveness of interactive learning, modular education system, technology of level differentiation, methods of learning through research

(use of the project method), E-learning, and deep use of digital platforms, which contributes to the formation of theoretical and practical knowledge, development of critical thinking and creative potential in higher education applicants is demonstrated. It is pointed out that e-learning based on university platforms allows users to actively participate in various international educational projects, creatively interact with other users and even create new content. Several European universities (from France, Germany, Austria, and other countries) have merged their e-learning platforms into one professional global service called web2.0. Important directions for the further development of teacher education will be heutagogy, peeragogy, or paragogy and cybergogy. The conclusions stressed the importance of further integration of digital innovative methods to teaching pedagogical disciplines.

**Key words:** higher teacher education, innovation, technology, approaches, EU countries.

## Resumen

La formación pedagógica superior en los países europeos ha experimentado una notable transformación debido a la constante convergencia de los sistemas educativos y las instituciones de enseñanza superior en Europa Occidental. El objetivo del artículo es analizar la experiencia del uso de tecnologías innovadoras en la formación pedagógica superior en los países de la Unión Europea. Para llevar a cabo esta tarea principal se utilizaron métodos de análisis y síntesis, predicción, comparación y abstracción. Los resultados permitieron rastrear las principales tecnologías innovadoras populares en las universidades pedagógicas europeas. Se demuestra la eficacia del aprendizaje interactivo, del sistema educativo modular, de la tecnología de diferenciación de niveles, de los métodos de aprendizaje a través de la investigación (uso del método de proyectos), del e-learning y del uso profundo de las plataformas digitales, que contribuye a la formación de conocimientos teóricos y prácticos, al desarrollo del pensamiento crítico y del potencial creativo de los aspirantes a la educación superior. Se señala que el e-learning basado en plataformas universitarias permite a los usuarios participar activamente en diversos proyectos educativos internacionales, interactuar creativamente con otros usuarios e incluso crear nuevos contenidos. Varias universidades europeas (de Francia, Alemania, Austria y otros países) han fusionado sus plataformas de e-learning en un servicio profesional global denominado web2.0. La heutagogía, la peeragogía o paragogía y la cibergogía serán orientaciones importantes para el futuro desarrollo de la formación del profesorado. Las conclusiones subrayan la importancia de seguir integrando métodos digitales innovadores en la enseñanza de disciplinas pedagógicas.

**Palabras clave:** formación superior del profesorado, innovación, tecnología, enfoques, países de la UE.

## 1. Introduction

Integration processes on the European continent and Ukraine's entry into the educational and scientific space of Europe require a thorough and comprehensive study of the conceptual foundations and the search for effective mechanisms for the development of educational systems in our country. Implementing European standards, norms, and achievements plays an important role in establishing a European ethno-cultural identity in Ukraine and developing long-term foundations and strategies for modernizing domestic education in the context of the challenges of the information society. Higher education in Europe has undergone significant changes associated with the gradual convergence of educational systems and institutions of higher education in Western Europe. Most governments and leaders of higher education institutions have

realized that general discussions on the various problems encountered in this field will be beneficial to all, regardless of national and sub-regional differences. However, this trend is not reducing the diversity of higher education in Europe, although higher education institutions on the continent have been in need of reform of their structures for many years. At the same time, the World Declaration on Higher Education pays attention to the quality of education, accreditation, and competitiveness, the promotion of teacher and student mobility, the reduction of public funding for higher education, and the need for their diversification.

The use of innovative technologies in teacher education is also among today's current challenges. The study of this aspect is not fully completed, as the modern development of digital technologies, distance education, and the like point to new likely vectors of future teaching experiments. At the same time, summing up some experience of the European system of higher teacher education, their integration with the latest methods of work is an extremely urgent task, including the Ukrainian realities and their further improvement.

The aim of the article is to analyze the experience of using innovative technologies in higher pedagogical education in the European Union countries. Accordingly, the main objectives of the study are:

1. Characteristics of the main innovative technologies used in EU higher teacher education
2. Compare the peculiarities of innovative methods and technologies implementation in individual EU countries.
3. Describe the key aspects of the organization of online learning in European universities

## **2. Materials and methods**

To achieve the goal of the study were used theoretical methods of pedagogical knowledge, in particular, analysis and synthesis. The analytical principle was used to determine the current state of teaching pedagogical disciplines, to describe the content of educational programs and methods used in their implementation. The work was based on the method of abstraction, which provides a transition from the analysis of general theoretical provisions to the formation of specific recommendations and generalizations. Thanks to this method of cognition, which also consists in separating certain aspects of the object of research from its general image, general regularities, theories, and concepts of development of higher pedagogical education in European countries were formulated. In addition, the comparative method of comparative analysis of educational approaches and methods used in the EU countries was applied. The method of comparison made it possible to establish significant differences and common features between the objects under study. When comparing two or more objects the scientific research revealed certain patterns, trends, perspectives, and challenges that have them in relation to each other.

The issues of further implementation of innovative technologies in the field of education and training of teaching specialists were investigated using the predictive method. The predictive method involves identifying possible consequences that may result from certain decisions and developing strategies to avoid undesirable outcomes. This requires collecting and analyzing a variety of data, including analytics, historical data, expert assessments and opinions of scientists, information on the objectivity of development conditions, etc. The article is also based on the

principles of critical analysis of educational programs and syllabuses of disciplines, which aims to study the use of various innovative methods of teaching in EU institutions.

Note that the work is not limited to certain geographical boundaries. The study analyzes innovative technologies and approaches used in Latvia (University of Latvia), France (Sorbonne University), Germany (University of Hamburg, University of Hannover, University of Freiburg), and Austria (University of Vienna).

### **3. Results**

In the European Union countries, pedagogical technologies respond to global and information trends in the development of society. Technologies of developmental, collaborative, interactive, and modular learning are actively used. The essence of interactive learning is dialogue and cooperation between the teacher and the student (Milanković Jovanović et al., 2022). In addition, learning is formed as a series of interconnected problem situations and involves group work of students, promoting the emergence of trust and cooperation in the learning team. Integral technology is used as a way of learning that is based on identifying common elements of different educational subjects such as problems, events, and stories, and combining them into a new system with a specific purpose (Papadakis, 2016). At the same time, the University of Latvia actively applies interdisciplinary approaches and active learning technologies. Note that modern universities strive to develop interdisciplinary knowledge and skills (Hyams, Brown, & Foster, 2013; Pliushch & Sorokun, 2022). This will ensure that students are prepared to solve complex problems in their future professional lives (Cherng & Davis, 2019). Active learning technology allows them to participate in the learning process. It includes methods such as discussions, group work, discussions, organization of different projects, etc. Also, in the University of Latvia among the innovative technologies stands out the use of blockchain technology, which is used to create digital documents, which allows students to save their results and achievements, as well as certificates, diplomas in digital form.

In France, training is organized on a modular system of education. This allows applicants for higher education in pedagogy to receive official documents that contribute to their entry into the labor market, even if they have not completed their studies in full. Programs of study at universities, art schools, and other institutions consist of specific blocks of disciplines that allow students to earn intermediate qualifying certificates after several years of study. These blocks are specifically designed to meet the basic training requirements of future education professionals (Prokopenko, 2021). This modular training system is flexible and can respond quickly to labor market needs. It also motivates young people to seek employment. The importance of curricula lies not only in their content but also in how they meet today's specific needs of employers (Muchacki, 2022). For example, the proportion of pedagogical practice in a program can vary from discipline to discipline, from 0 to 50 percent of the total educational period.

At the same time, the technology of level differentiation is a method of building the learning process, allowing maximum satisfaction of each participant, taking into account his ability to master the material. The technology of level differentiation in higher teacher education is a method of building the learning process, which provides an individual approach to each student of student, depending on his abilities, knowledge, skills, and interests (Bizami, Tasir & Kew, 2022).

The basic idea is to ensure the highest possible level of mastery of the learning material for each higher education applicant, regardless of their current level of knowledge. This is accomplished through a variety of approaches, such as dividing students into groups based on proficiency or providing different tasks that meet different levels of difficulty. For example, students with high levels of knowledge and skills may have more difficult tasks, while applicants with low levels of knowledge may have tasks simplified to help them learn the material (Bizami et al., 2022). Level differentiation technology can be useful in developing the individual abilities of each higher education applicant by helping them master the material at a level that is accessible and understandable to them. It can also help reduce dropout rates and improve learning outcomes.

EU countries place a great deal of emphasis on the technology of learning through the lens of inquiry. The main goal of this method is for students to gain research experiences that promote critical thinking and creativity. Many students devote the majority of their time to independent research. Learning through inquiry (or project-based) is an approach to teacher education in which students actively engage in research on a specific topic, problem, or project, usually using interactive technology. This method involves higher education students learning not only from books or the instructor but also independently acquiring knowledge and solving problems through research and projects (Cherlenyak et al., 2018). The main purpose of learning through research is to develop critical thinking, creativity, and independent information-handling skills (Gürsoy, 2021). This method also promotes teamwork skills, collaboration, and the presentation of research results. In learning through research, the role of the instructor as a mentor and advisor who helps students solve problems and teaches them research methods is important (Järvis, Tambovceva & Virovere, 2021). This learning approach allows students to absorb knowledge more effectively and develop skills that may be useful in the future.

For example, pedagogical science programs at German universities usually include theoretical and practical aspects of educational science, which may focus on different areas. These programs may focus on the development of pedagogical strategies for teaching or on research into the psychology and social behavior of students. Classes can take the form of lectures, seminars, and hands-on activities where students can gain the experience needed to work in education (Harte, Herrera & Stepanek, 2016). Students may also have the opportunity to participate in research projects or internships at schools or other educational institutions. In particular, the Department of Pedagogy, Psychology, and Sport at the University of Hamburg places great emphasis on the practical component of teaching, which ensures that highly qualified educators and professionals from different fields are properly trained.

Usually, teachers of pedagogical sciences at German universities are highly qualified and experienced in the field of education. They may be involved in conducting research and developing new pedagogical methods (Järvis et al., 2021). In general, German universities offer a wide range of educational science programs that can meet the needs of students with different interests and goals. The Department of Pedagogy and Social Work at the University of Hanover focuses on research in education, pedagogy, and social work, offering training for teachers, social workers, and other professionals in these fields. The Department of Pedagogy at the University of Freiburg specializes in research on child and youth education, development, and learning. Among the innovative training methods used at these institutions are project methods and E-learning technology (Lopes & Soares, 2022).

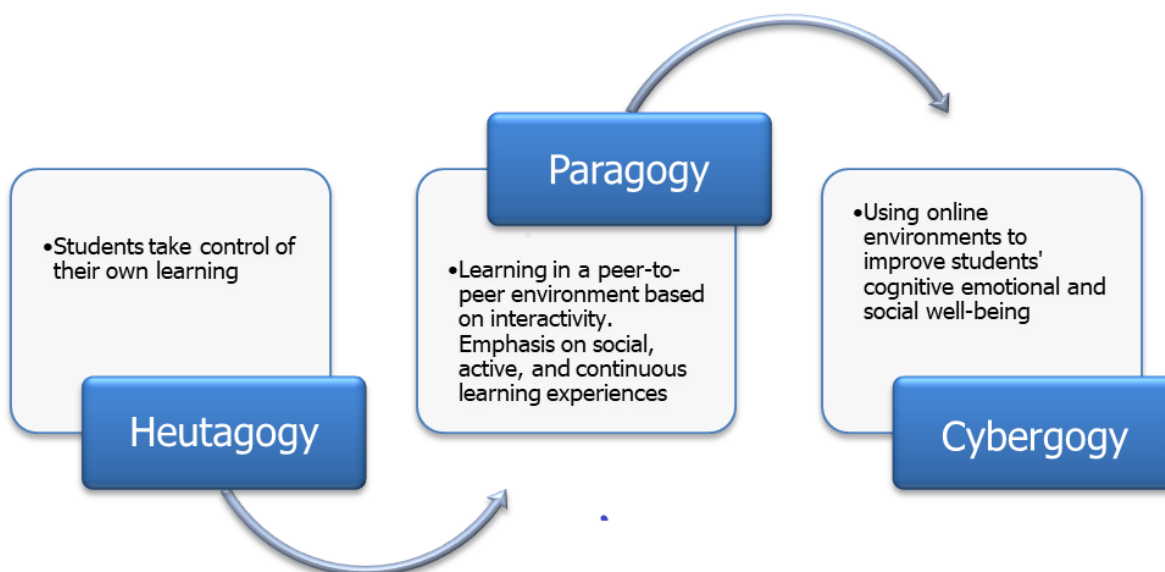
In the online learning system, European universities have created their own resources and e-learning (E-learning) platforms on which the learning process is conducted. In addition, European universities are developing special educational solutions for online visitors. The e-learning platforms created contain different topics and are designed for different target audiences (Lopes & Soares, 2022). Students visiting such resources or platforms work with didactically composed multimedia content. E-learning based on university platforms tends to have an impact on the implementation of continuous learning processes and length of attendance (Demiray, 2017). However, e-platforms allow users to actively participate in various international educational projects, creatively interact with other users and even create new content. Several European universities (from France, Germany, Austria, and other countries) have merged their e-learning platforms into one professional global service called web2.0. This allows applicants to actively interact and communicate as well as create new content. In addition, several educational games and quizzes can be found on the web pages of such universities. The use of online courses is an important innovative technology used in many European universities (Picht & Richter, 2022). In particular, the University of Latvia offers special online courses for student teachers to improve digital skills, media education, and others to help them acquire new knowledge at their convenience. At the same time, a common innovative technology at Sorbonne University is the use of electronic portfolios, which allows student-teachers to save their achievements and results and develop professional skills electronically. In addition, common innovative trends in European universities are the use of virtual reality, interactive whiteboards, social networks in the provision of educational services. The use of virtual reality facilitates practical experience through the use of virtual space (Tsekhmister et al., 2021). In order to ensure effective communication, European universities use social media. At the same time, the use of electronic whiteboards allows teachers to shape more effective lessons and interact with students in real-time.

#### **4. Discussion**

Contemporary researchers have focused prominently on the practical component of innovative learning (Papadakis, 2016; Gürsoy, 2021; Babych et al., 2022). At the same time, much attention in modern universities is paid to the theoretical component of the training of future teachers. We are talking about the most adaptive approaches to the formation of a highly qualified specialist. In particular, according to Glassner & Back (2020), an important area for discussion is heutagogy, an approach oriented to higher education applicants where they take control of their own learning, responding to criticism that learning is too dependent on instructors and at the same time relies little on independent, dynamic and challenging independent learning. According to Blaschake (2021) heutagogical practices are applied in various fields, including social sciences, nursing, medicine, and engineering, because they can be adapted to learning in Reflective practice is important to the success of heutagogy because it helps students reflect on what they have learned and put it into practice (Glassner & Back, 2020). Although heutagogy assumes that learning is a natural human condition, technological skills are necessary to support learning outside of the classroom and to ensure that knowledge is acquired independently (Blaschake, 2021). Thus, integrating the principles of heutagogy with online technological tools is critical to providing teachers and students with the technological competencies necessary for a successful heutagogical approach to teaching pedagogy.

Peeragogy or paragogy, another form of collaborative learning, has gained attention in higher education because of its unique concept. This pedagogy celebrates co-creation and collaborative learning with peers, sharing learning situations and experiences in a social, active, and continuous process (Prasetya, Nuraeni & Shabir, 2022). According to Bizami et al., (2022) in this approach, students are actively engaged in the process of knowledge formation through co-creation of the learning environment. The pursuit of co-creation, which includes power sharing, interactivity, collaboration, responsibility, meaning, and knowledge, promotes flexibility, reflection, and increased motivation for both students and teachers (Bizami et al., 2022). However, developing techno-socially feasible learning and teaching tasks can be a challenge to balance practicality with the non-linear, non-coercive modality of peer learning (Bērziņa, 2018). In order to establish peeragogical learning and teaching, it is crucial to consider the principles underlying peeragogy, especially because twenty-first-century pedagogy differs from previous centuries (Prasetya, Nuraeni & Shabir, 2022). Answering important questions, such as which technologies are appropriate for peer learning and how the functions of the tools respond to the role of co-teaching and coaching in a blended learning environment, are important to successful pedagogical efforts (Milanković Jovanov et al., 2022).

Cyber pedagogy, on the other hand, focuses on engaging students in an online environment to enhance their cognitive, emotional, and social learning. The best learning outcomes can be achieved by engaging students in all three levels of presence simultaneously. The cybergogy approach can be applied anytime and from anywhere as long as computers and the Internet are available (Pliushch & Sorokun, 2022). The cybergogical approach also supports community-based learning by activating students to participate in discussions, share ideas, and develop solutions with the community (See Figure 1).



**Figure 1.** Little researched innovative areas of formation of the future teacher.  
*Article authors' development*

According to Demiray (2017), this innovative pedagogy is unique in its application to online learning, and it has been widely used by educators who are proficient in the use of online

computer systems. However, it has also been used in the introduction of blended learning (Bizami et al., 2022; Shavel et al., 2021).

The limited use of this pedagogy is due to various factors, including digital illiteracy of teachers, limited time to learn, set up and create heutagogical applications, willingness to implement only with significant help and support, and treating pedagogy the same as physical instruction (Blaschake, 2021). Therefore, there is a need for detailed guidance on how to implement the cybergogical approach to learning and teaching that will allow for the widespread adoption of this pedagogy. In addition, the structure of curricula ready for future use for higher teacher education also does not provide guidance on how to effectively use this direction in teacher education.

We believe that teacher education in the future is likely to focus on the individualization of education and student development. This means that training will be directed to the needs and interests of each applicant individually, taking into account their level of knowledge, skills, and other characteristics. As technology becomes more accessible and advanced, we can expect it to be used to create interactive and innovative teaching methods (Lopes & Soares, 2022). Future pedagogy can also be expected to focus on the development of creative and critical thinking, the ability to work independently, and the ability to search for required information (Bizami et al., 2022). An important aspect of the pedagogy of the future will be the development of skills necessary for employment in today's digital environment, as well as preparation for career development in an ever-changing technology and labor market.

## 5. Conclusions

Innovative technologies in teacher training at European universities play a very important role. First of all, we are talking about using the possibilities of developmental, collaborative, interactive, and modular educational systems. Particularly popular is interactive learning, a feature of which is the close cooperation between the teacher and the applicant of higher education. In France, the modular system of education is more popular, which allows applicants for higher education in pedagogy to receive official documents that facilitate their entry into the labor market, even if they have not yet fully completed their studies. Important technologies of learning through research are also popular in EU countries. Their main purpose is for students to gain research experience that unlocks their critical thinking and creativity. Among other applied innovative methods of training, there is an appeal to E-learning technology.

A lot of attention in European modern pedagogical universities is paid to theoretical systems of training future specialists. First of all, they talk about heutagogy, a way of teaching in which the control of learning is entirely in the hands of applicants for higher education. Further integration of heutagogy with online technological tools will be crucial to technological competence. Peeragogy is about the importance of collaborative learning and shared creativity among peers. Cybergogy focuses on engaging students in an online environment to enhance their cognitive, emotional, and social learning.

Educator training in the future is likely to focus on individualizing education and student development. As technology becomes more accessible and advanced, we can expect it to be used to create interactive and innovative teaching methods. An important aspect of the pedagogy of



the future will be the development of skills necessary for employment in today's digital environment, as well as preparation for career development in a constantly shifting technology and labor market.

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# The educational crisis in today's information and digital society

## La crisis educativa en la actual sociedad de la información y digital

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## **Abstract**

The aim of the study is to analyze the traditional education crisis and highlight the benefits and opportunities of digitalizing educational activities. The main methodology applied in this research is a review of current literature, as well as the experiences of teachers and students. The results show that the development of modern information and digital technologies, and their widespread use worldwide, significantly affect the production of goods and services, scientific work, educational processes, cultural traditions, and social relations. The obtained results underscore the fundamental

basis of the educational crisis issue in the information-digital society and distance education research in particular. The need to transform the educational industry by incorporating Internet technologies into the educational process represents a significant challenge for educators, especially in terms of overcoming the educational crisis caused by the urgent need to transition to distance learning. Under the influence of the latest digital technologies, significant configuration processes are observed in public development of a global nature.

**Keywords:** digital education, information society, crisis of traditional education, modern challenges.

## Resumen

El objetivo del estudio es analizar la crisis de la educación tradicional y destacar los beneficios y oportunidades de la digitalización de actividades educativas. La principal metodología aplicada en esta investigación es una revisión de la literatura actual, así como las experiencias de docentes y estudiantes. Los resultados muestran que el desarrollo de las tecnologías modernas de información y digitalización, y su uso generalizado en el mundo, afectan significativamente la producción de bienes y servicios, el trabajo científico, los procesos educativos, las tradiciones culturales y las relaciones sociales. Los resultados obtenidos evidencian las bases fundamentales del problema de la crisis educativa en la sociedad de la información digital y la educación a distancia en particular. La necesidad de transformar la industria educativa mediante la incorporación de tecnologías de Internet en el proceso educativo representa un desafío importante para los educadores, especialmente en términos de superación de la crisis educativa causada por la necesidad urgente de pasar al aprendizaje a distancia. Bajo la influencia de las últimas tecnologías digitales, se observan procesos de configuraciones significativas en el desarrollo público de carácter global.

**Palabras clave:** educación digital, sociedad de la información, crisis de la educación tradicional, retos modernos.

## 1. Introduction

The information and digital society is now in its formative stages, leading to a confusion of trends, extrapolations, and speculations with reality. Now each country has its own social characteristics, products and services. Information technology and the Internet have a direct impact on the development of the information-digital society. But the priority of the Internet entails risks of separating traditional and innovative clusters of social organization. However, the impact of ICT on social processes in recent decades is undeniable. The implementation of scientific and technological development is consistent with progressive sociological theories, dominated by a pragmatic concept, where the key role is given to efficiency. At the same time, technology, communication, economic and social goods are also the result of the embodiment of knowledge in sociocultural space. The development of the digital segment has caused dramatic changes in nowadays social attitudes. First of all, this concerns such components as demographics, diversity, mobility, and the digital society (Luna & M., 2021). Changes in society were widely discussed back in the seventies and eighties before the Internet appearance. Having become a qualitatively new format for digital communication, the Internet, complements traditional models of voice and image transmission (from telegraph and telephone to radio and television).

To fully understand the development of the information and digital society tendencies, first of all it is necessary to define the concept's essence, its composition, and its social meaning. The term

“information and digital society” correlates balances in the socio-cultural dimension of information and digital technologies. Nevertheless this term is not intended to define the dynamics of modern society as a whole. Information is an important element of any society, but its importance depends on its ability to be used in the knowledge system. In this sense, there is another extensive notion of “knowledge society”. This may be more appropriate, but again this term does not take into account all the factors where the information society is based. “Knowledge society” in its practically oriented meaning actualizes the potential of ICTs in the economic activity of society.

The main focus of the study is to analyse the digitalization of educational processes and the possible crisis of the learning. It is about the wide penetration of technology in society’s quotidian life. The intense penetration of technology causes difficulties in adapting to the requirements of modernity. This situation is characteristic of the educational industry as well, since the transition to distance learning has created new requirements for the traditional set of competencies updating.

The aim of the study is to analyze the traditional education crisis and to highlight the benefits and opportunities of educational activities digitalization. The consideration of this goal was carried out through the prism of the main research questions analysis:

1. Characteristics of modern digital society, the importance of education in human digital activity
2. The analysis of the transformation of the educational industry caused by the Covid-19 pandemic.
3. The role of digital environments in modern educational actions.
4. Highlighting the opportunities and prospects for the further development of digital education in the structure of an informatized society.

## **2. Research Methodology**

### *General Background*

General scientific and special pedagogical research methods were used to implement the main objectives of the study. Particularly, among general scientific methods the use of analysis, synthesis, induction and deduction was of the main importance. At the same time, in the work were applied such methods as concretization, abstraction, comparison. This article is formed on objectivity and systematicity principles. This article’s research process is based on a review of modern literature on the problem of using digital education at the present stage of development of the information society. The use of modern empirical and statistical research was of particular importance.

### *Materials*

The main materials of the study are official legislative acts, mainly:

1. Ukraine's Higher Education Development Strategy for 2021-2031 (Ministry of Education and Science of Ukraine, 2022).

2. The concept of digital transformation of education and science of Ukraine (Ministry of Education and Science of Ukraine, 2021).
3. Laws of Ukraine "On Higher Education" (Law 1556-VII, 2014).

Studies are also formed on the basis of European legislative acts adopted by the European Commission and the European Parliament.

These documents of legal nature influence the formation of a systematic analysis of the current transformation in education in the world and Ukraine.

### *Instrument and Procedures*

Based on the analysis method, the main subject of the study (the educational sector crisis) is divided into separate elements (the study of the significance of the modern digital society, the analysis of the main transformations in education, highlighting the opportunities and prospects of distance learning). By means of synthesis these elements are combined and the general state of digital education in the world and Ukraine is investigated. The authors explore the topic of information and digital society and the impact of the educational crisis on it on the basis of scientific concretization. Pedagogical process, methods and ways of distance education introduction under the conditions of educational crisis caused by COVID-19 epidemic are analyzed on the base of system principle, tendencies of modern information and digital society development and problems of new technologies formation in pedagogical process, which contribute to the educational crisis of recent years, are considered. On the basis of abstraction it was possible to move from the general theoretical justification to the formulation of conclusions and reflections. The predictive method use enabled the judgments about the prospects and opportunities for the use of distance education in the future.

This theoretical study was divided in several stages. First stage - the state and prospects for further development of digitalization of society, second stage - the main transformations in education and features of the implementation of e-learning were characterized, third stage - the prospects and opportunities of digital learning through the prism of foresight analysis were determined. The last stage of the study enabled the formulation of conclusions and recommendations.

### **3. Research Results**

The information cluster has enormous scale and significance as it enables the convergence of two major activities for social life: knowledge manipulation and communication. Information technologies make it possible to store, organize and process enormous amounts of information with incredible speed. New communication technologies make possible the transmission of the content instantaneously on a global level, being able to regulate the access to information, and to reduce communication costs. The Internet is a computer network where computers communicate in real-time, instantly providing information anywhere in the world. Consequently, the information and communication component overcomes localization in the physical dimension and moves into "virtual space," allowing simultaneous contact between an infinite numbers of people, regardless of their physical location (Bailey et al., 2022).

Creating a multicentric global learning system for continuous improvement of management will be the main challenge for information society policy (Bauer, 2022). The formation of the information society in Ukraine is an important condition of European integration processes in Ukraine and a prerequisite for its development as a modern state. It needs an effective constitutional and legal support. First of all, it is necessary to improve information law and information legislation. After all, only with the effective regulation of social relations in the information sphere the creation and development of the information society is likely (Shevchenko, 2019). The formation of the concept of the information society, which began in the late 1960s, is still characterized by a lack of unity in the scientific argumentation of the methodological tools and scientific vision of future social development. It can be assumed that this is due to the fact that the concept of information society since its inception been constantly transformed under the influence of scientific and technological as well as social progress and forms such phenomena as "knowledge industry", "post-industrial society", "white collar revolution", "information revolution", "information and communication technology", "social informatics", etc. Given the changes of the fourth industrial revolution, the modern "information society" continues to transform in the direction of digitalization and robotization of social life.

The modern society with its high level of information technology development, with its culture, and structure and is an information-digital society. A society where information plays a crucial role in how products and services are created, research, education, life, and social relations are carried out, and civil rights are exercised. Social culture and education are changing under the influence of information and digital technologies. The creation, processing, and transmission of information is a technological prerequisite for the formation of an information-digital society. The information society refers to a community where information and technological infrastructures are used to create, store, and disseminate information through information and digital technologies. All elements of information activity are a technological condition for the formation of the information-digital society. The information society advocates the actualization of infrastructural elements of the information environment based on digital technologies. They increase their influence on all clusters of economic and economic activity. In the public sphere, the concept of the information-digital society got its status in the 1970s. The need to focus on socio-economic development, the construction of equipment and technology, and other innovations associated with the widespread introduction of computer technology, the development of telecommunications technology is emphasized. Ideas such as the information-digital society are important because they shape perspectives on how the world works and thus influence the decisions of individuals, companies, and governments. Despite the many challenges to the idea of the information-digital society itself, the concept is increasingly shaping public understanding of the social and economic changes associated with computers and information and communication technologies. The innovativeness of ICT is primarily associated with the formation of new perspectives on the world order, the public sector, society, business, and the individual. Despite the contradiction of the ideas of the information-digital society, this concept is increasingly defining the public understanding of social and economic changes related to computers and information and communication technologies. Many agencies and institutions are now relying on the concepts of information as a new strategic resource. Such a focus can be misleading, especially if positioned solely on the information sector and from the perspective of other clusters of the economy are abandoned. The information society paradigm is based on the infrastructural elements of advanced industrial communities. The problem of developing an

information-digital society is complex and multifaceted, so it cannot be conditioned by a single factor. However, this problem must be solved in a multidimensional way and considered with the help of various indicators. However, the idea of the information society had support (and sometimes passion) and refocused attention on information and communication technologies as a fundamental element of socio-economic development. New perspectives of the information society have significantly changed the role of technology in both theoretical and methodological and practical aspects.

The challenge for the information-digital society is to improve and simplify the life. Great volumes of information can cause anxiety and fear for most people because people tend to be afraid of what they don't understand. They may be skeptical of the inevitable changes in society brought about by the need to be constantly in an environment filled with a variety of information. However, it is necessary to point out the importance of such changes. The attempts to conceptualize social perspectives involves taking into account trends of globalization and integration, which requires reconciling the dimensions of physical and digital space. Digital innovations, by providing this process, form the risks of society's dependence on technology, creating a sense of flawless functioning of systems (Ogonowski, 2020). Societal change means developing processes of interaction, so it is very important to understand how the information-digital society will affect us. Let us consider the advantages and disadvantages of the information-digital society.

The benefits are determined by the social implications. Digital networks increase the speed of information exchange. At the same time, they reduce the time and cost of accessing various information. Digital networks are also of great importance for the environment, reducing paper consumption and therefore the destruction of forests. But the use of electronic correspondence is only the beginning. Internet searches bring us one step closer to each other. The world is becoming increasingly digital, where the Internet facilitates economic development and the exchange of services. For example, libraries are now easily accessible regardless of one's location or hours of operation. There is a 24/7 access to all kinds of information. Various educational institutions can pass on the accumulated scientific knowledge, research, and development to everyone. If working, communicating, and buying different goods and services online, people become members of the information-digital society.

The costs are also determined by the social implications. Now more than ever, humans have access to an enormous amount of data. We can observe natural and man-made cataclysms online in real-time. But a large amount of information does not allow us to be fully aware of reality, we are very superficially aware of all the issues. We detach ourselves from what's going on because it's far away from us. Some people even develop insensitivity to tragedy because it seems that disasters happen everywhere. The ability to block out negative information to prevent it from affecting us develops. The security of sensitive data is also another important online issue that needs to be addressed. Overloading the information-digital society with negative data can become a destructive social factor if left unchecked. From the streets, toward our computers and homes, a lot of malicious content, such as e-fraud and all sorts of offenses, has been carried over. Digital data cannot be fully regulated. Today, information uncontrollably serfs over the Internet and so its security has become extremely important, as has its probability. For most economic activities in the modern world, the main type of professional competence is the ability to find, analyze and use information. Thus, information technology is closely related to the educational process,



although this relationship is ambiguous. The role of information technology in education has two tasks: to convey specific educational information to further develop the student's ability to use it independently and the use of the Internet to develop specific knowledge and skills (segment of higher professional education, language cluster, qualification level improvement, professional growth in existing and new areas). The number of educational institutions around the world is increasing and almost everyone is using multimedia and distance learning technologies in the educational process. Learning CDs require only computers with no Internet access. Due to the rapid spread of social media, the potential for global messaging and effective news dissemination has developed in recent years (Massimo & Muschert, 2017). At present, there is a lack of statistical data on practical indicators of the benefits of the Internet, especially in comparison to traditional educational systems. Although early attempts at strategic research on the impact of the Internet on education have noted positive results in language learning, business, higher education, and pedagogy. Private educational institutions have continued to function routinely in markets because they have not felt the full impact of the educational crisis. At the level of secondary education, the actualization of the Internet segment seems ambiguous, except to meet the needs of children with disabilities. The aforementioned lack of strategic comparative research does not allow a clear definition of the contribution of digital technology to school education. Practice-oriented research shows that teaching excellence remains a key element of the educational space, and the digital arsenal can be used as a supplement to the structural elements of learning. The main indicator from an individual's perspective is success in learning. For most students, the transfer to distance learning was a reason to be more effective because they found it easier to focus on the subjects; it felt as if they were watching the lesson face-to-face, which made it easier to understand the theoretical part.

Comparative studies in contemporary scientific and pedagogical discourse argue that "education plays an important role in technological innovation and economic growth, but modern education is different from traditional offline education. Schools, students, and institutions are looking for more effective ways to learn, and distance education, based on technological innovation, has attracted widespread attention. Distance education, also known as distance learning, e-learning, and online learning, provides regular and meaningful learning activities for students separated from teachers (Topuz et al., 2021). Nowadays, the need to transform the educational industry, by adding information and digital segment to educational activities, becomes a major challenge to educators, especially to overcome the educational crisis caused by the abrupt need to move to distance learning.

Before the COVID-19 epidemic, distance education was not a common solution to educational problems, regardless of the degree of natural or man-made disasters. Situational distance education has unique existential and axiological dimensions, differing from planned distance education in several ways (See Table 1)

**Table 1.**

*Main features of situational distance education*

<b>Uniqueness of situational distance education</b>	
<b>Unexpectedness</b>	Distance education was introduced suddenly, because of an urgent need, with no prior instruction or preparation. The educational community was forced into online classes with no prior knowledge or skills
<b>Global</b>	The educational process around the world has been forced to move to the information-digital space. Distance education has become a mandatory, universal solution to the crisis, regardless of local preferences and needs. Whereas in the past it was a local problem, now it is an international problem. However in the past it was a local problem, now it is an international problem. Earlier efforts were aimed at institutionalizing the distance format of education, but now there has been a reorientation of pedagogical discourse toward an interpretation of internationalization. The increase in the share of distance format in the educational system provokes the risks of uncontrollability of the quality of education.
<b>Pervasiveness</b>	The education has become a common process for all societies, dominating the information-digital environment. It is about its quick spread. Distance education, with its attendant terms and concepts, has shifted from an alternative to a traditional dimension in society, correlating the balance of formal or informal formats, online or offline venues.
<b>Proliferation</b>	Distance education has gone beyond its usual zone, that is, the academic environment. For higher education, online learning is not new, but its introduction in schools, especially elementary schools, is remarkable. Distance education has now become a means of learning for a variety of ages, from kindergarten to doctoral level.
<b>Mandatory</b>	In many educational institutions, there has been an imposition of these practices without regard to democratic principles and procedures, even in regions where democracy has a dominant status. It has been applied as a primary means of completing the educational process.
<b>Emergency Medical Care</b>	While distance education is often introduced because of geographic isolation, disability, and war, during the epidemic it was used as a tool to combat medical tragedy. The media portrayed distance education as the only means to help schooling escape the clutches of the coronavirus

*Written by the authors of the article*

Thus, teaching in an information-digital environment has become a matter of integrating diverse elements (normative-disciplinary, practical-pedagogical, human-dimensional, organizational-regulatory, as well as technological) - provided that teachers manage the dynamics of this process productively (Liu et al., 2022). If previously distance education was a luxury, then during the epidemic it has acquired the status of a non-alternative learning format. The use of distance or blended learning has become necessary rather than recommended.

Teachers' experience plays an important role in a crisis context that simultaneously creates new opportunities for the transformation of teaching methodologies. The educational crisis in today's information-digital society impacted faculty work in the early days of the COVID-19 epidemic and forced a complete rethinking of the concept of will and its value for understanding teaching in extraordinary circumstances. At the beginning of the pandemic the vast majority of research

focused on the problems faced by education applicants. However, further social research has embraced the experiences of educators. Summarized reports indicate perceptions of online learning, though with varying levels of motivation (Topuz et al., 2021). To understand the process of creating distance learning courses, one must understand the steps that instructors take in developing them because their most important task is to ensure that students learn quality content. Parties interested in improving the quality of instructional materials can provide instructors with additional resources, such as reviewing courses and projects. This can be done by sharing existing courses or giving each other feedback on the effectiveness of elements and content of instructional materials. Templates can also be offered to help structure and share content (Al Lily et al., 2020). It is suggested considering a few contingencies, such as the extra time that instructors spend developing and planning online classes and assessments, as well as for registering, accessing, and populating digital platforms with instructional materials. The importance of teachers' information and digital literacy, experience, and online skills should also take into consideration. Support and encouragement of the transition to the latest technology by the leadership of the educational institution actualize the role in the formation of distance education. To move all existing courses into the information-digital space in a matter of days is a massive, disruptive change. It should be realized that a full-fledged online course requires the development of a detailed lesson plan, teaching materials. However, because of the sudden emergence of COVID-19, most teachers face problems related to the lack of experience in online teaching, prior training, or proper initial methodological and organizational support (Damsa et al., 2021; Wlodarczyk et al., 2020). Stakeholders and higher education administrators had no choice but to use online technology, i.e., distance learning, to pursue academic activities at all academic institutions around the world. (Baldwin et al., 2018). The priority task of modern scientific and pedagogical discourse is to classify the teaching potential by the opportunity to show all its creativity, to correlate pedagogical and information as well as digital resources in a unified teaching practice under strict and limited circumstances. Teaching staff must be aware of the force-majeure nature of the current educational environment and the conditions in which online education is implemented in the educational process. Total mobilization is needed to reorient both the general pedagogical canons and the personal qualifications of the teacher. This can be central to how educators cope with the constraints of the pandemic and take advantage of the potential opportunities created by this exceptional situation. In addition, one must identify the new constraints as a real threat and realize that free will cannot be expressed simply as a series of mental actions, that is, desired, ideal modes of action aimed at achieving goals without specific constraints. Rather, the notion of must include the fundamental constraints under which teachers work, such as weak pedagogical and digital skills, technological limitations, connectivity, or time constraints. This allows understanding the limitations that motivate the reorientation of free will and learning goals.

Reality does not allow for long-term adaptation of teachers to the new environment and suggests a need to engage critically with the theory, pedagogical considerations, and instructional design associated with online and distance education. This has led to a dramatic transformation in educational systems around the world and has forced educators to urgently transfer to the new online mode of learning. Many educational institutions had no choice but to completely change the format of instruction and move to online learning (Bao, 2020). Educators are demanding a quick solution to the problem of moving to distance learning, an appropriate interim measure that

would allow them to work as always as much as possible. Therein lies the long-term challenge for those who support the pedagogical process.

In general, teachers approve of the introduction of virtual dimension educational technologies. Due to the fact that the new format ensured the continuity of the educational process under complex socio-cultural realities, teachers are aware of its relevance. A significant number of educators faced the potential risks of failure to continue their career or professional development. However, the virtual and digital format made it possible to survive difficult times for educators.

Of course, there are a number of disadvantages to this format of learning; among them is the fatigue from constant videoconferencing. Another threatening factor of distance learning is a kind of social isolation, leading to negative moral and psychological consequences.

Videoconferencing often provokes a violation of standard non-verbal communication. It requires subjects of the educational process to be more energy-consuming in the learning process. Technological shortcomings lead to a decrease in mutual understanding of the teacher and the student. In turn, this understanding reduces the quality of education. If adding to everything the moral and psychological aspects expressed by the general anxiety and stress associated with the COVID-19 pandemic, it is possible to get risks for the moral health of the participants in the educational process. The way out of the situation is seen as increasing interactive elements (games, discussions and debates), which can alleviate the negative feelings of social distancing. Efforts should be made in order to improve the quality of education and the coordination between teachers and students in the information and digital space (Demuyakor, 2020). Thus, the question is no longer whether the move to distance learning can provide quality higher education, but how educational institutions can immediately and effectively embrace mass adoption of online learning (Dhawan, 2020). Undoubtedly, the quarantine through COVID-19 entailed stress for educators. Teachers reported that they had to work from home, unable to meet face to face with colleagues and students. They were forced to teach in new ways, using largely unfamiliar technology, and changing their syllabi for the semester-all of which happened suddenly and without time to plan, implement, or adjust (Yu et al., 2021). The popularity of using information-digital platforms increased significantly during the educational crisis caused by the COVID-19 pandemic. This has led to the actualization of digital platforms that are location-specific and based on urgent needs. Thus, it should be noted that in times of crisis, entrepreneurs are guided by financial, social, and societal goals that affect their use of digital platforms. As a result, the findings contribute to practices management and policy debates, highlighting how information and digital platforms can be used in times of crisis to achieve transformative entrepreneurial outcomes. The capabilities of digital platforms are closely related to the intellectual dimension, that is, they are positively correlated with human, organizational, and relational capital. Educational institutions should prefer intellectual capital, which will allow the reorganization of outdated models of the educational process (Liguori & Winkler, 2020). Digital platforms are a game-changer in the educational and entrepreneurial markets, as they facilitate the access to products and services that subsequently lead to transformation. The main advantage of innovative models is to reduce the direct costs of education and to improve the financial planning. This means that digital platforms provide more user-centered innovation. Digital platforms are game changers because they facilitate the access to products and services that subsequently lead to transformational entrepreneurship. The humanity is a witness of a striking example of transformational

entrepreneurship in the educational space as radical changes are taking place in society. Transformational entrepreneurship has become an appropriate response to a number of global problems characteristic of contemporary civilizational development. It is a relevant way to bring the common denominator of societal goals with entrepreneurial activity. This indicates that transformational entrepreneurship focuses on social problems and is implemented through training or educational programs. The difference between innovative and traditional paradigms of entrepreneurship is the use of a systematic approach and the identification of prospects for further development of individual cases. This means the need to implement innovative solutions to social needs that are not currently being addressed because of business interactions. Thus, there has recently been an increased demand for transformational entrepreneurship as a distinct type of entrepreneurial activity, which carries with it an understanding of digital transformation in society. This is directly related to the entrepreneurial activities of lobbyists for the use of digital platforms that address public needs related to reducing the negative manifestations of the COVID-19 pandemic. Digital platforms have become a way of developing information and digital technologies such as personal computers, computer, and social networks. They facilitate a smooth flow of information by integrating external sources. Digital platforms can be used in a variety of contexts, such as payments, accommodation, health care, and education. This means that digital platforms facilitate the interaction between participants by offering digital content. The content is usually shaped in some way in terms of different uses. They allow you to share knowledge and disseminate information. It fosters diverse scientific communities, allowing the sharing of best practices. Digital platforms enhance a culture of innovation by encouraging the use of digital technologies. Learning is increasingly happening through the use of digital platforms. Digital platforms use information and communication technologies to gather and disseminate information (Liguori & Winkler, 2020).

Modern distance education using information and digital technologies is steadily moving forward and attracting more and more people's attention, gradually giving a powerful impetus to the development of the educational process. We consider it necessary to analyze the problems existing in distance education and ways to improve them.

Distance education is characterized by several features (See Table 2).

**Table 2.**  
*Main features of distance learning*

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<b>Features of distance education</b>	
<b>Accessibility</b>	Distance education, unlike traditional education, pays more attention to the development of innovative technologies. There are many educational resources and training courses with open access. But easy access to courses does not mean their easy completion, the test of acquired knowledge and skills occurs at the end of the educational program. To ensure the quality of education, information and digital technologies provide many educational opportunities and learning methods.
<b>Flexibility.</b>	In distance education, flexibility means the ability to meet the demands of educators and give greater independence to learners. Students can study the way they choose and at a time that is convenient for them. Thus, there is active learning rather than passive learning. In distance education, learners are responsible for their own learning progress, which develops responsibility for their results. Collaboration with the teacher takes place to ensure that the learning content meets social requirements to a certain extent. Learning becomes more autonomous, while educational institutions have to provide additional conditions, services, in particular, to deal with the educational process
<b>Popularity</b>	It is provided with the first two points. It is the independence of time and place and the possibility of teaching students with different backgrounds. People with different professions, skills, and backgrounds can continue their education
<b>Sharing social resources</b>	The use of modern information and digital technologies allows students getting more information because the learning process changes from passive recording of prepared material to active selection of data by the student himself

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*Written by the authors of the article*

In a material sense, distance learning overcomes the time and space limitations. There is no longer a need to set up classrooms, to accommodate students for lodging. The teaching activity is also deprived of the constraints of country, residence, natural or man-made limitations. Particularly, the cost of an electronic information resource is much lower than that of a printed textbook (Ahmed et al., 2022). Teachers and students are positive about the introduction of virtual information and digital technologies in education. The latest technologies provide them with learning materials not available at their institutions, access to industry experts, and a means of making lucrative career connections. But distance learning is associated with social isolation, causing depersonalization and burnout (Chick et al., 2020; Hjelsvold et al., 2020). Online classes

result in a loss of non-verbal cues, which subsequently requires more concentration and effort than face-to-face interaction with the instructor. Group classes can be more challenging because there are often delays and communication problems, resulting in decreased interest and trust. These effects are compounded by general anxiety and stress caused by the COVID-19 pandemic and prolonged social isolation. To address this problem, more interactive elements such as discussions and debates need to be created. These effects are exacerbated by the general anxiety and stress caused by the COVID-19 pandemic and prolonged social isolation. In order to solve this problem, more interactive elements such as discussions and debates need to be created. This can make more positive associations with the introduction of information and digital technology in education. Maximum efforts should be made in order to create in-demand and quality educational content (Ratten, 2022).

#### **4. Discussion**

In this article the current literature and the trends of modern information and digital society were investigated. The problems of implementing the latest technologies in the pedagogical process, and the features of the educational crisis that has arisen in recent years were analysed. Nowadays the necessity to transform the educational sector by adding Internet technologies into the educational process is a serious challenge for teachers, especially in terms of educational crisis overcoming, caused by the acute need to move to distance learning. Under the influence of the latest digital technologies, there are processes of significant configurations of public development of a global nature. The features of this development are not always only positive. There are problems associated with the lack of personal social communication, social distance, and lack of motivation to learn and work.

In addition to the social context and family background, the level teachers' qualification remains central. Due to psychological relationship with the teacher, children develop their mental and intellectual abilities, thinking, and analytics, which are certainly important in an information-digital society where unlimited access to information can be paralyzing, as in its absence. New technologies are affecting the role of the teacher, destabilizing their functions and modifying the creative segment of pedagogical excellence and collaboration with students. They limit the creative application of their teaching expertise and social interaction in the classroom. Apart from personal interaction at the mentor-student level, there is no substitute for paper and pencil, as they are important for the development of writing skills. Student tasks completed on paper provide opportunities for both teachers and parents of students to access them. The situation will change (and is gradually changing) with the reorientation of the Internet from an experimental format of the learning process to a programmatic one. Following the example of other spheres of social activity, innovations will demonstrate effectiveness in advanced countries, and later will be implemented on a planetary scale, forming a new educational paradigm. Innovative tools will quickly replace their obsolete counterparts (for example: three-dimensional models in physics or medicine greatly simplify the acquisition of practical skills and theoretical understanding of a problem). Of course, work plans and programs will need to correlate with new learning formats and techniques. Currently, education is in a state of transformation and reorientation toward new models of learning with new educational-methodological and organizational-technological support. Because most multimedia products differ from the requirements of individual adaptation to each student's needs, especially at the school level. At the university level, an overemphasis

on the importance of the Internet as a source of information can have devastating consequences. There is a possibility that students will replace reading and writing with searching the Internet for texts that can be adapted to their tasks. Instead of using them as a starting point for their research. Overemphasis on the computer screen and on multimedia educational tools carries the risk of compromising the need for intellectual development that needs reading books and working out creative ideas. The uncontrolled use of information and digital technologies in education can have negative consequences, especially when teachers are inexperienced. Teacher's development and training will require significant investment to avoid the gap between students' awareness of the latest technology and the skills of the teachers themselves. The introduction of the computer as a teaching tool should be preceded by appropriate training programs in order to improve the teacher's qualifications. Digital-skills become a separate cluster of skills, indicating the high qualification of the teacher.

One of the most important questions today concerns the influence of information and digital technologies development and impact on the efficiency of the educational process. As the use of innovative models becomes more and more popular in education, the importance of tracking their impact on the public increases. Indicators should be identified that will show the relationship between the use of technology and learning outcomes. It should also be understood that the use of digital technology is insufficient; it is only a mean to promote creativity in learning, empowerment, and educational effectiveness. Many contemporary researchers have tried to find an answer to this question at the theoretical and empirical levels. Exploring this question, the scientific and pedagogical discourse has encountered two problems. First, is difficult to trace the student's success and there is still confusion about its definition. Second, it is difficult to separate from the sociocultural environment the development and influence of technology. Consequently, the relationship between the development of the information and digital society and educational outcomes is quite contradictory. However, the current literature reveals a gap in empirical knowledge about the information society and its impact and effectiveness on educational processes and outcomes.

As a consequence of the crisis in education caused by the COVID-19 epidemic, a record number of educational institutions were forced to urgently pass from face-to-face to distance learning and to completely adjust their educational activities, regardless of their competence in the information-digital sector. Teaching became very dependent during the quarantine. Teachers faced challenges in the new online mode of teaching, had to improve digital literacy in the same online mode, as well as to develop and provide successful learning experiences in the new realities.

Indeed, the educational crisis in the information-digital society had a corresponding impact on the practice of individual teachers, which requires additional research. This process has challenged the entire educational paradigm, which is usually the primary support structure for the learning process. In this permanent environment, the professional competencies of the teacher are a dynamic, development-oriented element. Thus, teaching in crisis requires the alignment of all clusters of the educational process.

It is common to have a lecture or seminar. This means large groups of people attending the same space at the same time, but not necessarily interacting. The same in a distance listening to a



lecture broadcast live or in a previous recording, or perhaps reading endless journal articles and posting their thoughts on a discussion board. Quality learning involves formal assessment, and it doesn't have to be heavy written work with grades. Questioning techniques, both synchronous, in the case of remote streaming, and asynchronous in the text version, which give the lecturer a framework for answering and managing the direction of the learning, can be more valuable. Further learning involves students communicating with each other, with activities divided between modes of transmission, collaboration, and application. All of this can be done through accessible digital technologies with translation platforms, shared documents, spaces, and applications. The realization that the educational process in the classroom is different from the online classroom with remote participants is a challenge for educators and students alike. The challenge for educators is to help colleagues move beyond quick responses and compensating for possible poor outcomes to fully embracing information-digital learning tools to enhance the quality of their development. Now is the time to support teachers in their work and students in their studies.

The ICT use increased exponentially during the COVID-19 pandemic because of demands for social distancing. This means that entrepreneurs and educational institutions have increased their digital competencies to compete in the global marketplace. In the digital age, more and more entrepreneurs are using different kinds of platforms because of competition. Notable digital platforms include Airbnb, Amazon, Facebook, Google, and Uber. While these global digital platforms are widely used in society, other types of digital platforms are created by government agencies for societal reasons. These types of digital platforms are creating a new audience focused on reliable, real-time information. For education, the most popular digital platforms have been Google, Action. Digital Education, Prometheus, EduHub.in.ua, and others.

To introduce modern distance education, one should first build common information and digital platform for distance learning with a common computer network. This platform could include setting up a computer network and running a video broadcasting system. In building a multimedia distance learning platform, the software is the key. In the process of building distance learning software on a digital platform, one should pay attention to one simple and universal principle, and that is to facilitate students' access to learning resources. In order to develop quality learning content, teacher training in the field of information and digital technology must be strengthened. Without the teachers' leading the learning is impossible.

## **5. Conclusions and implications**

In the process of a learning platform generation, it is worth thinking about improving the qualifications of teaching staff as well.

However there are problems associated with modern distance education as well. Currently the whole market of distance education is developing rapidly and has great potential. Though, distance education in Ukraine is still at the stage of development, characterized by several major problems:

1. **Software Quality.** The teaching is accomplished with the help of information and digital technologies, where the teachers themselves are not of great expertise. Consequently, the issue of improving multimedia software design is an important topic facing distance education.

2. Uncertain policy direction regarding distance education. There is still an ambiguity in the way distance education is promoted and the direction it should take. Distance education may be a breakthrough for some professions, but for other students, face-to-face or blended learning remains mandatory.
3. The lack of resources and copying of similar projects. The lack of resources is now a common problem in Ukraine's educational industry. A large amount of entrepreneurs create several schools with the same approach to the educational process, teaching and learning facilities, and software. This leads to a great loss of resources. To better understand distance education, in order to help teachers change instructional approaches, and to explore teaching methods, the new educational environment should be perceived with a positive attitude. Students, in turn, should be comfortable with distance learning, they should have basic skills in the information-digital environment. After all, if students do not know modern technologies or have no access to the Internet, distance education will not be successful. Therefore, the primary task for creating a modern distance education is to teach modern technologies, to inoculate independence, and responsibility, and to provide easy access to educational resources.

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## **Innovative systems of Ukrainian education in the context of globalization: philosophical content of categories**

### **Sistemas innovadores de educación ucraniana en el contexto de la globalización: contenido filosófico de las categorías**

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### **Abstract**

Modern globalization processes have a powerful influence on innovative trends in the educational sector. The purpose of the article is to analyze the philosophical content of the categories of innovative Ukrainian education systems in the context of globalization. To carry out the research, primarily theoretical methods were used, in particular, analysis, synthesis, deduction, induction, and the method of abstraction. The results consider the issue of the general context of the modern use of innovative methods in the Ukrainian educational sector. It has been demonstrated that innovative education has connections with philosophical ideas and views. It is aimed at the development of critical thinking and creativity among students of higher education, as well as at the use of modern technologies and

innovative teaching methods. One of the fundamental principles of modern innovative education is the individualization of education, that is, the actualization of individual educational opportunities in the student environment, according to the level and individual needs of each student. The philosophical dimensions of innovations in the educational system of Ukraine were also studied. In the conclusions, the main attention is paid to the importance of opportunities for solving the main actual contradictions, their use through the prism of approbative methods.

**Keywords:** innovaciones, educación de Ucrania, globalización, retos, categorías filosóficas.

## Resumen

Los modernos procesos de globalización influyen poderosamente en las tendencias innovadoras del sector educativo. El propósito del artículo es analizar el contenido filosófico de las categorías de los sistemas educativos innovadores ucranianos en el contexto de la globalización. Para llevar a cabo la investigación se utilizaron principalmente métodos teóricos, en particular, el análisis, la síntesis, la deducción, la inducción y el método de abstracción. Los resultados consideran la cuestión del contexto general del uso moderno de métodos innovadores en el sector educativo ucraniano. Se ha demostrado que la educación innovadora tiene conexiones con ideas y puntos de vista filosóficos. Su objetivo es el desarrollo del pensamiento crítico y la creatividad entre los estudiantes de enseñanza superior, así como el uso de tecnologías modernas y métodos de enseñanza innovadores. Uno de los principios fundamentales de la educación innovadora moderna es la individualización de la educación, es decir, la actualización de las oportunidades educativas individuales en el entorno estudiantil, de acuerdo con el nivel y las necesidades individuales de cada estudiante. También se estudiaron las dimensiones filosóficas de las innovaciones en el sistema educativo de Ucrania. En las conclusiones, la principal atención se presta a la importancia de las oportunidades para resolver las principales contradicciones reales, su uso a través del prisma de los métodos de aprobación.

**Palabras clave:** innovación, educación en Ucrania, globalización, desafíos, categorías filosóficas.

## 1. Introduction

Modern globalization processes play a significant role in the development of the social sphere, services, economy, politics, technology, etc. Among other sectors, education is also significantly influenced, as it is an integrated and integral part of modern life and is an important factor in the formation of a person in the current conditions of development. Digitalization is also a powerful factor, as it has covered all aspects of human activity, including education. Thanks to the combination of these two important factors, innovative forms of teaching have become available to all educational systems around the world. This has set a precedent when global changes in education on a national basis require a detailed philosophical understanding, as their effective implementation requires significant adaptation and consideration of local specifics, combining and harmonizing existing norms with global trends and practices. Therefore, this task remains relevant, as innovative methods and modern technologies in education are developing rapidly. Taking into account new effects in education requires time and long-term analysis, determining the usefulness of new methods and their viability in the realities of national educational systems.

The peculiarity of Ukraine's situation is the prolonged use of distance education. The quarantine restrictions imposed as a result of the global COVID-19 pandemic have been combined with the deployment of Russian military aggression, which has caused significant damage to Ukraine's

educational and economic potential since February 2022. Under such conditions, the real way out of the situation has been the active use of distance learning, which already dictates certain limitations in the ability to use all the possibilities of innovative forms of education. Further consideration of this problem is promising in view of both the changes in the situation of the Ukrainian educational system and in modern methods of organizing the educational process in general.

The purpose of the article is to analyze the philosophical content of the categories of innovative systems of Ukrainian education in the context of globalization. The realization of this goal also involves consideration of the following tasks:

1. Explanation of the phenomenon of innovation in education;
2. Identification of the peculiarities of the use of innovative methods in Ukrainian education in terms of the globalization challenges of our time;
3. Understanding the philosophical dimension of educational innovations and technologies.

## **2. Methodology**

The chosen methodological apparatus is focused on achieving the main goal of the study - analysis of the philosophical content of the categories of innovative systems of Ukrainian education in the context of globalization. In particular, on the basis of the analysis, the main subject of the study is divided into smaller elements (explanation of the category "innovation", characterization of the peculiarities of the use of innovative methods in Ukrainian education, study of the philosophical dimensions of innovative education). By means of synthesis, these parts are combined, and own judgments are formed.

The method of deduction was also of great importance - the formation of logical constructions that consist in the formation of new knowledge or conclusions from already known facts, principles, laws or assumptions. The peculiarity of its use was the appeal to the basic, general rules and principles used in specific situations or facts. Based on this method, general assumptions or principles of understanding innovations in education were first formed and then applied to specific situations to draw new conclusions. In general, deduction is used as a chain of logical reasoning about the role and place of innovative educational methods in contemporary philosophical discourse. The inverse of the deduction method is the induction method. This is an approach where conclusions are drawn from observations of specific phenomena or facts and used to formulate general laws or principles. In this particular case, it was used to highlight the role and place of the student in the modern educational environment. The axiological method, which focuses on the study of values, assessments, and ideals that underlie human behavior and interaction, has also become relevant. This method is used to define modern value concepts, analyze their interrelationships, and study how they affect education and educational processes.

### 3. Results

#### **Explaining innovations in education: the current use of innovative methods in the Ukrainian education system**

Innovation in the field of education is the process of forming, using, and disseminating the latest ideas, opportunities and tools, pedagogical and managerial solutions, digital technologies in educational practice, resulting in increased indicators (degrees) of achievement of the structural elements of the educational sphere, and the transformation of the system to a much higher quality state. The concept of "innovation" has several dimensions, as it is formed from several forms: first of all, the idea and the possibilities of its practical implementation (Bizami, Tasir & Kew, 2022). A relevant feature of educational innovations is that they concern not so much separate, isolated elements of the overall educational process, but primarily affect education and have a significant impact on transformations in all other aspects (Kyrylenko, 2022). An important part of the innovative development of education in any country is the innovative capabilities of the university system - its ability to take into account the circumstances of a changing environment and function in extreme cases, as well as to continue to fulfill its purpose based on a creative understanding of the purpose of educational work and the active use of scientific knowledge about the development of modern pedagogical thought (Floyd & Morrison, 2013).

Innovative teaching methods must meet certain criteria. They should form an active, independent, and proactive position of students in learning, develop general learning skills, such as research, reflection, and self-assessment. They should form competencies, i.e. skills directly related to the experience of applying them in practical activities (Avby, 2022). In addition, they should be aimed at developing students' cognitive interest and implement the principle of connecting learning to life. The COVID-19 pandemic has caused the largest and fastest innovation in the educational process in Ukraine - the transition from traditional (full-time) to distance learning (Pliushch & Sorokun, 2022). This is one of the forms of organizing the educational process, in which all or part of the classes are conducted using modern information and telecommunication technologies, regardless of the location of the teacher and students (Milanković Jovanov et al., 2022). During the transition to distance learning, the interaction between participants in the educational process was considered, which is the most important factor in the successful functioning of any educational community (Prasetya, Nuraeni & Shabir, 2022). Distance education provides an opportunity to improve the quality of specialized training of students, providing flexibility and diversity in learning, allowing them to reach their potential through a variety of distance courses. In particular, it is the best solution for those who miss classes at an educational institution for health reasons or other important circumstances, such as sports, competitions, and illness. It allows you to learn individually, meeting your own educational needs.

Any innovation requires certain means for implementation - technology. The category of "educational technology" is a complex, integrated process that includes subjects, ideas, concepts, means, and methods of organizing learning activities. In practical terms, "educational technology" is used at three levels: general pedagogical, methodological, and modular (Dzyuba, 2018). General pedagogical technology forms a holistic educational process in the region. At the methodological level, educational technologies are used in the sense of "methods". The modular



level is realized when the technology of separate aspects of the educational process dominates (Dzyuba, 2018).

The use of information and communication technologies allows accumulating, processing, and transmitting information quickly and efficiently, which is a key aspect of globalization. This creates a viable infrastructure that ensures the development of society in economic, political, and cultural aspects, including higher education. Information and communication technologies can reduce the cost of courses and library materials for students due to their availability in the online environment (Gumennykova et al., 2022). It also increases opportunities for transnational education and allows new intermediaries to provide education without the need for outdated tools and paper libraries. Information and communication technologies, which are proposed as additional alternatives to the usual pedagogical methods of conducting educational activities (both school and higher education), also affect the use and application of modern educational technologies.

At the same time, the use and implementation of such information and communication methods of organizing educational activities raises new urgent problems in terms of regulating and providing opportunities for distance education. In Ukrainian realities, the element of effectiveness in use, the problem of the quality of online education, and the motivation of teachers to use innovative technical tools remains problematic (Bader, Oleksiienko & Mereniuk, 2022). However, such digitalization barriers are also characteristic of the world market of educational services (Sari & Nayir, 2020).

There are many philosophical ideas and views associated with innovative education. One of the most important aspects is the belief that education should be aimed at developing students' critical thinking and creativity. This means that education should not only impart knowledge, but also teach students to analyze, criticize, and create new ideas. Another important aspect of innovative education is the use of modern technologies and innovative teaching methods. This means that education should take place in an interactive environment where students can actively engage in the learning process and interact with other students and teachers (Pliushch & Sorokun, 2022). The use of technology can also help provide access to education for a wider audience, including people who live in remote areas or are unable to physically attend an educational institution (Ridei, 2021). One of the key principles of innovative education is the individualization of learning, i.e., enabling each student to learn at their own level and according to their needs and interests. This may include the use of a variety of teaching and assessment methods that allow students to focus on and build on their strengths, as well as work on their weaknesses.

### **Philosophical Dimensions of Innovations in the Educational System of Ukraine**

From a philosophical perspective, innovation is an innovation or change that has a profound impact on culture, society, and the human experience in general. Philosophy explores how innovation affects human experience and how it contributes to the development of science, technology, culture, and society in general. Philosophy also examines the ethical and moral aspects of innovation, including how innovation may affect human rights and freedoms, the environment, public health, cultural heritage, and other aspects of life (Shibles, 1998). The discourse on defining innovation in education also often considers the mechanisms of development of this sphere of activity of society and culture in general, which ensures the

replacement of old ideas and paradigms with new, more effective, and productive ones, and stimulates the constant search for new ways to solve problems and improve existing technologies and learning practices.

The philosophical dimension of innovative education describes the foundations and values that define the basic principles and goals of innovative education (Wang, 2022). Innovative education is a process of learning and teaching that aims to improve the efficiency and quality of learning through new technologies, methods, and approaches. The philosophical dimension of innovation systems includes several important components (see Table 1).

**Table 1.**

*The philosophical dimension of innovative education systems*

<b>Component.</b>	<b>Explanation</b>
<b>Humanistic orientation</b>	Innovative education focuses on the development of the whole person, not just certain knowledge and skills. Values such as freedom, tolerance, mutual understanding, and cooperation are seen as important for teaching and learning.
<b>Integration of knowledge</b>	Innovative education promotes the integration of knowledge from different disciplines and areas of expertise, which allows for the development of creative skills and critical thinking, as well as an important ability – problem-solving.
<b>Comprehensive personal development</b>	Innovative education systems support personal development, self-expression, and self-realization. In particular, this is achieved by supporting students' autonomy and initiative, as well as developing their social and emotional skills.
<b>Critical thinking</b>	Innovative education systems promote critical thinking and analytical skills. Accordingly, modern students learn to critically evaluate information, ask questions, and search for their own answers about any aspect of human social life.

*Authors' development*

Such paradigms correspond to the philosophical criteria of ideas about modernity.

For example, the famous social psychologist and psychoanalyst Erich Fromm (1900-1980) believed that "it is through creativity that a person develops imagination, intuition, emotionality, creativity, sensitivity, openness, sincerity, and many useful human qualities that help to realize oneself" (Fromm, 2016, June 17). He believed that human happiness lies in the development to come as close as possible to the ideal of human nature (Fromm, 1964). Modern requirements from the educational system are in line with such ideas, offering practical ways to fulfill them.

#### 4. Discussion

The philosophical understanding of innovative aspects of education has been studied since the late twentieth century (Lindeman, 1944; Shibles, 1998). However, modern researchers note that there is currently a debate about the model of innovative development of Ukrainian education (Dzyuba, 2018). In particular, there are two main sources of innovation being discussed in science. On the one hand, researchers emphasize the borrowing of progressive foreign experience, and on the other hand, the importance of their own innovative developments. These two models can be contrasted - external innovations, in fact, form a variant of "catching up modernization" or westernization (it is about adopting Western experiences and organizational systems), while own innovative developments reduce globally significant ones (Dzyuba, 2018). However, it is now difficult to distinguish between innovations borrowed or generated on a national basis. The study by Karimov et al., (2022) highlights the main principles of harmonizing intercultural philosophy with the key areas of transformation of modern education. These authors consider and describe the processes of correlation, interconnection, and influence of intercultural discourse of education through the prism of comparative philosophy from both general theoretical and methodological points of view (Karimov et al., 2022).

Scholars argue that innovation is what brings about transformation and change with the support of traditions, not just in spite of them (Pliushch & Sorokun, 2022). Thus, the fact that innovations are primarily innovations is obvious, but we should not forget that current innovations are a kind of manifestation of an already existing existence. According to Dzyuba (2018), through the prism of philosophical understanding, it is the reliance on traditions that is a prerequisite for the meaningfulness of current innovations.

Educational innovations are a natural trend, dynamic in nature and developmental in consequences and results (Tsekhmister et al., 2022). For this reason, we believe that their active implementation and use helps to resolve the contradictions between the traditional model of education and the needs for a new system of social life. An important feature of innovation is its ability to influence the professional level of a teacher's activity, to expand the innovative space of the learning environment. In particular, according to Tytova & Mereniuk (2022), digital literacy is a component of the professionalism of a modern teacher. This problem is also emphasized by other researchers (Ridei, 2021; Bader et al., 2022; Morska, 2022).

As a systemic phenomenon, educational innovation is formulated by integral categories: innovative activity, innovative potential, and innovative environment.

We understand innovation activity as the process of forming and implementing new approaches, methods, services, technologies, programs aimed at improving the quality of education. At the same time, according to Gumennykova et al., (2022), innovative educational activities can be aimed at the formation and development of new forms of education that support individual adaptation aspects, as well as the development of new content areas of education. According to Kyrylenko (2022), the category of innovative potential of education defines a set of certain opportunities, resources, and abilities of education to implement innovative activities. The potential includes mental, technical, and financial resources that are important for the implementation and development of innovative education models. The category of innovative

education environment is responsible for the conditions that affect the introduction and implementation of innovative ideas, projects, systems, and forms in education (Ridei, 2021). In general, the innovation environment includes the following structural elements: infrastructure, resources, platforms for cooperation and communication, and regulatory space. These components are coordinated and interact with each other to create a favorable space for education.

Therefore, when studying the category of "innovation", we emphasize the complexity of this concept. It combines a number of important components (see Table 2).

**Table 2.**  
*Elements of the concept of "innovation"*

<b>Component.</b>	<b>Characteristics</b>
<b>Intellectual and educational</b>	Acquiring cognitive and informative competence for the purpose of performing the creative and mental activity.
<b>Education and training</b>	Emphasis on the importance of worldview in innovative thinking.
<b>Research and development</b>	The fundamental principles of any innovation include research and scientific aspects.
<b>Technological</b>	Innovations are objectified in the form of technical means, technologies, teaching methods, tools, forms, etc.
<b>Consumer</b>	Consumers are ready to accept a new product

*Authors' development*

However, further improvement of the innovation depends on the extent to which the social and psychological environment requires new ideas (Sheffield, 2005). As it has been established, the key feature of innovation is that it does not refer to separate aspects of the educational process, but necessarily to education in general and has a significant impact on the transformation of all other manifestations.

The results emphasize that innovative educational technologies should develop general skills: research, reflection, and self-assessment. Many modern scholars agree with this statement (Prasetya et al., 2022). At the same time, Kyrylenko (2022) believes that the key features of innovative education are its openness to the future, the ability to predict based on a systematic analysis of values, and the willingness to constructively influence current situations. The main foundation of these trends is innovative educational technologies that are in line with current processes in society, integration of knowledge, and forms of social life.

## 5. Conclusions

Therefore, the analysis of the philosophical content of the categories of innovative systems of Ukrainian education in the context of globalization is also an urgent issue for future research, as changes in teaching paradigms and teaching methods are further developing and require more detailed research in the future. In particular, the article demonstrates the importance of

innovations in education as a process of formation, application, and dissemination of modern hypotheses, abilities, and tools, managerial decisions in the field of pedagogy and management, and digital opportunities in education. Applying such a system of techniques clearly contributes to improvements in the educational sphere and its transformation to a higher-quality state. Innovative methods are used in accordance with certain criteria. First of all, we are talking about creating an active, independent, and proactive learning position of higher education students. This leads to the formation of competencies, i.e. skills related to the experience of applying theoretical knowledge in practice.

It is noted that innovation is what ensures changes based on traditions, not just in spite of them. Accordingly, the main elements of innovative education are intellectual, educational, research, technological, and consumer. All of them actively coexist with each other and form a single phenomenon of "innovative education".

As a result, it is noted that an important aspect of education should be the focus on the development of critical thinking, creativity, and creative skills. Therefore, modern philosophical paradigms are aimed at guiding students not only to acquire knowledge but also to develop their skills of independent analysis, critical attitude to information, and creation of new ideas. Another important aspect of innovative education is the use of modern technological and innovative teaching methods.

The philosophical dimension of innovative education includes the following components: humanistic orientation, integration of knowledge, personal development, critical thinking. As a systemic phenomenon, educational innovation is formulated by integral categories: innovative activity, innovative potential, and innovative environment. The basis of innovative technologies and innovations in education is a targeted search for a concept, opportunities to resolve the main current contradictions, and their use through the prism of testing methods, including pedagogical experiments. At the same time, further improvements in innovations will depend on the extent to which the socio-psychological environment requires new ideas, as well as on external development circumstances (e.g., technologies or new methods of their use).

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## Development of educational policy in Ukraine in the context of European integration and digital transformation

### Desarrollo de la política educativa en Ucrania en el contexto de la integración europea y la transformación digital

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### Abstract

The purpose of the article is to study the peculiarities of the application of digitalization of education in Ukraine under the influence of European integration. The task of the article can be divided into two stages: the study of the impact of European integration on the reform of the educational sphere in Ukraine; the search for an effective model for the implementation of elements of digitalization of the educational process. Methodological basis for the study were scientific and pedagogical methods. The results of the study highlight the elements of digitalization of education, capable in their totality to provide full and high-quality training of future specialists in the environment of the university. The



authors of the article give important positive and negative features of the implementation of digitalization of the educational process. Thus, the digitalization of the educational process is an important step to bring the Ukrainian educational space to the standards of the European Union, which is an important part of the national policy of European integration.

**Keywords:** modern education, digital education, distance learning, digital didactics, vocational training, European integration.

## Resumen

El propósito del artículo es estudiar las peculiaridades de la aplicación de la digitalización de la educación en Ucrania bajo la influencia de la integración europea. La tarea del artículo se puede dividir en dos etapas: el estudio del impacto de la integración europea en la reforma de la esfera educativa en Ucrania; la búsqueda de un modelo eficaz para la aplicación de los elementos de digitalización del proceso educativo. La base metodológica del estudio fueron los métodos científicos y pedagógicos. Los resultados del estudio destacan los elementos de digitalización de la educación, capaces en su totalidad de proporcionar una formación completa y de alta calidad de los futuros especialistas en el entorno de la universidad. Los autores del artículo dan importantes características positivas y negativas de la aplicación de la digitalización del proceso educativo. Por lo tanto, la digitalización del proceso educativo es un paso importante para llevar el espacio educativo ucraniano a los estándares de la Unión Europea, que es una parte importante de la política nacional de integración europea.

**Palabras clave:** educación moderna, educación digital, enseñanza a distancia, didáctica digital, formación profesional, integración europea.

## 1. Introduction

In the current context of European integration and digital transformation, the educational policy of Ukraine is in a state of constant development and change. The main directions of education reform are determined by the needs and requirements of the modern world, as well as the influence of international standards and recommendations. One of the key challenges facing the educational system of Ukraine is the need to adapt to the requirements of the digital era. The development of information technology and its impact on society has created the need for a new model of education, which should take into account the specifics of digital transformation as a whole. Accordingly, the educational policy of Ukraine should be aimed at the development of innovative education, which will provide high-quality training and meet the requirements of the international labor market (Tsekhmister, 2022).

Another important aspect to be considered in the context of the development of Ukrainian educational policy is the European integration process. Obtaining by Ukraine the candidate status for membership in the European Union was a significant step in the development of the country, but it also provides for the corresponding obligations to harmonize educational standards and achieve European norms and values in the field of education. To this end, national education development strategies aimed at meeting European standards and national needs are being developed and implemented (Sanetra & Małodobry, 2022).

The process of European integration offers great opportunities for the development of education in Ukraine, in particular increasing the availability and quality of education, introduction of the latest pedagogical technologies and methods, ensuring the internationalization of higher education, creating conditions for the development of research activities and ensuring the mobility of teachers and students. However, the implementation of these tasks requires not only political will but also the attraction of sufficient financial resources. Given that budget expenditures on education in Ukraine do not reach the established European standards, the government policy should be aimed at increasing investment in education (Yatsenko, 2022).

In the process of European integration, it is important to take into account the cultural characteristics of Ukraine and ensure the development of an inclusive educational process. The development of intercultural competence among pupils and students is an important factor in the implementation of international cooperation in education (Tsekhmister et al., 2021).

Thus, the reform of educational policy in Ukraine in the context of European integration and digital transformation is the most important task, which involves not only adapting to new requirements but also to ensure the sustainable development of society. For success, it is necessary to take into account the best pedagogical practices, innovative approaches, and international experience. It is necessary to provide financial and organizational support from the government and international organizations, the involvement of experts from EU member states, and the exchange of experience with other countries.

## 2. Literature review

Maiatina, Lysenko, and Dmytriienko (2021) pay considerable attention to the peculiarities of distance education development. The article reflects on the impact of European integration and digital transformation on the development of the educational system of Ukraine and describes the main directions of its reform. The study Reinoso (2022) considers the impact of European integration processes on the reform of education. The author analyzes the state and dynamics of the development of the educational system of Ukraine in the context of European standards and describes the innovative processes taking place in education under the conditions of European integration. An important study in the field of reforming Ukrainian education is the work of Shparyk (2022). In the article, the author describes the current state of the educational system, its problems, and challenges, and reflects on the impact of European integration and digital transformation on the development of education in Ukraine. Holovko and Vodolaskova (2022) reflect the peculiarities of relations between Ukraine and the European Union. In the article, the authors describe technologies used in education under conditions of European integration, as well as examine the advantages and disadvantages of their use. Cano and Lomibao (2022) reflect the peculiarities of the influence of the European Union requirements on the process of digitalization of education. In the study, the authors highlight the impact of digital transformation on the educational process, describe the main directions of digital transformation in education and their advantages and disadvantages.

Summarizing the results, we can conclude that the development of educational policy in Ukraine in the context of European integration and digital transformation is an urgent problem, which draws the attention of a significant number of researchers. Studies show that the Ukrainian

educational system needs to be reformed and modernized, in particular, the introduction of innovative technologies and digital transformation. The introduction of new approaches to education in the context of European standards and the use of innovative technologies can help improve the quality of education and prepare competent specialists for the modern labor market.

Despite the significant progress in the development of Ukrainian educational policy in the context of European integration and digital transformation, there are unresolved issues that remain relevant. One of these issues is the lack of funding for the implementation of the program of modernization of education and the introduction of new technologies in the educational process. In addition, there is a need for a broader information campaign aimed at the popularization of new educational technologies and their introduction into the educational process. Also, issues related to the implementation of new educational standards and their adaptation to the requirements of the European level of education remain uncovered. To achieve this goal it is necessary to work systematically on strengthening the human resources capacity of teachers, updating textbooks, and training programs. In addition, it is necessary to consider issues of compliance of changes in the educational system with the needs of the modern labor market, as well as ensuring the quality of education at all levels. Solving these issues will help to improve the quality of education and prepare competent specialists for the modern labor market.

### **3. Aims**

The aim of the article is to investigate and evaluate the development of education policy under the conditions of European integration and digital transformation. In addition, it aims to identify problems and unresolved issues in this area and suggest ways to solve them. The main purpose is to put forward recommendations to improve the educational system in Ukraine in the context of European standards and requirements for digital transformation.

### **4. Materials and methods**

This article deals with the development of educational policy under the conditions of European integration and digital transformation, so the methodology of the study includes the analysis of scientific research, legal and regulatory acts, statistical data, and expert evaluations.

In the process of conducting the study, the method of scientific research analysis was used. For this purpose, a search and analysis of scientific publications concerning the development of education in Ukraine and the European Union member states was carried out. More than 20 scientific studies and publications covering the period from 2020 to the present day were analyzed. The studies were evaluated based on their relevance, methodology, and scientific novelty.

The method of analysis of legislative and normative acts regulating educational policy in Ukraine was used to study the normative-legal field. Regulatory documents concerning the implementation of European standards in educational institutions were analyzed, in particular, documents of the European Union and programs of European cooperation in the field of education.

Thus, the research methods used in this article allowed for a comprehensive analysis of the state and prospects of education development in Ukraine under the conditions of European integration and digital transformation. The analysis of scientific research allowed to highlight the current problems and trends of education development in Ukraine and Europe. Analysis of normative and legal acts allowed to determine the role and place of Ukraine in the European education system, as well as to describe the main directions of educational policy aimed at improving the quality of education and its integration with European standards. The obtained results of the study may be useful for elaboration of the strategy of education development in Ukraine, which meets the requirements of European standards and will contribute to the integration of Ukraine into the European educational space.

The organization of the study was carried out in several stages. At the first stage, the analysis of scientific and methodological literature on the topic of research, the study of the Ukrainian and EU experience, the identification of conditions for the implementation of digitalization in the educational field, the definition of directions, methods of research. At the second stage, the existing models of digitalization of education were studied. Organizational and pedagogical conditions, criteria, and indicators of the effectiveness of the digitalization of education were determined. In the third stage, processing and analysis of the results were carried out. Conclusions on the results of the study were made.

## 5. Results

Education policy is one of the most important components of any country's development. Ukraine is no exception, and its educational system has experienced a number of changes and transformations in recent years. These changes are associated with the process of European integration and digital transformation, which affect the entire range of educational services, from preschool to higher education.

European integration is of great importance for the educational system of Ukraine. Accession to the European Union obliges the country to comply with a number of requirements and standards concerning various aspects of education. One of the most important requirements is the creation of an appropriate legal framework for the regulation of the educational sphere that meets European standards and principles (Ovcharuk et al., 2022).

One of the most important initiatives aimed at the European integration of the Ukrainian education system is the Bologna process. It involves the creation of a common European Higher Education Area and ensuring its compliance with high-quality standards. The Bologna Process has caused a change in the system of higher education in Ukraine, in particular the introduction of a three-cycle system, including bachelor, master, and doctoral studies (Sychenko & Lukashuk, 2022).

The second important aspect of the European integration and transformation of education in Ukraine is the introduction of new digital technologies in the educational process. This is due to the development of information technology and the spread of Internet access. Digital technologies allow not only to improve the quality of education but also create new opportunities for the development of the individual abilities of students. Table 1 shows the features of the process of digitalization of education.

**Table 1.**  
*Disadvantages and advantages of digital education*

<b>Features</b>	<b>Advantages</b>	<b>Disadvantages</b>
<b>Use of electronic textbooks and teaching materials</b>	Providing access to training information at any time and from any location; the ability to update materials quickly and efficiently	Inability to interact in real-time, as is possible with conventional textbooks; high dependence on technology
<b>Using video lessons and webinars</b>	the ability to access training from any location with Internet access; the ability to repeat the material at any time	Inability to interact interactively between student and teacher; possibility of technical failures that can reduce the quality of learning
<b>Using software for training</b>	The ability to customize training for each student; the ability to interact with the program in real-time	Requires a long time to prepare and fine-tune the software; may lead to technical failures
<b>Using mobile apps for learning</b>	The ability to access training from any location with a mobile device; the ability to repeat material at any time	Limited opportunity for student-teacher interaction; inability to interact with students
<b>Use of video conferencing</b>	Ability to hold classes and meetings remotely; saves time and money on travel; convenient for teachers and students with disabilities	Need for stable and fast Internet connection; possible communication and sound quality problems
<b>Use of electronic textbooks and teaching materials</b>	More accessible and cost-effective alternative to paper versions; ability to update materials quickly and easily; convenient for students, workers, and learners	Need for specialized software and equipment, possible interruptions in access to materials
<b>Using email and messengers to communicate</b>	Speed and ease of communication, ability to resolve problems and issues in a short amount of time, convenience for staff and students not on campus	Missing important messages, delayed responses, misunderstandings

Source: Authors' development.

Digital technologies in education can be used to improve the quality of education and increase the availability of educational services. One of the main features of the digitalization of education is its accessibility. Digital technologies make learning more accessible to people from different regions and social groups. One of the most important features of the digitalization of education is flexibility. Digital technology makes it possible to learn anywhere and anytime. This is especially important for people who have limited time to study or cannot physically attend classes. Another important feature of the digitalization of education is its interactivity. Digital technologies allow creating conditions for active interaction between students and teachers. This ensures a deeper learning experience (Catalano, Torff & Anderson, 2021).

In order to ensure a successful digital transformation of education, a holistic approach to the use of digital technology must be considered. The most important components of this approach are the professional development of educators and the creation of a supportive environment for their work.

The main goal of the digitalization of education is to improve the quality of learning and the development of innovative competence of students. Digital technologies can be used to create new learning materials that provide a more effective learning experience, as well as for individualization of learning, which allows the teacher to consider the personal needs of each student. The use of digital technology also promotes critical thinking, creativity, and communication skills (Zhuravel et al., 2022).

In addition, digital transformation can facilitate the organization of teachers' work and the management of the educational institution as a whole. The use of specialized software to automate lesson planning, journaling, and reporting, as well as interaction with students' parents, can free up time for creative work and innovation. However, it is clear that the implementation of digital technology in education requires significant costs, both financial and labor. In addition, for a successful digital transformation, it is necessary to solve many other problems related to infrastructure, availability of software, etc. (Kulinich et al., 2022).

One of the most common pedagogical technologies is the use of interactive whiteboards in the learning process. They allow the teacher to lead the lesson effectively, provide more opportunities for students to collaborate and activate their activities. Interactive whiteboards allow the teacher to use different types of materials, videos, and interactive tasks, which provides a wider range of opportunities for learning.

Another increasingly popular technology is the use of online platforms and learning portals to implement distance learning. This is especially relevant in today's environment where many are forced to work remotely because of the COVID-19 pandemic and widespread invasion. With such technologies, teachers can provide students with the ability to learn from anywhere with Internet access (Safonov, Usyk & Bazhenkov, 2022).

The study found that the use of digital technology in education can help improve the quality of learning and the overall effectiveness of the educational process. Digital transformation of education can help to create new forms and methods of learning that are more effective in engaging students in the learning process and increasing their motivation.

One of the positive aspects of using digital technologies in education is the possibility of individualization of learning. With the help of various electronic learning tools, students can learn at their own pace and repeat the material if necessary. This is especially useful for students with different learning styles and individual needs (Morska & Davydova, 2021).

A second positive aspect is the convenience and accessibility of learning materials. Digitally, learning materials can be accessed from any device with an Internet connection, allowing students to learn from any location and at any time. In addition, digital technology allows for more interactive and meaningful materials that are more conducive to memorization. However,

unfortunately, not all schools and colleges in Ukraine have the necessary technical basis for the use of digital technology in education. Also, there are certain difficulties in mastering digital technology by teachers, which may hinder the effective use of digitalization tools.

## 6. Discussion

The study found that the processes of European integration have a significant impact on the improvement of the educational system in Ukraine. As noted in Asaturov and Martynov (2022), one important aspect of European integration is the creation of national qualifications frameworks and their integration into the global qualifications system. This allows students to acquire knowledge and skills that meet the requirements of the international labor market and ensures the competitiveness of Ukrainian university graduates in the international market.

According to the results of research, it was found that the digital transformation in education allows for more effective and convenient communication between students, teachers, and the administration of the university. The authors of the article Morska and Davydova (2021) point out that electronic means of organizing the educational process make it possible to reduce dependence on geographic location and provide access to quality education for a wide audience.

However, it is necessary to keep in mind the disadvantages of implementing digital technologies in the educational process. For example, Hasiuk, Darmanska, Mykhaskova, Pistska, and Suhovirskyi (2022) point out that the lack of necessary infrastructure and technical support can complicate access to online learning for certain groups, such as people with disabilities or residents of remote areas.

In addition, it is important to consider the findings of Pidorycheva's (2022) article, which points out possible disadvantages of the digital transformation of education. One of the problematic issues is the potential social isolation and lack of personal communication among students, which can have a negative impact on social and emotional development.

Another important aspect is the role of teachers in the digital age. Tsaryk and Sokol (2022) noted that while technology can enhance and facilitate learning, it cannot replace the important role that teachers play in the educational process. It is important to ensure that teachers are properly trained and equipped to use digital learning tools and that they are further supported and developed.

Consequently, in the context of European integration and digital transformation, the development of education policy in Ukraine becomes an important and urgent task. Scientific research and practical experience show that digital technologies can improve learning, provide access to education and make it more effective. In general, the use of digital technologies in education is an important area of development but requires careful analysis and the development of effective strategies for their implementation.

## 7. Conclusions

To summarize, the following conclusions can be made. First of all, European integration and digital transformation are powerful challenges for the education system of Ukraine, requiring an effective response and adaptation to new requirements. For this purpose, it is necessary to create a system that contributes to the quality of education, the formation of individuals capable of working in a globalized environment, providing access to education and equal opportunities for the development of each child. According to the results of the analysis of literature and research methods, it can be argued that important factors in the successful development of education interaction between the participants of the educational process, the use of the latest technologies and innovative approaches, as well as learning based on a competence-based approach. It should be noted that the introduction of digital technology in the educational process has both advantages and disadvantages. The advantages are the availability and wide dissemination of information, the possibility of individualization and personalization of training, improving the quality of education. However, the disadvantages include the need for highly qualified teachers and the complexity of the organization of distance learning. Ultimately, it can be argued that the development of educational policy in Ukraine in the context of European integration and digital transformation is an important task, which requires cooperation between the government, scientific and pedagogical institutions, business and the public.

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