Google Classroom in Educational Service: A systematic Review

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ABSTRACT

Since 2020, the year in which face-to-face education was interrupted by confinement due to COVID 19. The educational service began to be developed virtually and with this the teacher's challenge to use technologies in education. Many teachers used Virtual Learning Environments such as Google Classroom to provide a better quality of care. The objective of this article is to analyze information regarding the use of the use of the Google Classroom tool in the educational service during the period 2020-2021. The research for information for this research work has been carried out in the databases: Scopus and EBSCO. In them, a general search was carried out, finding 194 documents, in the advanced search the Boolean operators AND and OR have beeb used, selecting a population of 124 documents, these have been evaluated throung the use of the Prism, obtaining a simple of 32 scientific articles. According to your selection criteria. Inclusion and exclusion criteria, finally it is mentioned that since 2020 the use educational platforms have increased, Google Classroom being the most used in the educational field.

Keywords: Classroom, education, service.

INTRODUCTION

Since 2020, the year in which a non-face-to-face education service was provided throughout Peru due to the COVID-19 pandemic, as established by Vice-Ministerial Resolution No. 088-2020MINEDU (MINEDU, 2020). The pedagogical practice of teachers has changed, as it went from face-to-face to virtual teaching. Therefore, teachers have to know what are the functions of the various technological resources to be used and their form of help in the achievement of learning (Blanco et al., 2009). Thus, the use of technologies has changed the way of teaching and learning and its relevant use requires to be dominated by teachers to adapt to this new school (Cebrián-cifuentes & Suárez-rodríguez, 2021) Thus, since 2020 the use of virtual platforms has been increasing and therefore the need for teachers to use virtual classrooms. The Ministry of Education and Google signed an inter-institutional cooperation agreement in which seven million accounts will be created with the @aprendoencasa.pe domain. With this account you will have access to the Google workspace for Education platform, in this way you can implement and manage virtual classrooms.

Within the Google for Education toolkit is Classroom. The problem that currently exists is the little use of this tool by teachers. Unfortunately there are still educational practices that focus on the teacher and not on the rhythm and style of the student. (Preeti Sharda & Bajpai, 2021)In a survey of 375 people, when asked opinions about the best of Google's classroom, 4% (29) of respondents found that the feedback provided by students is useful. This shows the little value that teachers are giving to this tool in the process of formative evaluation and in general in the educational service.

Hidayat et al (2019) Over the past few decades, conference strategy and learning media information technology (SLMIT) still emphasize the teacher-centered approach to learning; teachers used visual aids, such as whiteboards, software presentation slides, and images/graphics. However, after the revitalization of the curriculum, the classroom has been transformed into lectures that emphasize active learning and lectures with a

combination of approaches (blended learning) through the use of the LMS.

Li et al., (2021) state that blended learning is a combination of face-to-face instruction and online learning. Traditional face-to-face teaching involves interaction between students and teachers, while online learning facilitates teaching and learning by using conventional or online methods without face-to-face contact between students and teachers.

Google Classroom ranked first in the list of most used platforms when doing online learning with 26.1%, followed by Ruang guru and Rumah Belajar with 17.1% and 15.2%, respectively. (Pratama et al., 2021)

Since May 6, 2014, when Google announced its creation and made its official launch on August 12, 2014; Google Classroom until now has been improving year after year its version so much so that it has been inserted in 2017 that anyone who has a gmail account can access Google Clasroom, in 2018 Classroom was created which is now the novelty because the qualification system was improved, the organization of the material by 'Theme', dragging and dropping the theme and improved grading of tasks, etc., have made Google a real success. In 2019, another great feature called Rubrics was added to Google Classroom for evaluation, and the ratings feature was reinforced. During the COVID situation, Google announced the 'Google Meet' feature with Classroom to launch a platform for face-to-face communication between students and teachers.

Thus, at present the use of this tool is very important. (Preeti Sharda & Bajpai, 2021) It is very effective in tracking student progress and communication and interaction between teachers and students. You have doubled the number of assets. It has been specially developed for educational institutions to create, disseminate and rate the task in a more user-friendly environment.

Google Classroom can be used very well by teachers to perform the evaluation, as it improves the general classroom environment, facilitating the creation of an assignment, questionnaire or questionnaire, evaluating them and sending them back to the students.

Schug (2020)Task activities aim to track task performance and leverage interactions generated during task completion through reflection on task performance and focus on forms.

Sheelavant (2020) mentions that Google Classroom is an interactive educational tool that allows you to create an educational environment rich in information. The entire process of managing assignments, grades, formative assessment, and feedback is simplified and streamlined as it integrates with other Google apps.

In Google Classroom students can view their grade and keep track of their assignments and also view assignments submitted by other students. This helps them know what the purpose of their work is, where they are, what they need to do to achieve their purpose. These questions are characteristic of an assessment for learning.

In that sense, I pose the following question: What is the use of Google Classroom in the educational service in the period 2020-2021? This work is justified by the importance of using a pedagogical approach that combines face-to-face instruction with computer-mediated teaching or technological resources. (May-Cubero, 2021). Thus, it is intended to describe the use of this tool in the different forms of the educational service.

The objective of this article is to analyze information regarding the use of the Google Classroom tool in the educational service during the period 2020 - 2021, for which the following specific objectives are proposed:

1.   Identify the use that teachers give to Google Classroom in the educational service their pedagogical practice.

2.   Analyze the use of Google Classroom within the educational process to provide a formative assessment.

METHODOLOGY

The research had a quantitative approach, because its object of study was observable, susceptible to statistical measurement and analysis. (Paradigms and Approaches Rodriguez.Pdf, n.d.) , as the fact to be investigated already happened at the time of planning the research is a retrospective investigation. (Corona Martínez & Fonseca

Hernández, 2021). Being a work that aims at the treatment and quantitative analysis of scientific publications, this research is of bibliometric design and qualitative methodology, to respond to the problem from the information collected. (Eugenia & Rubio, 2020)

Currently the search for information is a relevant process for research (Villarruel & Capuchino, 2021). Initially, a basic search was carried out with the study variable, finding 194 documents. With the advanced search in which it was filtered by year, type of documents, access 124 documents were selected. These 124 documents have been evaluated through the Prism technique, obtaining a sample of 32 scientific articles, for which the Inclusion and Exclusion criteria were used. For inclusion, the results were redefined by relevance, open access, subject matter, language and between the years 2019 to 2021. It has been excluded, duplicate articles and according to the revision of the title and abstract.

RESULTS AND DISCUSSION

Analyzing the 32 articles considered in the sample, it is evident that the use of virtual learning environments increased since 2020. The use of the Google Classroom tool has mostly been in higher and university education.

This educational tool is the most used in the world because it is free (Ballance, 2020). Only one gmail account is required to access.

For its application in educational institutions, it requires training for teachers and students. Some studies show the impediments to the non-use of Google Classroom such as little TRAINING in ICT, deficient or no internet signal and routine pedagogical practices.

Table 1. Conceptual contribution of the articles

N°	Article title	Contributions
1	Modifying Google's Classroom Use Technology Acceptance Model in the COVID-19 Era: A Case Study in High Schools	The article shows us the opinion of indonesian students about Google Classroom and its importance in education. They express that it effectively improves students' access and attention to learning, knowledge and skills. Concluding that in the face of the adversity of the pandemic, online learning is one of the best means. Google Classroom is one of the online learning mediums that is easy to use and has many advantages. (Pratama et al., 2021)
2	Online learning and teaching using the Google classroom during the COVID-19 pandemic	El artículo muestra el fácil uso por parte de los docentes, el 73% de los encuestados manifiestan que usan Google Classroom como medio de comunicación con otros docentes y estudiantes. Sólo el 4% de estudiantes expresa que le es útil la evaluación que reciben de sus maestros. Esta herramienta proporciona una configuración de aula invertida.(P Sharda & Bajpai, 2021)
3	Testability and purpose: your role towards the acceptance of Google Classroom following educational policy	Google Classroom ranks first among free platforms for learning management. It is a tool suitable for colleges and universities. Teachers and students need professional development programs. One difficulty is the problem of the internet for the use of this tool. (Oluyinka & Cusipag, 2021)
4	Google Classroom virtual classroom application in the	The classrooms designed in Google Classroom allow a friendlier design of the presentation of the contents, which favors the active learning of the student. (María Sosa-Agurto et al., 2021)

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5	Students' perception towards using Google Classroom for online math learning as seen from students.	This article tells us that teachers should consider preparing students to access this tool. The students surveyed expressed their agreement with this tool to learn mathematics, also express that they can interact with their tutors, present tasks, solve questionnaires, see their answers. (Annurwanda & Winata, 2021)
6	ICT-mediated pedagogical practices	This article explains that teachers apply incremental innovation within the classroom based on the demands of the curriculum. They do not continuously use web tools and virtual learning environments. Among the reasons are the poor internet connection which prevents the use of virtual platforms and the activities of accompaniment, monitoring and evaluation of learning, another reason for non-innovation is resistance to change. (Parra Bernal & Rengifo Rodríguez, 2021)
7	D-learnig meaningful learning analytics applied in the teaching of secondary education physics.	Learning analytics as a research method allow to evaluate the use of techno-pedagogical models in meaningful learning. Google Classroom provides the development of meta cognitive competencies, meta learning and meta knowledge. (Salica, 2021)
8	Comparison of Google Classroom and D2L Brightspace using the technology acceptance model	Google Classroom is an LMS that can be used in hybrid education. In this comparative study, researchers show their preference for Brightspace. The difficulty with Google Classrroom is in the rating options. Another difficulty in Google Classroom is that it is developing several updates sometimes without much warning and user control. (Francom et al., 2021)
9	Teaching with Google Classroom: declared use, perceived effects and potential for subject learning	In this study conducted with 18 teachers from the Swedish compulsory school. In this study the teachers express that they use Google Classroom as a structuring, that is, to share objectives, material, they also use Google Classroom to apply the formative evaluation through comments they make in the feedback and the use of published rubrics. Another group of teachers use Google Classroom as a flipped classroom. It is also concluded that this tool has great potential for teachers, but training is needed. (Svensson et al., 2020)
10	Interaction and use of technologies in teaching-learning processes.	The continuous training of teachers is a fundamental aspect to concretize ICT. The organization of the classroom through virtual platforms such as Google Classroom contributes to the organization of content, collaboratively build tasks and give the student flexibility depending on their learning pace.(Gallardo Fernández et al., 2020)
11	Google classroom - An effective tool for online teaching and learning in this COVID era	Google Classroom is an interactive educational tool that allows you to create an educational environment rich in information. The entire process of managing assignments, grades, formative assessment, and feedback is simplified and streamlined as it integrates with other Google apps. In this app, students can view their grade and keep track of their assignments and also view assignments submitted by other students. This helps them know

		where they are and have a sense of learning community. (Sheelavant, 2020)
12	The effectiveness of Google Classroom as an educational medium: A case of the State Islamic Institute of Kendari, Indonsia	The use of Google Classroom in learning should be supported by technological infrastructure. The use of this tool can improve students' attitude towards the adoption of new technologies.(Alim et al., 2019)

CONCLUSIONS

The studies considered for the sample have been from the Scopus and EBSCO Databases, finding in these databases a large number of articles related to the use of virtual learning environments. The use of virtual platforms has increased since 2020, with the Google Classroom tool being the most used worldwide due to its easy access and its free form. Teachers and students need training in virtual environments so that it can be applied for the development of hybrid learning processes. Google Classroom offers options to carry out a formative evaluation because you can share criteria, rubrics as well as make comments to the works that the participants upload and make group feedback using the tools associated with Google Classroom.

REFERENCES

[1]   Alim, N., Gunawan, F., & Saad, M. S. (2019). *LA EFICACIA DE GOOGLE CLASSROOM COMO MEDIO EDUCATIVO : UN CASO DEL INSTITUTO ISLÁMICO ESTATAL DE KENDARI , INDONESIA*. *7*(2), 240–246.

[2]   Annurwanda, P., & Winata, R. (2021). Students' Perception Towards the Use of Google Classroom for Mathematics Online Learning Viewed From Students' Readiness. *Kalamatika: Jurnal Pendidikan Matematika*, *6*(2), 195–206. https://doi.org/10.22236/kalamatika.vol6 no2.2021pp195-206

[3]   Ballance, D. (2020). *TECNOLOGÍA E Pluribus Unum : uso de Google Classroom para reunir a una cohorte de estudiantes y profesores de todo el estado Introducción de los estados más grandes al este del Mississippi y con 159 condados*

[4]   *, se necesitaría un sistema robusto y versátil . 20*, 166–171.

[4]   Blanco, E., Ricoy, C., & Pino, M. (2009). Utilización y funcionalidad de los recursos tecnológicos y de las nuevas tecnologías en la educación superior. *Educação & Sociedade*, *30*(109), 1209–1225. https://doi.org/10.1590/s0101-73302009000400014

[5]   Cebrián-cifuentes, S., & Suárez-rodríguez, J. M. (2021). *políticas educativas América Latina*. 2–11.

[6]   Corona Martínez, L., & Fonseca Hernández, M. (2021). Acerca del carácter retrospectivo o prospectivo en la investigación científica. *MediSur*, *19*(2), 338–341.

[7]   Eugenia, M., & Rubio, M. (2020). *Investigar a las élites: problemáticas y reflexiones sobre la metodología cualitativa Studying Elites: Problems and Considerations on Qualitative Methods*. 233–246. https://doi.org/10.24201/es.2020v38n112 .1884

[8]   Francom, G. M., Schwan, A., & Nuatomue, J. N. (2021). Comparing Google Classroom and D2L Brightspace Using the Technology Acceptance Model. *TechTrends*, *65*(1), 111–119. https://doi.org/10.1007/s11528-020-00533-0

[9]   Gallardo Fernández, I. M., De Castro Calvo, A., & Saiz Fernández, H. (2020). Interacción y uso de tecnologías en los procesos de enseñanza y aprendizaje. *Educatio Siglo XXI*, *38*(1 Marzo-Ju), 119–138. https://doi.org/10.6018/educatio.413441

[10] Hidayat, M. L., Prasetiyo, W. H., & Wantoro, J. (2019). Pre-service student teachers' perception of using google classroom in a blended course.

Humanities and Social Sciences Reviews, *7*(2), 363–368. https://doi.org/10.18510/hssr.2019.7242

[11] Li, Q., Li, Z., & Han, J. (2021). A hybrid learning pedagogy for surmounting the challenges of the COVID-19 pandemic in the performing arts education. *Education and Information Technologies*, *26*(6), 7635–7655. https://doi.org/10.1007/s10639-021-10612-1

[12] María Sosa-Agurto, J. I., Micaela Panta-Carranza, K. I., & Yesenia Aquino-Trujillo III, J. (2021). Aplicación de aula virtual Google Classroom en el ámbito educativo: Una revisión sistemática Application of a virtual Google Classroom in the educative field: A sythematic review Aplicativo de sala de aula virtual do Google na educação: uma revisão sistem. *Polo Del Conocimiento*, *6*(1), 499–519. https://doi.org/10.23857/pc.v6i1.2160

[13] Mayo-Cubero, M. (2021). Teaching Innovation Experience for COVID-19 Times: A Case Study on Blended Learning of Television Journalism Courses with Moodle. *Asia Pacific Media Educator*, *31*(2), 178–194. https://doi.org/10.1177/1326365X211048619

[14] MINEDU. (2020). Normas Legales Normas Legales. *Diario Oficial*, *90*, 3–6. https://busquedas.elperuano.pe/normaslegales/decreto-legislativo-que-aprueba-el-codigo-de-responsabilidad-decreto-legislativo-n-1348-1471548-8/

[15] Oluyinka, S., & Cusipag, M. (2021). Trialability and purposefulness: Their role towards Google classroom acceptance following educational policy. *Acta Informatica Pragensia*, *10*(2), 172–191. https://doi.org/10.18267/j.aip.154

[16] *Paradigmas y enfoques Rodriguez.pdf*. (n.d.).

[17] Parra Bernal, L., & Rengifo Rodríguez, K. (2021). Prácticas Pedagógicas Innovadoras Mediadas por las TIC. *Educación*, *30*(59), 1–20. https://doi.org/10.18800/educacion.202102.012

[18] Pratama, A., Jakarta, U. N., Planning, H. E., & Board, C. (2021). *Modification of the technology acceptance model in the use of Google classroom in the COVID-19 Era : A case studies in junior high schools*. *16*(5), 2598–2608.

[19] Salica, M. A. (2021). Analysis of Significant Learning Applied d-Learning in the Teaching of Physics in Secondary Education. *RIED. Revista Iberoamericana de Educación a Distancia*, *24*(2), 265. https://doi.org/10.5944/ried.24.2.28399

[20] Schug, D. (2020). Flipped classrooms: Using Google Groups to facilitate in-class communication. *ASp*, *78*. https://doi.org/10.4000/ASP.6882

[21] Sharda, P, & Bajpai, M. K. (2021). Online learning and teaching using google classroom during the COVID-19 pandemic. *DESIDOC Journal of Library and Information Technology*, *41*(5), 352–357. https://doi.org/10.14429/djlit.41.5.16205

[22] Sharda, Preeti, & Bajpai, K. (2021). *Aprendizaje y enseñanza en línea con Google Classroom durante la pandemia COVID-19*. *41*, 352–357.

[23] Sheelavant, S. (2020). Google classroom - An effective tool for online teaching and learning in this COVID era. *Indian Journal of Forensic Medicine and Toxicology*, *14*(4), 494–500. https://doi.org/10.37506/ijfmt.v14i4.11527

[24] Svensson, E., Pendrill, A., & Pelger, S. (2020). *Teaching with Google Classroom : Claimed Usage , Perceived Effects and the Potential for Subject Learning*. https://doi.org/10.24834/educare.2020.4.7

[25] Villarruel, J. I., & Capuchino, E. (2021). *Autoformación online para la búsqueda y recuperación de información en una biblioteca virtual online self-training to search and retrieve information in a virtual library*. 27–49.