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**ORGANIZATION OF DISTANCE LEARNING FOR HUMANITIES STUDENTS  
USING GOOGLE CLASSROOM**

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**Abstract**

Over the past decades, there has been a process of intensive introduction of distance learning innovations into the traditional education system based on modern information and communication technologies and their harmonious combination. This became possible primarily due to the development of the Internet, which made it possible to transmit the required amount of data at any distance, to hold online discussions freely with other Internet users and to post the necessary messages on the websites, making them accessible to everyone. The article presents the peculiarities of handling Google Classroom in distance learning. According to the results of the pedagogical experiment in the use of Google Classroom in the educational process of Humanities students, it was concluded that the use of this system in the educational process contributes to the improvement of the academic achievements of Humanities students.

**Keywords**

Information and communication technologies – ICT – Distance learning – Humanities students

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## Introduction

In the modern world of digital technologies, traditional methods of the educational process organization lose their relevance and require active integration into the virtual educational environment<sup>1</sup>. The use of Internet resources in educational institutions of various levels and profiles has long been a common norm and standard international practice, such as, for example, distance education<sup>2</sup>. Such a transformation allows one to diversify the process of learning, to transfer a part of the classes in the online environment, which does not require the constant physical presence of the student and the teacher in one place during a certain period. There is a need to organize an environment where both sides of the educational process could comfortably cooperate, which is “digital educational space”<sup>3</sup>.

The extent of the introduction of Internet technologies in the educational process is determined by the reasonable desire of its participants to make learning, on the one hand, more effective and interesting and, on the other hand, less labour-intensive and time-consuming<sup>4</sup>. This process is facilitated by the constant development of a variety of virtual platforms and services that software development companies distribute freely in the academic environment<sup>5</sup>.

The problems associated with the use of modern ICT in the pedagogical process are covered in the works<sup>6</sup>. These works showed that the introduction of computer technology in the education process is one of the ways to increase the effectiveness of the pedagogical

<sup>1</sup> S. Pivneva; D. Denisova; N. Vitkovskaya; Z. Rafina; E. Muraya y G. Ushakova, “Advanced Information Technology: Automated and Individual Learning Systems”, *International Journal of Advanced Trends in Computer Science and Engineering* Vol: 8 num 6 (2019): 3481-3487; S. V. Kondratiev; A. N. Andreev; E. A. Baranova; T. N. Reva y E. S. Petrova, “Information educational systems for testing and monitoring students’ knowledge”, *Revista Inclusiones* Vol: 7 num Especial Enero-Marzo (2020): 144-157 y R. Galustov; G. Zelenko; N. Zelenko y E. Golodov, “Introduction of school students to the use of digital technologies in agricultural production”, *Amazonia Investiga* Vol: 8 num 23 (2019): 386-390.

<sup>2</sup> R.S. Kuanysheva; A. Z. Asainova; M. I. Ragulina y M. P. Lapchik, “Developing Ict Competences in Bachelor of Engineering and Technology in A Multilingual Environment”, *International Journal of Education and Practice* Vol: 7 num 3 (2019): 123-135 y O. A. Fiofanova; T. N. Bokova y V. I. Morozova, “International comparative analysis of national state electronic educational platforms for schoolchildren”, *Revista Inclusiones* Vol: 7 num Especial (2020): 51-61.

<sup>3</sup> P. N. Bilenko; V. I. Blinov; M. V. Dulinov; E. Yu. Esenina; A. M. Kondakov y I. S. Sergeev, *Didakticheskaya kontseptsiya tsifrovogo professionalnogo obrazovaniya i obucheniya* (Moscow: Pero, 2020)

<sup>4</sup> D. A. Denisova; N. G. Levanova; O. M. Tolmachev y E. D. Dobrova, “Software products for creating educational video courses for people with physical disabilities”, *Revista Inclusiones* Vol: 7 num Especial (2020): 357-370 y S. Pivneva; N. Vitkovskaya; O. N. Makarov y K. B. Dobrova, “Integration of network capabilities of blended learning”, *Revista Inclusiones* Vol: 7 num Especial (2020): 192-206.

<sup>5</sup> A. Pritchard, *Effective Teaching with Internet Technologies Pedagogy and Practice* (London: Paul Chapman Publishing, 2007)

<sup>6</sup> W.J. Pelgrum, “Obstacles to the integration of ICT in education: results from a worldwide educational assessment”, *Computers & Education* Vol: 37 (2001): 163-178; P. D. John y R. Sutherland, “Teaching and learning with ICT: new technology, new pedagogy?”, *Education, Communication & Information* Vol: 4 num 1 (2004): 101-107; A. Kirkwood, “Getting it from the Web: why and how online resources are used by independent undergraduate learners”, *Journal of Computer Assisted Learning* Vol: 24 num 5 (2008): 372-382 y E. O. Adu y S. A. Olatundun, “The use and management of ICT in schools: strategies for school leaders”, *European journal of computer science and information technology* Vol: 1 num 2 (2013): 10-16.

process. Traditional methods of getting a higher education have acquired new features, combining the lecture-seminar educational system with the possibilities of distance learning.

The problems of introducing distance learning in the educational process are not new<sup>7</sup>. Many scientists and practitioners have addressed these problems, in particular, such problems are the subject of research<sup>8</sup>. The essence of distance learning and the peculiarities of its use in the process of vocational education in universities is considered in the works<sup>9</sup>.

In the context of a huge data stream and the lack of class time, there is an active search for new reserves to create a flexible and mobile education system. Due to the changes in the curricula of universities, which are associated with a reduction in the number of class hours and an increase in the hours devoted to independent work of students, the role of the teacher in the educational process is changing: they should become an organizer and leader, tutor and teacher, expert and consultant of students' independent work<sup>10</sup>. Taking this into account, forms and means of the educational process should be used to implement the informative, forming, motivating, systematizing and controlling functions. These functions can be facilitated primarily by the use of powerful and easy-to-use modern Internet-based learning management systems. Their common properties are: hardware and software mobility; support of pedagogical technologies of digital, distance and mobile learning. The use of Internet-based learning management systems creates the necessary conditions for giving the learning process quality of continuity with the help of the technological integration of classroom and extracurricular work in a combined learning system.

One of these systems is G Suite for Education, which includes several useful services, such as<sup>11</sup>: Gmail (free email service); Classroom (service, which simplifies distance learning); Drive (file storage service, which uses cloud technology); Calendar (time planning service); Vault (archiving service, which helps to manage user's data); Docs (a set of tools for working with Office files); Sheets (processing service for data presented in tables); Forms (service for creating and conducting online forms and surveys); Slides (service for creating presentations, regardless of the device); Sites (service for hosting and creating sites); Hangouts (service for interactive communication, including video conferencing). All the services mentioned above can be used both separately and comprehensively, in addition to each other.

<sup>7</sup> I. Shirshova; Y. S. Sizova, T. S. Gabazov y T. V. Salynskaya, "English language learning software", *Revista Inclusiones* Vol: 7 num Especial (2020): 237-248.

<sup>8</sup> M. Paechter y B. Maier, "Online or face-to-face? Students' experiences and preferences in elearning", *The Internet and Higher Education* Vol: 13 num 4 (2010): 292-297; M. Allen; E. Mabry; M. Mattrey; J. Bourhis; S. Titsworth y N. Burrell, "Evaluating the Effectiveness of Distance Learning: A Comparison Using Meta-Analysis", *Journal of Communication* Vol: 54 num 3 (2004): 402-420 y A. Bozkurt, *From Distance Education to Open and Distance Learning: A Holistic Evaluation of History, Definitions, and Theories*. S. Sisman-Ugur, G. Kurubacak (Eds.), *Handbook of Research on Learning in the Age of Transhumanism* (Hershey, PA: IGI Global, 2019).

<sup>9</sup> A. Kirkwood, "E-learning: you don't always get what you hope for Technology", *Pedagogy and Education* Vol: 18 num 2 (2009): 107-121; H. Mahdizadeh; H. Biemans; M. Mulder, "Determining factors of the use of e-learning environments by university teachers", *Computers & Education* Vol: 51 num 1 (2008): 142-154 y M. Cinar y N. Torenli, "Redesign online courses with students' expectations: a case study with a new infrastructure", *Social and Behavioural Science* Vol: 9 (2010): 2013-2016.

<sup>10</sup> K. Kreijns; F. Van Acker; M. Vermeulen y H. Van Buuren, "What stimulates teachers to integrate ICT in their pedagogical practices? The use of digital learning materials in education", *Computers in Human Behavior* Vol: 29 num 1 (2013): 217-225.

<sup>11</sup> G Suite for Education: Deployment Guide. Retrieved from: [https://services.google.com/fh/files/misc/gsuite\\_for\\_education\\_deployment\\_guide.pdf](https://services.google.com/fh/files/misc/gsuite_for_education_deployment_guide.pdf)

Google Classroom is a notable example of facilitating the work of both the teacher and the student. It is a learning process management system developed by Google for educational institutions, the purpose of which is to simplify the creation, distribution and classification of tasks in a paperless way<sup>12</sup>. Google Classroom is a tool that includes Google Drive for creating and distributing assignments, Google Docs, Sheets and Slides for writing reports, Gmail and Google Calendar for planning activities and Google Search for assistance in projecting<sup>13</sup>.

In its turn, Classroom combines all the advantages of its predecessors and the extreme simplicity of the work organization and the software interface. This system has successfully passed several checks and can now be used free by educational institutions for the introduction of distance and mixed forms of education because of a convenient high-quality combination of basic tools to support the educational process<sup>14</sup>.

The article aims at covering the issues of organizing, conducting and processing the results of the field experiment on checking the effectiveness of the methodology for using Google Classroom in the educational process of Humanities students.

Research hypothesis: the use of Google Classroom in the educational process contributes to the improvement of the academic achievements of Humanities students.

According to the results of the study, it can be concluded that the goal set in the study was achieved.

## Methods

A field experiment on the creation and introduction of a scientifically-grounded methodology for using Google Classroom in the educational process of Humanities students was carried out in two stages:

1) the defining stage of the experiment, conducted at the analytical-defining stage of the study;

2) the forming stage of the experiment, conducted at the forming-generalizing stage of the study.

At each stage, a set of methods of scientific and pedagogical research was used:

- theoretical analysis of sources on the research problem;
- examination and generalization of the experience of university teachers and analysis of particular experimental studies;

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<sup>12</sup> I. Shaharane; J. Jamil y S. Sarah, "The Application of Google Classroom as a Tool for Teaching and Learning", Journal of Telecommunication, Electronic and Computer Engineering Vol: 8 num 10 (2016): 5-8.

<sup>13</sup> Y.-T. Lin y M. Jou, "Integrating popular web applications in classroom learning environments and its effects on teaching, learner learning motivation and performance", The Turkish Online Journal of Educational Technology Vol: 12 num 2 (2013): 157-165.

<sup>14</sup> K. J. Spring; C. R. Graham y C. A. Hadlock, "The current landscape of international blended learning", International Journal of Technology Enhanced Learning Vol: 8 num 1 (2016): 84-102.

- observation, conversation, interrogation of students;
- theoretical analysis of the didactic possibilities of using Google Classroom in the educational process;
- method of statistical processing of the pedagogical experiment results;
- examination and analysis of the results of students and teachers activities.

The control and experimental groups at the forming stage of the pedagogical experiment were formed as follows:

- the control groups (CG) included 3<sup>rd</sup> and 4<sup>th</sup>-year students (97 students in total) who studied without using Google Classroom;
- experimental groups (EG) included 3<sup>rd</sup> and 4<sup>th</sup>-year students (98 students in total) who studied using Google Classroom.

## Results

The analytical-defining stage of the research aimed at studying the present state of the examined phenomenon and to identify the initial provisions of the study. At the first stage of the study, a defining stage of the pedagogical experiment was carried out, the purpose of which was to determine the level of success of Humanities students education.

Furthermore, a survey was conducted to obtain empirical data on students' readiness to use Google Classroom. The title of the survey ("Distance education and you") reflected the idea of using ICT of distance learning in the traditional educational process.

There were 43 respondents in total. All surveys were filled out in Google Classroom only by the volunteers, as it was not an obligatory condition for registration in the system. The survey results revealed that only 37% of students wanted to study remotely. 77% of students did not have distance learning experience, but 73% of students were sure that distance education is worth developing. The answers to the open questions were of particular interest. It was noted in them that distance education is the highest form of organization of the student's independent work, which should be considered to be an additional aspect of traditional full-time education. At the same time, most students indicated the need to combine distance learning with the traditional system, and the need for external stimulation for effective independent work with the system.

The purpose of the second stage of the study was to verify the effectiveness of using Google Classroom in the learning process, to compare the levels of academic achievement of students in EG and CG and to assess the significance of differences in these values using mathematical statistics methods.

To test the hypothesis that there were no differences between the levels of students' knowledge in the CG and EG, an analysis of their grades was performed before the forming stage of the pedagogical experiment (Table 1). Besides, other factors affecting the learning process were balanced: in CG, ICT tools were actively used.

Grade	Number of students			
	CG		EG	
	Number students	% of students	Number students	% of students
Satisfactory (C)	34	35.1	38	38.8
Good (B)	33	34.0	26	26.5
Excellent (A)	30	30.9	34	34.7
Total:	97	100%	98	100%

Table 1  
Distribution of grades in the CG and EG until the forming stage of the pedagogical experiment

Information about students' grades (the proportion of students who received an "excellent", "good" or "satisfactory" final grade) according to the results of the forming stage of the pedagogical experiment for students of CG and EG is presented in Table 2.

Grade	Number of students			
	CG		EG	
	Number students	% of students	Number students	% of students
Satisfactory (C)	29	29.9	11	11.2
Good (B)	35	36.1	35	35.7
Excellent (A)	33	34.0	52	53.1
Total:	97	100%	98	100%

Table 2  
Distribution of grades in the CG and EG after the forming stage of the pedagogical experiment

Processing the experimental results and evaluating the effectiveness of the developed methodology was carried out using methods of mathematical statistics. The experiment aimed at identifying the differences in the distribution of a particular attribute (the level of knowledge) when comparing two empirical distributions. For this reason, Pearson's chi-squared test ( $\chi^2$ ) was used.

Samples in the study are random. The measurement scale is a scale with  $C = 3$  categories (3 – "satisfactory", 4 – "good", 5 – "excellent"), one independent condition is imposed. Therefore, the number of degrees of freedom is  $v = C-1 = 2$ .

The null hypothesis  $H_0$ : the students of the control ( $n_1=97$ ) and experimental samples ( $n_2=98$ ) have equal probability to fall into each of the  $i$  ( $i = 0, 1, 2$ ) categories, that is,  $H_0: p_{1i} = p_{2i}$  ( $i = 0, 1, 2$ ), where  $p_{1i}$  is the probability that the participants from the CG get  $i$  points ( $i = 0, 1, 2$ ) and  $p_{2i}$  is the probability that the participants from the experimental group get  $i$  points ( $i = 0, 1, 2$ ).

Alternative hypothesis  $H_1: p_{1i} \neq p_{2i}$  for at least one of the categories  $C$ .

From the table of  $\chi^2$  values for the significance level  $\alpha = 0.05$  and the number of degrees of freedom  $v = C - 1 = 2$ , the critical value of the statistics  $\chi^2_{crit} = 5.991$  is determined. Since before the forming experiment, the calculated value was  $\chi^2 < \chi^2_{crit}$  ( $1.499 < 5.991$ ), that is, it does not fall into the critical region, it means that at the beginning of the experiment the CG and EG did not differ significantly in their grades.

Calculations of the  $\chi^2$  criterion for the experimental and control samples after conducting the forming stage of the pedagogical experiment showed that  $\chi^2 > \chi^2_{crit}$  ( $31.394 > 5.991$ ). This is the basis for rejecting the null hypothesis  $H_0$ . The adoption of the alternative hypothesis  $H_1$  makes it possible to argue that these samples have statistically significant differences, i.e., the experimental methods are more effective than the traditional ones.

Given the fact, that students in the experimental groups were educated using Google Classroom, one can argue that this contributed to the achievement of higher results. Thus, we can talk about the experimental confirmation of the hypothesis.

To elicit the views of the students about using Google Classroom in the learning process, an additional survey was conducted among the students of experimental groups after the forming stage of the pedagogical experiment. According to the results of the survey, 91% of students liked working with Google Classroom. The use of Google Classroom helped 57% of respondents in preparing for mid-term and final tests, 58% – for lecture classes, 61% – for individual work, 62% – for homework. However, students (78%) considered self-learning to be the main goal of using the Google Classroom system. In general, the results of the survey indicated a positive attitude of the students to the use of Google Classroom.

## Discussion

According to research results, the use of Google Classroom provides effective communication with students in real-time or in distance learning mode. The system is convenient to use for both teachers and students, since the service provides users with a universal working device, an intuitive interface and the tools necessary for the participants in the educational process. It requires minimal support from technical specialists for deployment, use and administration<sup>15</sup>.

N. Stanley notes that among the diversity of virtual educational platforms, Google Classroom is primarily distinguished by its ease of use. It does not require special training when creating a course and provides users with a convenient interface for managing the educational process. At the same time, it is a very reliable (the probability of failure of this service is much lower than the probability of failure of the distance learning system placed on the site) and simple tool to support students' independent work, distance learning and online projects. Thus, the author claims, that "Google Classroom is an opportunity to turn distance education into an everyday work tool"<sup>16</sup>.

When creating a course on Google Classroom, the teacher must log in with the personal Google account to the corresponding application in the main menu of the browser.

<sup>15</sup> N. Bayarmaa y A. Lee, "Study on the Application of Google Classroom for Problem-Based Learning", Journal of the Korea Academia-Industrial Vol: 10 (2018): 81-87.

<sup>16</sup> N. Stanley y J. R. Ouyang, "Theories and research in educational technology and distance learning instruction through blackboard", Universal Journal of Educational Research Vol: 2 num 2 (2014): 161-172.



After choosing the status of a teacher, it becomes possible to start creating and customizing one's course. Google Classroom provides a variety of templates and settings: from choosing the colour theme of the course to creating its content. Using the menu, the teacher can structure the course into sections, determine their topics and then create a calendar plan for each topic in which it is possible to indicate the deadline of the study of the relevant material, as well as of the fulfilment of required tasks.

The possibilities of Google Classroom in filling the course are also quite diverse. These are authentic lectures in text or video format and corresponding sections of textbooks, as well as recordings from YouTube. Also, the service provides the opportunity for co-education. In this case, the teacher can invite up to 20 other teachers to reinforce the obtained knowledge of certain material.

The core element of Google Classroom is the "Classes". Functionally, their structure resembles forums, since users are provided with the ability to send messages to other users within a virtual group. Each "Class" has a separate folder on the corresponding Google Drive, where the student can submit the work in the form of a link to his Drive or a downloaded file.

To create a task, it is necessary to select the appropriate menu item ("Tasks (Themes)"); to indicate the subject of the task in the dialogue box, to give explanations on the arrangement and deadlines, and to attach the task itself. There is the possibility of creating individual assignments for each student, as well as setting the grade scale.

The use of the "Tasks (Themes)" service, which includes the ability to submit lecture materials and create questions and assignments that are integrated with Google Drive, provides collaboration on tasks using two-way communication between the students and the teacher; real-time communication; assessment of completed tasks. Collaboration expands learning opportunities, students can exchange ideas and help each other. With this approach, students are adapted to work in groups.

The publication of any material on Google Classroom can be scheduled. Each publication (announcement, material, tasks) appears on the Feed page, and students receive a notification to their email address.

An important advantage of Google Classroom is its integration with other Google services, so the teacher can upload information in any format to the "Class". In this sense, this service requires from the teacher a well-designed course program. Only under this condition, the service will provide new opportunities in the organization of the educational process. One of the most important features of Google Classroom is its integration with Google Calendar. Google automatically creates a calendar for each class. The deadlines of the assignments will be reflected on the calendar of a particular "Class", and teachers will be able to plan manually such events as consultations, webinars, colloquiums, credits, etc. Besides, teachers can reuse their tasks in different classes using the "Reuse Publication" service. It is only necessary to press the appropriate button, select the "Class" in which the publication was previously published, make changes to either upgrade it or add questions. Teachers can choose the material of any "Class" that they created or co-educated. The possibility co-education for several teachers within one course is also provided. Teachers can also post questions in their "Class" and encourage discussions, allowing students to respond to comments to each other's answers.

The page “People” provides information about the course composition, as well as the possibility of electronic correspondence. To attach a student to the course, the teacher must request it or provide an access code. The invitation is automatically emailed. Google Classroom stores data on the number of students who answered (or did not answer) to help ensure that all students in the group (virtual “Class”) participate in assignments fulfillment.

The works<sup>17</sup> list the main features of Google Classroom:

1) interaction and collaboration, which allow one to do the following:

- to view, comment and edit students’ work in real-time;
- to publish announcements, ask students questions and move important topics to the beginning of the feed;
- to choose who can publish entries and comments in the course feed and to block the requests of some of the students (if necessary);
- to share links, videos and images from the sites in the “Class” using the extension “Share on Google Classroom”;
- to send offers to the parents to subscribe to an electronic newsletter with information about the work that both must be fulfilled and have not yet been fulfilled. The newsletters also include announcements and questions published by the teacher in the course feed.

2) saving time:

- students can join the courses themselves using a code;
- work with several courses;
- co-education: the possibility to invite other teachers;
- convenient templates: quick creation of individual tasks for each student;
- a lot of additional materials: adding videos from YouTube; Google Forms; adding PDF files and other materials from Drive;
- task settings: adding deadlines for report writing, changing the grade scale and tracking verified tasks;
- quick quizzes using Google Forms;

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<sup>17</sup> K. R. Mafa, “Capabilities of Google Classroom as a Teaching and Learning Tool in Higher Education”, *International Journal of Science Technology & Engineering* Vol: 5 num 5 (2018): 30-34; S. Iftakhar, “Google Classroom; What work and how?”, *Journal of Education and Social Sciences* Vol: 3 (2016): 12-18 y G.-J. Hwang; C.-L. Lai y S.-Y. Wang, “Seamless flipped learning: a mobile technologyenhanced flipped classroom with effective learning strategies”, *Journal of Computers in Education* Vol: 2 num 4 (2015): 449–473.

- centralized storage of resources: creating a page with courses for curricula, rules and other documents;
- tracking tasks for students using Google Calendar;
- checking students' work, including questions, grades and previous comments; viewing the work of one or all courses and sorting them according to various parameters;
- convenient grade system: sorting students' data alphabetically (by their last name), tracking deadlines, setting preliminary grades and adding comments;
- individual assignments: teachers can publish assignments and announcements for individual students of the course.

### 3) convenient support for administrators:

- accessibility and safety: no advertisement, students' materials and accounts are not used for business purposes;
- unified logging in: teachers and students can log in to Google Classroom using their Google accounts;
- professional development: the availability of courses for teachers about working with Classroom;
- free 24-hour support.

## Conclusion

In the modern system of vocational education organization in universities, the use of distance learning technologies is an integral part of ensuring high-quality education. The use of Internet technologies in the educational process expands significantly the possibilities of organizing distance learning, which helps to increase motivation for the use of ICT in future professional activities. Education using G Suite for Education provides new opportunities for the more active involvement of students in the educational process, raising the levels of general cultural and professional competencies of future specialists.

An overview of Google Classroom has shown its effectiveness in organizing the educational process. This service is a convenient and simple tool for the modernization of the learning process, which broadens traditional educational methods and enriches them with the latest Internet technologies.

The results of statistical processing of the data obtained after the forming stage of the experiment and the analysis of the survey of students from the experimental groups on the use of Google Classroom in the learning process indicate that the use of Google Classroom in the learning process improves the academic achievements, which allows us to conclude that the research hypothesis is proved.

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