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*The Experience of Distance Learning of Students in Psychology
of Interpersonal Communication*

Doświadczenie kształcenia na odległość studentów psychologii komunikacji interpersonalnej

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ABSTRACT

The article is about the results of theoretical and empirical research of designing and realization of modern Web-services in the educational process of high school as well as implementation and application of Google Classroom service in the educational process of universities. Scientific and methodological bases of the research are substantiated. Features of Web-services are revealed. Economical, technical, functional and educational, personal and educational advantages of using Google Classroom in institutions of higher education are determined. Methodical steps of using Google Classroom in the process of teaching and studying the discipline “Psychology of interpersonal communication” by students of the specialty 053 Psychology are characterized. Results of Google Classroom service implementation in the process of studying by students the discipline are proved, empirically and statistically validated. The results are increase of levels of students’ effective interpersonal communication qualities that demonstrate the benefits of using this service for students of specialty “Psychology” especially during pandemic times. The issues of designing and implementation of Google Classroom service in the process of studying other psychological disciplines by students of humanities at all educational levels, empirical study of the advantages and disadvantages of using this service we consider promising for further research.

Keywords: institution of higher education; teaching; student; Web-service; Google Classroom

INTRODUCTION

Ukraine's integration into the European space in the modern conditions of the globalized information society, war and global pandemic threats puts new demands on all state spheres and, first of all, the educational sphere. Changes that are taking place actualize the need to develop information and communication competencies in all participants in the educational process. The changes are increasing proposals for academic mobility of lecturers and students, higher education reforming in the country, the urgent need to optimize and increase the efficiency of the educational process, lack of experience in designing and implementing the latest information technologies by lecturers and students of humanities. Thus, the introduction of modern information technologies and teaching aids in domestic higher education institutions is aimed at the development of these competencies, which meets the requirements of the international level. This is especially important during the global threat COVID-19 and threats related to the war in Ukraine when students' education takes place remotely. So, the relevant task of modern higher education is the preparation of highly skilled and competitive specialists during distance learning.

Problem of Research. Features of using Internet resources, Web-services in the training of future professionals in higher education are in the works of many scientists, in particular, who noted the positive impact of such services on improving the effectiveness of distance learning. Distance learning means an individualized process of acquiring knowledge, skills and methods of cognitive activity of a person, which occurs mainly on the indirect interaction of remote from one another participating in the educational process in a specialized environment, which operates on the basis of modern psychological and pedagogical and information and communication technologies.

Using distance learning means in crisis situations in universities give lecturers new work tools and prompt them to reach for less commonly used practices that contributed to the enrichment of the didactic process. As a result, students can be more satisfied with classes (Wojakowska, 2022).

An effective remote distance learning organization is Google Classroom. Specifics of using Google Classroom in universities in teaching students of various disciplines revealed Alim et al. (2019) (foreign language), DiCicco (2016) (social science), Mahometa and Tiahaj (2018) (math), Sranamkam (2018) (physics), Shaharane, Jamil and Rodzi (2016) (data mining) and others.

Bondarenko (2016) noted the advantages of using the Google Classroom service in teaching students the discipline "The World Regional Economic and Social Geography". He considers that this Web-service allowed to individualize learning, organize systematic control of knowledge, and take into account the psychophysiological characteristics of each participant in the educational process through interactive online interaction.

Stavytskyi and Urazgaliyeva (2018) empirically confirmed the positive impact of using the Google Classroom service on the formation of students' economic competence. The Web-service activates students' cognitive activity in lectures and in the process of individual learning, ensures the availability of materials at any time. This stimulates interest in learning and creates good conditions for the formation and development of technological competencies.

Podik (2017) identified the advantages of using the Google Classroom in the study of accounting: partial exemption of students from the need for routine mathematical operations by using the software capabilities of Google Spreadsheets; introduction of small game modules for maximum memorization of the most important categories of the discipline; real-time answers to students' questions, etc.

Negara (2018) confirmed the effectiveness of using the Google Classroom in the study of English literature by students of the Indonesian University. The introduction of this service in the educational process helped to improve student performance and to increase their activity.

Ekahitanond (2022) found that students of large classes enrolled in English courses in a private university in Thailand had favorable perceptions regarding the use of Google Classroom as a tool to support English learning.

The application of Google Classroom with other methods helps to increase students' learning motivation compared to using conventional methods (Putri, Khairil & Safrida, 2022).

Research Aims. The issue of using the Google Classroom service in the preparation of psychology students was out of scientists' attention. Therefore, the goal of the article is the development of methodical stages of using Google Classroom service in teaching the discipline "Psychology of interpersonal communication" by students of the specialty 053 Psychology and checking changes in development of the qualities of the students' effective interpersonal communication after studying this discipline.

METHODOLOGY OF RESEARCH

General Background of Research. Web-services is a software application identified by a URI, whose interfaces and binding are capable of being defined, described, and discovered by XML artifacts. Web-service supports direct interactions with other software agents via XML-based messages exchanged via Internet protocol (Alonso et al., 2004). This application has an open, standardized interface, provides platform-independent access of software products to personal data via the Internet. Different Web-services can interact with each other and with other applications through a specific information resource according to user needs, providing the user with access to information products.

The common features of different Web-services are the next: just connect to the Internet to access them from anywhere in the world; they do not need to be installed on a computer (smartphone or tablet); they support group work with documents; there are different modes of access to materials (closed, open, on request, etc.); there is an opportunity to discuss and evaluate published materials in a community; different materials can be grouped into thematic groups; the search system is developed; to use the Web-service (in particular, to publish materials), a person have to complete the registration. Such services are a flexible cost-effective model that does not tie a university to outdated infrastructure. These services easily and quickly adapt to new software requirements; they support standardization of such software and various applications, and have simplified maintenance through centralized updates; they are supported by various devices (tablets, laptops, personal computers, etc.) of teachers and students; they can be used both in the educational institution and outside it; they help to save time and to increase security through the possibility of remote control and maintenance, etc. Some Web-services are completely free to use, others allow people to use only a limited version of the service for free. Their use in education can be considered in the context of e-learning (using information, e-technology) and mobile learning (using mobile devices and wireless access to learning resources). Mobile learning is considered by researchers as a new stage in the development of e-learning. Using Web-services allows to develop digital competence (ability to consciously and critically use technologies of the digital society), as well as information and communication competence. Researchers consider communication competence as a person's confirmed ability to use information and communication technologies in practice to meet individual needs and to solve socially significant professional tasks.

In high school cloud services have some functions, in particular, resource (placement and storage of educational material), information (creation of conditions for information transfer), organizational and managerial (coordination of participants in the educational process, direction of their activity), communicative (maintaining links between participants in an educational process), and developmental (development of the intellectual sphere, formation of information and communication culture, improving learning behavior), etc. (Pappas, 2018).

One of the Web-services is Google Classroom. It is a learning management system, offered by Google to teachers and reproduces an important educational space for communicating with students, developing assignments and questions without paper using; it allows speeding up a process of information exchange between students and teachers (Zhang, 2016). As a feature of Google Apps for Learning this system became public in the second half of 2014.

Google Classroom is a free and safe service for educational institutions and non-profit organizations that improves the ability of teachers and lecturers to communicate with pupils and students within and outside these institutions

and organizations. The service is accessed by registered members via the https protocol using a one- and two-level authentication procedure, which ensures confidentiality and protection against unauthorized access (*Classroom Help*, n.d.). This service allows creating several individual classes in different disciplines or in one discipline for separate groups of students. Google Classroom is included in G Suite for Education, Google's cloud services suite designed for use by learners and educators. G Suite for Education allows you to manage various services and user accounts which helps to develop information and educational environments in schools and universities.

The Google Classroom service can be used to implement various forms of student learning: lectures (study material, video lectures, and lecture presentations), seminars and practical classes, individual work (practical task, questions with the possibility of answers and comments, presentation, etc.).

Sample of Research. The research was conducted in the years 2020–2021 in Kyiv higher education institutions (Ukraine) while teaching in Ukrainian language the discipline “Psychology of interpersonal communication” for Psychology students during the pandemic period. The participants in this study were 114 Psychology students.

Instrument and Procedures. The methods used during the research were: analysis and generalization of scientific psychological and pedagogical literature on the implementation of information technology in higher education, designing stages of work in web services, observation of students' activities during mastering the discipline, their psychological testing and questioning.

RESEARCH RESULTS AND DISCUSSION

Using Google Classroom in universities has a number of advantages that we have systematized as economic, technical, functional, functional-educational and personal-educational.

The economic benefits of Google Classroom are:

- free access to the service;
- saving space and security of information, because everything is in one centralized location, on the cloud, and not on others media (Pappas, 2018);
- saving paper, because assignments can be created and managed digitally (Pappas, 2018);
- saving time, because Google Classroom allows a teacher to create and check assignments quickly, program settings also take a little time (Zhang, 2016).

The technical benefits of Google Classroom are:

- minimum hardware requirements, access to the Internet is the most important (Oleksiuk, 2013; Latif, 2016);

- an opportunity to use this service on tablets and smartphones and to download the app through the Play Store or the App Store (*Classroom Help*, n.d.; Latif, 2016);
- a big volume of disk (cloud) space that a user has (Pappas, 2018).

The functional benefits of Google Classroom are:

- availability from any browser, but developers of Google Classroom informed that Google Chrome browser was designed for the best compatibility with Google applications (Podik, 2017);
- free 24/7 support from Google employees (*Classroom Help*, n.d.);
- availability and safety due to the lack of advertising in this service (*Classroom Help*, n.d.);
- filtering unwanted content from the system and users (Oleksiuk, 2013);
- reliability, high functionality and data protection of Google Classroom users (*Classroom Help*, n.d.; Latif, 2016);
- an opportunity to work and study remotely (Zhang, 2016; Podik, 2017);
- quick and easy setup because a teacher can add students directly or share a code with a class, send announcements and start discussions (Zhang, 2016);
- an opportunity to import constructs from other services into the Google Classroom educational environment (*Classroom Help*, n.d.);
- an ability to integrate with others educational software (Oleksiuk, 2013);
- improvement and updating of the service, emergence of new functions and capabilities (*Classroom Help*, n.d.).

The functional-educational benefits of Google Classroom are:

- an opportunity to use the Ukrainian-language interface;
- ease of making a contact, because Google Classroom allows teachers to send announcements and to start a discussion instantly. Students can share resources with each other or provide answers to questions in the stream (Podik, 2017);
- improved organization, because students can see all their assignments on the page, and all class materials (text documents, diagrams, pictures, videos) are automatically added to a separate folder on Google Drive (Pappas, 2018);
- an opportunity to provide a teacher functions to more than one person: up to 20 people can be invited and they will be allowed to do the same as the head teacher (those who have created the class page in Google Classroom), but not to remove the class (*Classroom Help*, n.d.);
- any type of information, including text files, graphics, audio, video, links can be used as attachments to the material, tasks, questions (*Classroom Help*, n.d.);
- an opportunity to create an assignment or a question in advance and to publish it in the class feed at a specified time (Podik, 2017);
- availability of convenient templates that allows to create individual assignments for each student quickly (Oleksiuk, 2013; Zhang, 2016);

- an opportunity to provide tasks, questions, announcements, comments for individual students in a class just when it is needed while the teacher is confident that this information will not be available to other students (only if the recipient of the information does not disseminate it to others);
- setting deadlines for each task to the nearest minute (Pappas, 2018);
- an opportunity to track how students perform tasks in real time and, if necessary, to adjust it (Podik, 2017; Pappas, 2018);
- an opportunity to assign or not assign points for a completed task;
- a student can see only his results (grades for completed tasks) (Podik, 2017);
- an opportunity to run distance learning during global pandemic threats.

An ability for continuous self-learning and self-development, management of one's own lifelong learning, readiness for autonomous learning activities, reflexive abilities personal-educational are the benefits of Google Classroom. A teacher, working with this service, can design individual assignments taking into account students' individual features. Using Google Classroom increases student productivity (Negara, 2018). Working with this service requires from a student an active conscious attitude to educational requirements, which develops his responsibility and self-sufficiency. He must be a highly mobile and adaptive person, be ready to constantly change learning situations, and independently manage the duration of his training and completing tasks.

The convenience of using Google Classroom is that there is a list of students under each assignment or question, and there is a current status of the assignment (completed, not completed, returned, resent) and the number of points next to each name. This allows the teacher to avoid additional time spent on sorting assignments, tracking deadlines and editing history. A teacher has an opportunity to reuse his tasks created for one class in other classes using a special service; he can partially change and update these tasks. In general, Google Classroom facilitates, intensifies coeducation (Latif, 2016).

There are disadvantages of using Google Classroom in addition to the advantages: the need for strict adherence to safety, problems with weak or absent Internet connection, the need to restore a user's login and password, time limits for performing tasks (DiCicco, 2016; Shaharane et al., 2016; Negara, 2018; Alim et al., 2019).

Google Calendar (time management function, scheduling of certain types of work), Google Docs (creating and editing texts and presentations), YouTube (sending and viewing video information), Google Translate (quick translation of information from other languages) etc. are other Google services integrated with Google Classroom.

In view of the above economic, technical, functional, functional-educational and personal-educational advantages, we have used the Google Classroom service in our work with psychology students with the aim of remote mastering of a part

of material of discipline “Psychology of interpersonal communication”. This way of studying can be considered in the context of blended (hybrid) learning, which involves a combination of traditional (direct, classroom) and distance learning.

The subject of the discipline “Psychology of interpersonal communication” is the psychological specificity of the processes of interpersonal communication, its structure, functions, mechanisms, conditions of efficiency. Its goal is to form students’ system views about the content, structure, functions, mechanisms, factors of interpersonal communication of people of different ages, mastering modern methods and research techniques and improving such communication.

The content of the discipline consists of 11 topics related to interpersonal communication as a subject of psychological cognition; philosophical and psychological approaches to the study of interpersonal communication; structural and functional analysis of such communication; communication, interaction and social perception in its structure; interpersonal relationships; interpersonal attraction; difficulties and barriers in interpersonal communication; conditions and factors of its efficiency; specifics of interpersonal communication in different circumstances and areas of life.

Working with the Google Classroom service in the process of teaching the discipline “Psychology of Interpersonal Communication” for students of the specialty 053 Psychology included the following steps:

1. Substantiation of the content in Ukrainian of the discipline “Psychology of interpersonal communication”, its presentation in digital form (in Word).
2. Creation of a class page. The author of the class (lecturer / teacher) in the Google Classroom application has created a special class with the name <https://classroom.google.com/c/MTYyNjAxNzc4NzFa> and has assigned herself the role of teacher. Otherwise, she would have been assigned the role of a student. Google has assigned a code to the class (f1vbw1). After all students have joined the class, this code was changed (Zhang, 2016). Then the information that characterizes in general the discipline (class description) was downloaded: subject of the discipline, goal, tasks, program competencies and learning outcomes. Class personalization was performed – a picture (photo) that appears when users enter the class page, as shown in Figure 1. It was possible to choose a class theme (general design).
3. Filling the class with content involved creating topics and uploading files needed for processing the content of the discipline or completing tasks. Each topic on the page contains content, questions, tasks. The tasks were of several types. Firstly, to make a structural and logical diagram on an issue from the plan of seminar. Secondly, to make a structural and logical diagram on an article. Thirdly, to complete lab assignments, such as, to make recommendations for improving the accuracy of interpersonal perception and to explore the features of communication and organizational skills using a special method.

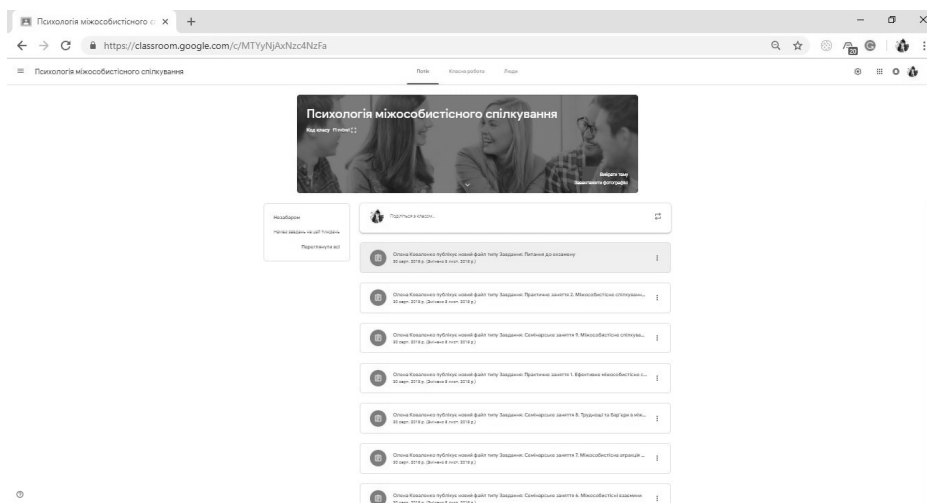


Figure 1. Interface of the class “Psychology of interpersonal communication” in the Google Classroom service

Source: Authors’ own elaboration.

Links to the texts of articles and text of the method are provided on Google Drive (<https://drive.google.com>). An example of the design of one topic is given in Figure 2. Created tasks with questions for the exam, as well as tasks of individual work. The last ones are to investigate the features of mobility and self-management in communication of 5 persons aged 20–25 years and 5 persons aged 26–60 years using a special method, to make research protocols and conclusions.

4. Setting deadlines for completing tasks.
5. Implementation of the class initially involved the registration of students and an additional teacher: the head teacher sent by email an invitation to join the class to the additional teacher and the students who had to accept this invitation. Then students received assignments according to the schedule of mastering the discipline; studied educational material; performed tasks; made inquiries to the teacher (by email) and received current points. In Figure 3 is given an example of assignments completed by a student: he had to make a structural and logical diagram of an article.
6. Summarizing the results of the study, setting students the scores.

After the students study the discipline “Psychology of interpersonal communication” a diagnostic has been performed. Methods for identifying communication and organizational skills (KOS-2) (Fetiskin, Kozlov & Manuylov, 2002) and Pearson’s chi-squared test have been used. The results of the study are given in Figure 4.

The screenshot shows a Google Classroom interface. At the top, the browser address bar displays the URL: <https://classroom.google.com/w/MTYyNjA5Nz4NzFzFa/1/all>. The page title is "Психологія міжособистісного спілкування". The main heading is "Тема 10. Ефективне міжособистісне спілкув...". Below this, there is a list of assignments:

- Звіт теми (Topic not assigned) - Published 30 sept. 2018 r.
- Як чутли впливають на ефективність між... (Topic not assigned) - Published 30 sept. 2018 r.
- Які чинники зумовлюють ефективне спіл... (Topic not assigned) - Published 30 sept. 2018 r.
- Обґрунтуйте проблему чоловічого і жін... (Topic not assigned) - Published 30 sept. 2018 r.

The selected assignment is "Зробіть структурно-логічну схему статті" (Create a structural-logical scheme of the article), dated 21 sept. 2018 r. It includes a PDF document titled "завдання.pdf" and a table with the following data:

Задки	Практично
3	10

Below the table, there is a section for "Практичне завдання 1. Ефективне міжособ..." (Practical task 1. Effective interpersonal communication) with a note "Практично не виконано" (Practically not done).

Figure 2. Design of one topic of the class “Psychology of interpersonal communication” in the Google Classroom service

Source: Authors' own elaboration.

The screenshot shows a Google Classroom page with the URL: <https://classroom.google.com/g/tg/MTYyNjA5Nz4NzFzFa/MTYyNjczMjA5NDJh#ODgxNjMzNDA1Nvpa>. The page title is "Зробіть структурно-логічну схему статті". The main content is a student's structural and logical diagram for an article. The diagram is divided into two main sections:

Сфера А.1. Взаємодія А.1.1. Про впливові зв'язки між особистісними спілкуваннями
 КОМУНІКАТИВНО-СОЦІАЛЬНІ УМОВИ ЕФЕКТИВНОГО СПІЛКУВАННЯ

Дієвісні зв'язки між особистісними спілкуваннями

The diagram includes various icons and text boxes illustrating communication concepts, such as a teddy bear, a smartphone, a computer, and a group of people. It also features a flowchart showing the relationship between different communication elements.

Figure 3. Creating of the structural and logical diagram by the student on an article by Google Classroom

Source: Authors' own elaboration.

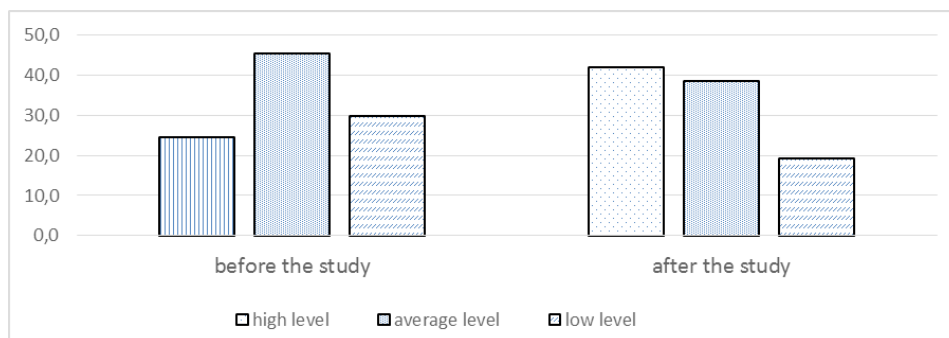


Figure 4. Levels of Psychology students' skills of effective interpersonal communication before and after the study of discipline "Psychology of interpersonal communication" (data in %)

Source: Authors' own elaboration.

It was found statistically significant ($\chi^2_{emp.}=7.42$; $\chi^2_{crit.}=5.991$; $p\leq 0.01$) increasing the number with a high (42.1%) level of independence, responsibility, self-confidence and others qualities of effective interpersonal communication (quality of the first octane, authoritarian type of attitude to others) and decreasing with an average (38.6%) and a low (19.3%) levels according to this indicator, compared with these levels before the study of this discipline (high – 24.6%, average – 45.6%, low – 29.8%). There was also a non-standardized oral survey of students about the features of its mastering using the Google Classroom service.

Analyzing the features of working with this service, 70.2% of students said about the novelty of such work (they did not use Web-services in their study before). These students need time and experience to adapt to the e-learning environment. All students started to use Google Classroom service after their study.

Some students expressed doubts about the reliability of such a service as a learning tool (17.5%) and reluctance to learn how to work with the service (10.5%); they said about the lack of technical capabilities of using this service outside of universities (7.0%). At the same time, many students emphasized a number of advantages of the Google Classroom service: an opportunity to send completed task digitally remotely (50.9%), which is especially important during the global pandemic threat; saving time and space on digital media (40.3%); variety of technical tools – smartphone, tablet, laptop (26.3%); a high speed in receiving answers to their questions from the teacher (5.3%).

So, using this Web-service by students helped to increase in their level of development of effective interpersonal communication basic qualities (responsibility, independence, self-confidence, etc.).

CONCLUSIONS

It was found that Google Classroom is the effective remote distance learning organization. It is a learning management system, offered by Google to teachers and reproduces an important educational space for communicating with students, developing assignments and questions without using paper. It allows speeding up the process of information exchange between students and teachers.

Results of the study confirmed a number of systematized advantages of using the Web-service Google Classroom in teaching the discipline “Psychology of interpersonal communication” for students of the specialty 053 Psychology. That is economic, technical, functional, functional-educational and personal-educational advantages, development of information and communication competence in participants of the educational process. Using the Web-service helped to run distance learning during the global threat COVID-19. This can be useful in the situation of modern Russian military aggression against Ukraine. Stages of using Google Classroom in the teaching of “Psychology of interpersonal communication” were analyzed (substantiation of the content in Ukrainian of the discipline in digital form; creation a class page in the application; filling the class with content; setting deadlines for completing tasks; implementation of the class; summarizing the results of the study). It is confirmed that using this Web-service helped to increase levels of development of some personal qualities in students and contributed to the emergence of new competencies (informational and communicational, reflexive, management of the process of learning, the implementation of autonomous learning activities). A necessary condition for using Google Classroom in the teaching of psychological disciplines is teachers’ and students’ positive motivation about improving or developing competencies in using cloud services in the educational process.

Prospects for further research are seen in the new methodological developments of the stages of Google Classroom and Moodle services implementation in the study of other psychological disciplines by full-time and part-time students and identify their advantages and disadvantages.

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ABSTRAKT

Artykuł dotyczy wyników badań teoretycznych i empirycznych nad projektowaniem i realizacją nowoczesnych serwisów internetowych w procesie edukacyjnym szkoły wyższej

oraz implementacją i zastosowaniem usługi Google Classroom w procesie edukacyjnym uczelni. Uzasadnione są naukowe i metodologiczne podstawy badań. Ujawniane są funkcje serwisów internetowych. Określono zalety ekonomiczne, techniczne, funkcjonalne, funkcjonalno-edukacyjne, osobiste i edukacyjne korzystania z Google Classroom w szkołach wyższych. Scharakteryzowano metodyczne etapy wykorzystania Google Classroom w procesie nauczania i studiowania przedmiotu „Psychologia komunikacji interpersonalnej” przez studentów specjalności 053 Psychologia. Wyniki wdrożenia usługi Google Classroom w procesie studiowania przez studentów tego przedmiotu są udowodnione, potwierdzone empirycznie i statystycznie. Efektem tego jest podniesienie poziomu umiejętności efektywnej komunikacji interpersonalnej studentów, który pokazuje korzyści płynące z korzystania z tej usługi dla studentów specjalności Psychologia, zwłaszcza w czasach pandemii. Zagadnienia projektowania i wdrażania usługi Google Classroom w procesie studiowania innych dyscyplin psychologicznych przez studentów kierunków humanistycznych na wszystkich poziomach kształcenia, badania empiryczne zalet i wad korzystania z tej usługi uważamy za obiecujące do dalszych badań.

Słowa kluczowe: uczelnia; nauczanie; student; serwis internetowy; Google Classroom