



## **El papel de las tecnologías de la información (Classroom/Zoom) en la realización de seminarios**

### **The role of information technologies (Classroom/Zoom) in conducting seminars**

Olena Snihur<sup>1a</sup>, Serhiy Danylyuk<sup>2</sup>, Valentyna Shevchenko<sup>3</sup>,  
Olha Derbak<sup>4</sup>, Tamara Sabelnykova<sup>5</sup>

National Pedagogical Dragomanov University, Kyiv, Ukraine<sup>1</sup>

Bohdan Khmelnytsky National University, Cherkasy, Ukraine<sup>2</sup>

Alfred Nobel University, Dnipro, Ukraine<sup>3,4</sup>

Donetsk State University of Internal Affairs, Kropyvnytskyi, Ukraine<sup>5</sup>

 ORCID ID: <https://orcid.org/0000-0003-3515-9372><sup>1</sup>

 ORCID ID: <https://orcid.org/0000-0002-0656-2413><sup>2</sup>

 ORCID ID: <https://orcid.org/0000-0003-0614-0648><sup>3</sup>

 ORCID ID: <https://orcid.org/0000-0002-6125-4667><sup>4</sup>

 ORCID ID: <https://orcid.org/0000-0002-0798-9507><sup>5</sup>

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### **Resumen**

El objetivo del estudio fue probar empíricamente la efectividad de Classroom/Zoom en la realización de seminarios. El estudio implicó una encuesta a los encuestados, seguimiento inicial y final de los resultados de aprendizaje de los estudiantes en las materias profesionales, análisis cualitativo y cuantitativo de los datos, análisis comparativo. Los criterios para evaluar la efectividad de la tecnología de la información (desde la perspectiva de los estudiantes) fueron: conveniencia y simplicidad de la comunicación, visualización de datos, interactividad, impacto en los resultados del aprendizaje, motivación para el aprendizaje, concisión, excelencia organizacional, retroalimentación. El personal docente y de investigación evaluó la eficacia de la tecnología de la información según criterios tales como: actividad educativa y cognitiva, resultados de aprendizaje, motivación de aprendizaje, retroalimentación, dialogismo/polilogismo, logro del objetivo de la lección, alfabetización digital de los estudiantes, competencia profesional de los estudiantes. Los estudiantes destacaron la mayor importancia de criterios tales como: conveniencia y accesibilidad de la comunicación, visualización de datos, impacto en los resultados del aprendizaje. Los criterios que más se aprobaron en la comunidad docente fueron los resultados de aprendizaje, el logro del objetivo de la lección, la retroalimentación.

**Palabras clave:** Educación superior, educación a distancia, tecnología, Zoom, Classroom.

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<sup>a</sup>Correspondencia a la autora  
E-mail: modern.pedagog22@gmail.com

**Abstract**

The aim of the study was to empirically test the Classroom/Zoom effectiveness in conducting seminars. The study involved a survey of respondents, initial and final monitoring of students' learning outcomes in the professional subjects, qualitative and quantitative analysis of the data, comparative analysis. Criteria for assessing the information technology effectiveness (from the students' perspective) were: convenience and simplicity of communication, data visualization, interactivity, impact on learning outcomes, learning motivation, conciseness, organizational excellence, feedback. Research and teaching staff assessed the information technology effectiveness on such criteria as: educational and cognitive activity, learning outcomes, learning motivation, feedback, dialogism/polylogism, achieving the goal of the lesson, students' digital literacy, students' professional competence. Students noted the greatest importance of such criteria as: convenience and accessibility of communication, data visualization, impact on learning outcomes. The criteria that were approved in the teaching community the most were learning outcomes, achieving the goal of the lesson, feedback.

**Keywords:** Higher education, distance learning, technology, Zoom, Classroom.

**Introduction**

The relevance of the use of information technologies in the educational sphere is determined by the social restrictions imposed on the educational globe due to the global pandemic and the impossibility of carrying out the educational process due to the threat to the life and health of the subjects of education due to the Russian military invasion. However, until now, the influence of distance learning on the issues of the educational process has been studied in the higher education of different countries (Abu-Talib et al., 2021), and the degree of digital competence of teachers of higher education from various fields of knowledge and different ages (Cabero-Almenara et al., 2021), correlations between the level of digital literacy of education subjects and their motivation to enter the digital educational space (Nikou & Aavakare, 2021)

In the scientific community, during the years of pandemic restrictions, significant experience in the use of information technologies in higher education has been gained. However, in the conditions of martial law in Ukraine, it will not be possible to fully implement such developments due to the imposition of additional restrictions that prevent the organization of the educational process, in particular in terms of access of education subjects to the Internet in real-time and outside it, to adequate technical means of processing and transmission of educational and methodical content. There is also the need for additional approbation mechanisms and empirical tests of the possibilities of using information technologies, such as Classroom/Zoom in higher education, particularly for conducting seminar classes

The aim of the study is to experimentally test the appropriateness of using information technology in conducting seminars, involved the following research objectives: conduct a monitoring of the learning outcomes of students of the HEI; conduct a survey of the students in order to assess the information technology effectiveness in conducting seminars; check the Classroom/Zoom effectiveness in conducting seminars and the impact on students' learning outcomes; and, offer a system to improve the information technology effectiveness in seminars. Research hypothesis: the students of HEIs positively assess the use of information technology in the educational process, the use of Classroom/Zoom in conducting seminars helps to improve students' academic performance.

## **Methods**

### ***Design***

The study involved three stages: summative, formative, and control. At the summative stage, groups of students, as well as the research and teaching staff — the research participants — were identified, explanatory conversations were held with and instructions were given to students on the use of information technology. Initial monitoring of students' academic performance in the professional subjects was also conducted.

The formative stage of the research involved the introduction of a system of seminars using Classroom/Zoom in the blended and distance learning format. The study was conducted during the first semester of 2021/2022 academic year at the National Pedagogical Dragomanov University. The study provided for the intervention in the educational process by introducing a system of seminars using Classroom/Zoom. This intervention was agreed with the administration of educational institutions which participated in the experiment. The control stage of the experiment involved the final monitoring of the students' academic performance in the professional subjects, comparative analysis of initial and final monitoring data, summing up the experiment results, determining the prospects of further research.

### ***Participants***

The sample consists of students majoring in Philology of the first, second, third and fourth years of study (first bachelor's degree). The respondents were divided into the experimental and control groups. The study engaged a total of 250 students of the HEI. The age of the respondents is 17-22

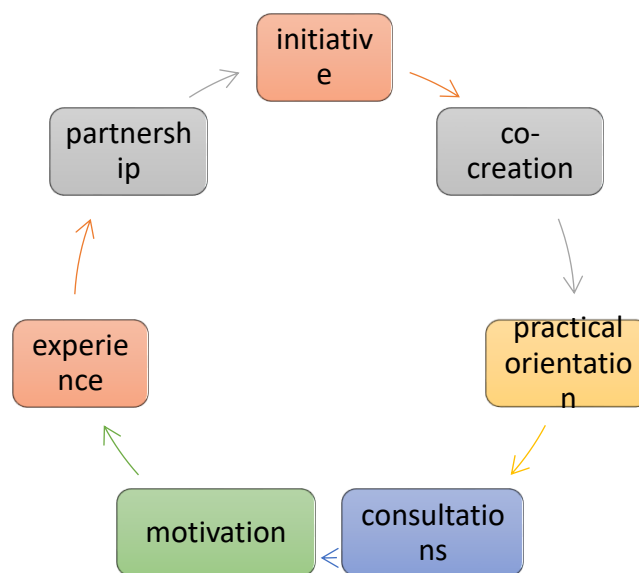
years. The survey also included 50 representative of the research and teaching staff.

The motives for research sampling were the following: 1) maximum coverage of students of all years of study of the bachelor’s degree; 2) involvement of scientific and pedagogical workers in the introduction of information technologies in blended and distance learning formats; 3) understanding of the importance of information technology in educational activities by the students, as well as the research and teaching staff of the HEI; 4) active introduction of distance and blended learning formats; 5) developed ICT competence of the participants in the study.

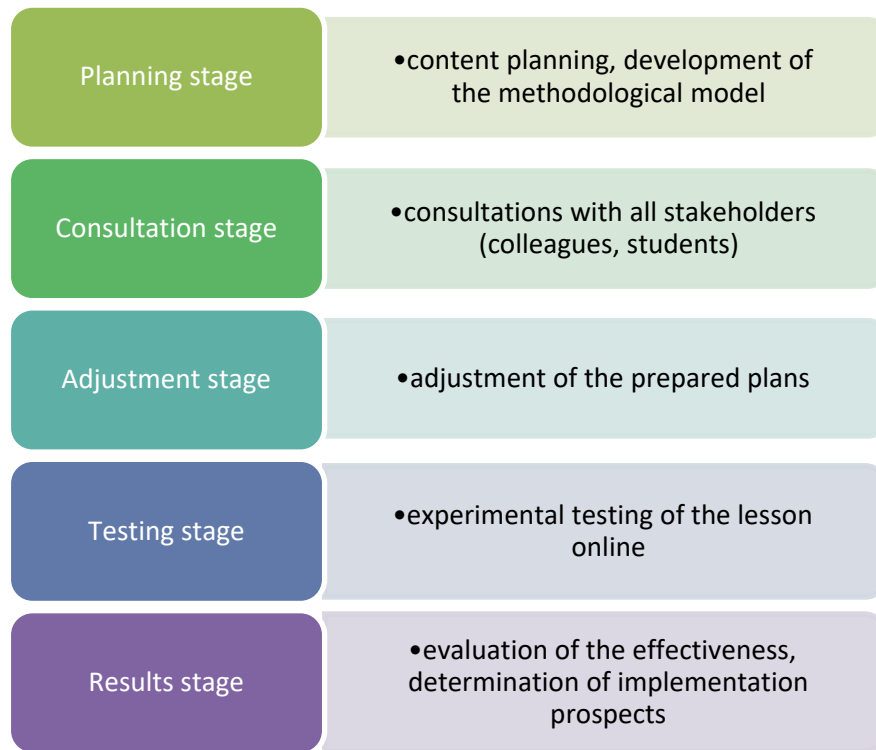
The information technologies were used during seminars on the subject of the educational programme. The experiment lasted for half a semester, where blended learning was used half of the time, the rest — distance learning. When conducting seminars using Classroom/Zoom, teachers applied the following methods of working with students online: conversation, surveys, preparation of answers to the questions, discussion, exchange of comments, delivering reports, speeches; preparation of mini-speeches during the discussion; elements of talk shows, debates; analysis of professional situations, storytelling.

Oral dialogical communication was the focus. The main emphasis was on the demonstration of students’ knowledge acquired during the previous lectures, on the consolidation of their ability to apply this knowledge in answering questions and resolving professional situations. Conducting seminars using Classroom/Zoom was based on a number of principles (Figure 1).

**Figure 1.** Principles of using information technology in conducting seminars in HEIs



The initiative principle provided for the adequate participation of students in the selection of interesting materials for the seminar, their demonstration in digital format (video, booklet, presentation). The partnership principle was aimed at joint activities of students on a particular assignment or project. Research assignments were completed according to the co-creation principle. The experience principle allowed students to avoid mistakes when completing assignments. The practical orientation principle was implemented through the subject of issues, tasks of situations. The principle of consultations provided during the seminar allowed students to jointly reach the optimal decision or conclusion. The motivation principle helped to enhance the students' interest in the subject, its place in professional training and, consequently, future professional activity. The implementation of the system of seminars in the online environment involved a five-stage preparation (Figure 2).

**Figure 2.** Stages of preparation of a seminar with the use of information technology

### ***Instruments***

Respondents were surveyed through Google forms. The results were processed in Excel. Cronbach's Alpha (0.8) was used to determine the reliability of the author's questionnaire.

### ***Data collection***

The research involved the following methods: general scientific methods, surveys of the respondents, initial and final monitoring of the students' learning outcomes in the professional subjects. The assessment of the information technology effectiveness in conducting seminars by the subjects of the educational process was studied. For this purpose, author's questionnaires that offer open-ended questions for students and teachers were used.

The questionnaire to determine the information technology effectiveness in conducting seminars (for students) provided an assessment of the following criteria on a five-point scale: convenience and accessibility of communication, data visualization, interactivity, impact on learning outcomes, motivation for learning, conciseness, organizational excellence, feedback. The following criteria were established for the questionnaire to determine the information technology effectiveness in seminars (for research and teaching staff): educational and cognitive activity,

learning outcomes, learning motivation, feedback, dialogism/polyglotism, achieving the goal of the lesson, student's digital literacy, student's professional competence. The questionnaires provide for the following types of respondents' assessments of the information technology effectiveness: positive, contradictory, negative.

### ***Analysis of data***

Were used to process the obtained results, qualitative and quantitative analysis of data, and comparative analysis.

### ***Ethical criteria***

The research design is based on the principles of respect for students. All stages of the research correspond to the generally accepted academic ethics of the principles of experimental work. Students were asked to answer the test questions honestly. Respondents previously provided informed consent to personal processing data and publishing research results in scientific works.

## **Results**

An important step of the study was the initial and final monitoring of academic performance of all students participating in the study. The monitoring was carried out with the use of the assignments available in the educational institution to test the knowledge in the major. All assignments were developed in accordance with educational programmes and approved by graduating departments. The averaged monitoring data are provided in Table 1.

**Table 1**

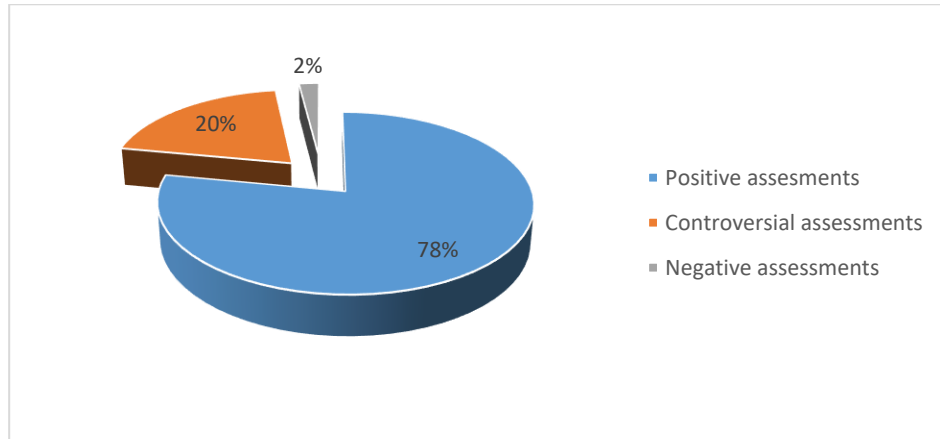
*Initial and final monitoring of students' academic performance in the professional subjects*

Stages / % of respondents	Performance levels						
	A	B	C	D	E	FX	F
1 <sup>st</sup> year of study							
Experimental group							
Summative	10	15	20	25	30	0	0
Control	25	25	30	20	0	0	0
Control group							
Summative	0	20	30	30	20	0	0
Control	0	20	30	40	10	0	0
2 <sup>nd</sup> year of study							
Experimental group							
Summative	0	10	20	25	45	0	0
Control	10	30	40	20	0	0	0
Control group							
Summative	0	15	20	20	45	0	0
Control	0	15	25	25	35	0	0
3 <sup>rd</sup> year of study							
Experimental group							
Summative	10	20	30	20	20	0	0
Control	20	20	45	15	0	0	0
Control group							
Summative	10	20	40	15	15	0	0
Control	10	20	50	15	5	0	0
4 <sup>th</sup> year of study							
Experimental group							
Summative	10	20	30	20	20	0	0
Control	20	20	45	15	0	0	0
Control group							
Summative	0	15	20	20	45	0	0
Control	0	15	25	25	35	0	0

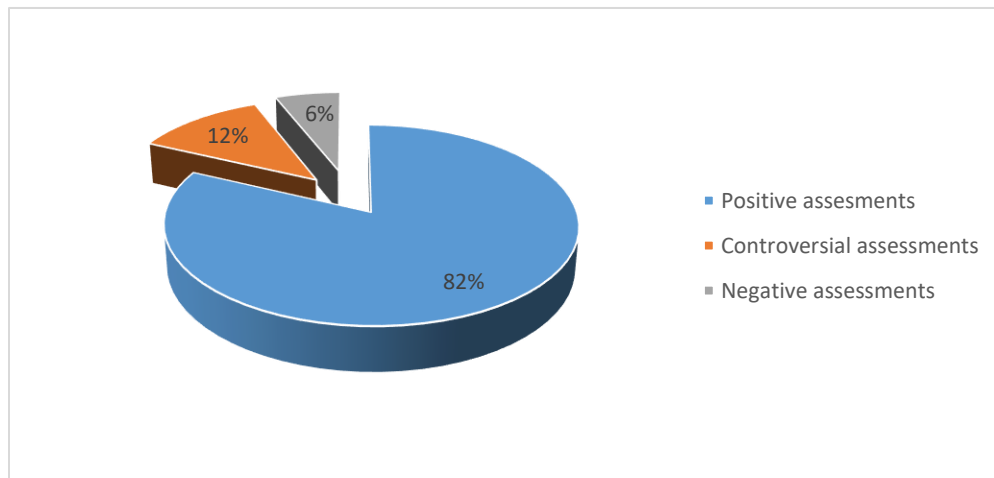
The data presented in Table 1 show the positive dynamics of growth in the students' academic performance levels in the professional subjects. This gives grounds to state the information technology effectiveness in conducting seminars. An equally important step of the experiment is to study the assessments of the subjects of the educational process of the information technology effectiveness in conducting seminars. Respondents' assessments of the research on the information technology effectiveness in conducting seminars are demonstrated in Figures 3, 4.



**Figure 3.** Students' assessments of the information technology effectiveness in conducting seminars, %



**Figure 4.** Research and teaching staff's assessments of the information technology effectiveness in conducting seminars, %



Assessment of the information technology effectiveness in conducting seminars on each of the criteria is given separately in Tables 2, 3.

**Table 2***Assessment of the information technology effectiveness in conducting seminars (students)*

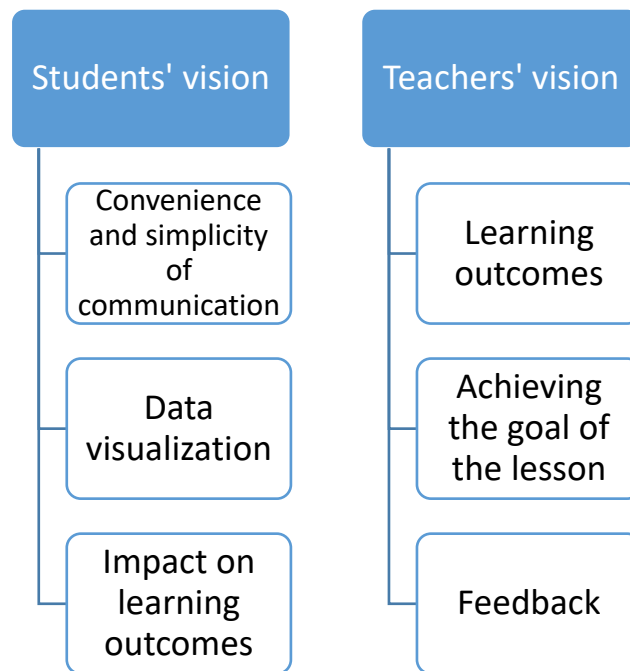
Item No.	Assessment criteria	% of respondents
1	Convenience and simplicity of communication	90
2	Data visualization	89
3	Interactivity	67
4	Impact on learning outcomes	78
5	Learning motivation	49
6	Conciseness	38
7	Organizational excellence	45
8	Feedback	30

**Table 3***Assessment of the information technology effectiveness in conducting seminars (research and teaching staff)*

Item No.	Assessment criteria	% of respondents
1	Educational and cognitive activity	68
2	Learning outcomes	89
3	Learning motivation	57
4	Feedback	78
5	Dialogism/polylogism	56
6	Achieving the goal of the lesson	80
7	Students' digital literacy	60
8	Students' professional competence	50

The analysis of the assessments of the subjects of the educational process on the information technology effectiveness in conducting seminars is the ground for identifying the priorities of the information technology effectiveness by the subjects (Figure 5).

**Figure 5.** The information technology effectiveness in conducting seminars in the HEI (consolidated view)



Based on the analysis of assessments of the information technology effectiveness in seminars and determined role of these technologies in the improvement of students' professional competencies, we can offer a system of improve the information technology effectiveness in conducting seminars:

1. Involve students as much as possible in the development of the didactic component of the seminar;
2. Create conditions for students to realize their creative potential;
3. Focus on the practical orientation of the lesson through the introduction of professional situations in its content;
4. Vary the ways of presenting didactic content during the seminar (video, publication, booklet, photos, sound recording, etc.);
5. Give students the opportunity to independently choose forms of work, means of communication (video, audio, author's video broadcast, slide presentations) during the lesson;
6. Carry out regular monitoring of students' motivation and learning outcomes;
7. Ensure polylogism in the discussion of the seminar items;

8. Practice self-briefing, mutual briefing of students during the seminar;
9. Use self- and mutual assessment of students' learning outcomes;
10. Offer students a variety of forms of assignments or answers to seminar questions.

### **Discussion**

The research dealt with the assessments of the information technology effectiveness in the seminars by the subjects of the educational process. The fact of prevailing positive assessment of students and teachers of the effectiveness and appropriateness of using information technology in seminars in HEIs was established. The study also showed the dependence of the students' performance levels on the introduction of information technology in seminars. Information technologies have had a positive effect on the professional training of students in blended and distance learning formats. Similar studies also confirm the effectiveness of the widespread introduction of information technology in the educational process of HEIs in blended and distance learning formats (Lacka et al., 2021; Pakhomova et al., 2020). This is evidenced by our monitoring studies of the levels of students' professional competencies, their motivation and self-organization levels (Khamidov & Kahhorov, 2020).

Surveys of subjects of the educational process conducted in similar research revealed the advantages of using information technology for teachers and students, especially in the context of social restrictions, as well as combining educational and professional activities by students (Lassoued et al., 2020; Voloshinov et al., 2020). Our study found the following advantages of using information technology in seminars: the convenience and simplicity of communication, data visualization, impact on learning outcomes (students' vision), learning outcomes, achieving the goal of the lesson, feedback (teachers' vision).

This study also took into account the impact of the teachers' training required to conduct seminars using information technology. We have proposed the appropriate training stages. They take into account methodological, organizational, didactic aspects. Similar to our research, much attention is paid to the didactic component and professional readiness of research and pedagogical staff to actively use information technology in seminars in HEIs (Windiastruti & Fridayani, 2021; Nizwardi et al., 2021).

This empirical research conducted within the set objectives testifies to the positive perception of informatization of conducting seminars by the subjects of the educational process of

the HEI. The conducted research gives grounds to express intentions for the improvement of the didactic and methodological tools of the research and teaching staff of HEIs to conduct seminars and practical classes for students of different majors and training profiles.

Also, this study confirmed the hypothesis on a positive assessment of the use of information technology in seminars by the subjects of the educational process of modern HEI. The impact of Classroom/Zoom in conducting seminars on improving the students' academic performance was empirically proved.

### ***Limitations***

The main limitations of the study are geographical and temporal. After all, the research covered a limited number of higher education institutions. And the time limits of experimental work are in the pre-war period of training. There is the expediency of empirical verification of the proposed work system within the educational process organized under martial law with further consideration of all possible challenges.

### **Conclusions**

The study raises the topical issue of the use of information technology in conducting seminars in HEIs. The use of information technology in conducting seminars was based on the partnership, co-creation, initiative, experience, practical orientation, consultations, motivation principles. The study confirmed the effectiveness and appropriateness of using information technology, in particular Classroom/Zoom, in conducting seminars. The research also confirmed the positive role of information technology used in seminars for the development and improvement of students' professional competencies. The obtained empirical data gave impetus to the involvement of students in the creation of didactic and methodological support for conducting seminars online.

Prospects for further research in this area involve the development of guidelines for the research and teaching staff on conducting seminars using information technology with students of different majors and training profiles in distance or blended learning formats. The study of the peculiarities of conducting seminars in different subjects with the use of information technology is of considerable interest to the researchers.

## References

- Abu-Talib, M., Bettayeb, A. M., & Omer, R. I. (2021). Analytical study on the impact of technology in higher education during the age of COVID-19: Systematic literature review. *Education and Information Technologies*, 26, 6719-6746. <https://doi.org/10.1007/s10639-021-10507-1>
- Agormedah, E. K., Henaku, E. A., Ayite, D. M. K., & Ansah, E. A. (2020). Online Learning in Higher Education during COVID-19 Pandemic: A case of Ghana. *Journal of Educational Technology & Online Learning*, 3 (3), 183-210. <https://doi.org/10.31681/jetol.726441>
- Ali, W. (2020). Online and Remote Learning in Higher Education Institutes: A Necessity in light of COVID-19 pandemic. *Higher Education Studies*, 10 (3), 16-25. <https://doi.org/10.5539/hes.v10n3p16>
- Andujar, A. (2020). Analysing WhatsApp and Instagram as Blended Learning Tools. In *Recent Tools for Computer- and Mobile-Assisted Foreign Language Learning*. IGI Global. <https://doi.org/10.4018/978-1-7998-1097-1.ch015>
- Brooks, D. C. (2016). *ECAR Study of Undergraduate Students and Information Technology. Research report*. Louisville, CO: ECAR.
- Cabero-Almenara, J., Guillén-Gámez, F. D., Ruiz-Palmero, J., & Palacios-Rodríguez, A. (2021). Digital competence of higher education professor according to DigCompEdu. Statistical research methods with ANOVA between fields of knowledge in different age ranges. *Education and Information Technologies*, 26, 4691-4708. <https://doi.org/10.1007/s10639-021-10476-5>
- Cicha, K., Rizun, M., Rutecka, P., & Strzelecki, A. (2021). COVID-19 and higher education: first-year students' expectations toward distance learning. *Sustainability*, 13 (4), 1889. <https://doi.org/10.3390/su13041889>
- Daniela, L., Visvizi A., Gutiérrez-Braojos, C., & Lytras, M. D. (2018). Sustainable Higher Education and Technology-Enhanced Learning (TEL). *Sustainability*, 10 (11), 3883. <https://doi.org/10.3390/su10113883>
- Greenhow, C., & Galvin, S. (2020). Teaching with social media: evidence-based strategies for making remote higher education less remote. *Information and Learning Sciences*, 121 (7/8), 513-524. <https://doi.org/10.1108/ILS-04-2020-0138>

- Kacetla, J., & Semradova, I. (2020). Reflection on blended learning and e-learning – case study. *Procedia Computer Science*, 176, 1322-1327. <https://doi.org/10.1016/j.procs.2020.09.141>
- Khamidov, O. K., & Kahhorov, O. S. (2020). Prospects of monitoring graduates' employment in digital technologies. *Scientific reports of Bukhara State University*, 4 (5), 268-273.
- Kryukov, V., & Gorin, A. (2017). Digital technologies as education innovation at universities. *Australian Educational Computing*, 32 (1). <http://journal.acce.edu.au/index.php/AEC/article/view/114>
- Lacka, E., Wong, T. C., & Haddoud, M. Y. (2021). Can digital technologies improve students' efficiency? Exploring the role of Virtual Learning Environment and Social Media use in Higher Education. *Computers & Education*, 163, 104099. <https://doi.org/10.1016/j.compedu.2020.104099>
- Lapada, A. A., Miguel, F. F., Robledo, D. A. R., & Alam, Z. F. (2020). Teachers' COVID-19 Awareness, Distance Learning Education Experiences and Perceptions towards Institutional Readiness and Challenges. *International Journal of Learning, Teaching and Educational Research*, 19 (6), 127-144.
- Lassoued, Z., Alhendawi, M., & Bashitialshaer, R. (2020). An Exploratory Study of the Obstacles for Achieving Quality in Distance Learning during the COVID-19 Pandemic. *Education Sciences*, 10 (9), 232. <https://doi.org/10.3390/educsci10090232>
- Miró, N. L., Civera, J. I., Sánchez, L. G., Breijo, E. G., Trigo, J. M., & Haro, T. (2021). Redesigning seminars in the subject sustainable development and environmental ethics for the new online higher education scenario due to COVID-19. In *Proceedings of INTED2021 Conference (8th-9th March 2021)*, 5455-5460.
- Nabella, S., Hasan, H., & Zubaidilah, M. H. (2022). Arabic teacher creativity towards the use of information technology in distance learning. *Al Qalam: Jurnal Ilmiah Keagamaan dan Kemasyarakatan*, 4 (2), 321. <http://dx.doi.org/10.35931/am.v4i2.721>
- Nikou, S., & Aavakare, M. (2021). An assessment of the interplay between literacy and digital technology in higher education. *Education and Information Technologies*, 26, 3893-3915. <https://doi.org/10.1007/s10639-021-10451-0>
- Nizwardi, J., Sukardi, S. S., & Rizky, E. W. (2021). Competence of Vocational Teachers in the Use of Technology in the New Normal Era. *Proceedings of the 8th International Conference*

- on Technical and Vocational Education and Training (ICTVET 2021). *Advances in Social Science, Education and Humanities Research*, 608, 11-16.
- Pakhomova, T., Kan, D. S., Uriadova, V., Vasylchuk, V., & Vasylchuk, L. (2020). Information Technologies and Teaching Aids for Distance Learning in Educational Institutions under Quarantine. *Universal Journal of Educational Research*, 8 (11), 69-76. <https://doi.org/10.13189/ujer.2020.082409>
- Perez, T. A., & Nagata, J. J. (2019). The digital culture of students of pedagogy specialising in the humanities in Santiago de Chile. *Computers & Education*, 133, 1-12. <https://doi.org/10.1016/j.compedu.2019.01.002>
- Prokopenko, I., & Berezhna, S. (2020). Higher Education Institutions in Ukraine during the Coronavirus, or COVID-19, Outbreak: New Challenges vs New Opportunities. *Revista Romaneasca pentru Educatie Multidimensionala*, 12 (1), 130-135.
- Qureshi, M., Khan, N., Raza, H., Imran, A., & Ismail, F. (2021). Digital Technologies in Education 4.0. Does it Enhance the Effectiveness of Learning? *International Journal of Interactive Mobile Technologies*, 15 (4), 31-47. <https://doi.org/10.3991/ijim.v15i04.20291>
- Rizun, M., & Strzelecki, A. (2020). Students' Acceptance of the COVID-19 Impact on Shifting Higher Education to Distance Learning in Poland. *IJERPH*, 17 (18), 6468. <https://doi.org/10.3390/ijerph17186468>
- Rupiah, R. (2021). Utilization of information and communication technology (ICT) in academic supervision during the COVID-19 pandemic. *Jurnal As-Salam*, 5 (2), 120-128.
- Sadiq Al-Shammari, A. S. (2021). Modern Information Technology in Higher Education: A Challenge to Covid-19. *Technium*, 3 (3), 23-40.
- Štemberger, T., & Konrad, S. (2021). Attitudes Towards Using Digital Technologies in Education as an Important Factor in Developing Digital Competence: The Case of Slovenian Student Teachers. *iJET*, 16 (14), 83-98. <https://doi.org/10.3991/ijet.v16i14.22649>
- Tohara, A., Shuhidan, S., Bahry, F., & Nordin, M. (2021). Exploring Digital Literacy Strategies for Students with Special Educational Needs in the Digital Age. *Turkish Journal of Computer and Mathematics Education*, 12 (9), 3345-3358.
- Voloshinov, S., Kruglyk, V., Osadchyi, V., Osadcha, K., & Symonenko, S. (2020). Realities and prospects of distance learning at higher education institutions of Ukraine. *Ukrainian*



*Journal of Educational Studies and Information Technology*, 8 (1), 1-16.  
<https://doi.org/10.32919/uesit.2020.01.01>

- Williamson, B., Eynon, R., & Potter, J. (2020). Pandemic politics, pedagogies and practices: digital technologies and distance education during the coronavirus emergency. *Learning, Media and Technology*, 45 (2), 107-114. <https://doi.org/10.1080/17439884.2020.1761641>
- Windiastuti, E., & Fridayani, H. D. (2021). An Evaluation of the Education Policy of the Republic of Indonesia concerning the Use of Information, Communication and Technology (Case Study: Use of E-learning in kindergartens Before and After COVID-19 Pandemic in Yogyakarta, Indonesia). *PAUD Lectura: Jurnal Pendidikan Anak Usia Dini*, 4 (2), 36-48.
- Zubkov, A. D. (2020). MOOCs in Blended English Teaching and Learning for Students of Technical Curricula. Proceedings of the Conference “Integrating Engineering Education and Humanities for Global Intercultural Perspectives”. *EEHGIP 2020: Integrating Engineering Education and Humanities for Global Intercultural Perspectives*, 539-546. [https://doi.org/10.1007/978-3-030-47415-7\\_57](https://doi.org/10.1007/978-3-030-47415-7_57)