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**| RESEARCH ARTICLE**

## **The Effectiveness of Google Classroom as a Virtual Learning Environment (VLE) for School Teachers: Literature Review**

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**| ABSTRACT**

Online learning has become an alternative way of teaching and learning. Since the Covid-19 pandemic, the traditional face-to-face teaching and learning process has shifted to online learning. There are many platforms for online organizing online classes, and Google Classroom is one of them. However, some of the teachers are still struggling in conducting online classes. This paper aims to provide a literature review on the study of the impact of Google Classroom as a platform of teaching and learning for primary school teachers. There are positive and negative impacts regarding the use of this platform. Hence, it is important to derive the impact of Google Classroom as a teaching and learning platform for primary school teachers from the existing studies. There are some implications from the past studies, such as Google Classroom provides the changes in classroom dynamics, influences the behavioral intention positively, and acts as a facilitation tool. The results can aid the teachers to have more understanding of Google Classroom so they would be able to decide the best way to cooperate Google Classroom in their teaching and learning that might produce the optimum result, especially for the pupils.

**| KEYWORDS**

Effectiveness, Google Classroom, school teachers, teaching and learning platform

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### **1. Introduction**

Traditional school-based learning is vastly different from the new learning culture (Kim et al., 2015). Many platforms can be used, such as Google Classroom, Microsoft Teams, Zoom, WeBex, and many more (Jayaraman & Jothiswaran, 2020). Some of these platforms were introduced a few years ago. However, the Covid-19 pandemic has shifted the traditional physically present classroom to virtual learning. Since April 2020, higher education institutions have been using e-learning (Maheran et al., 2021). The Malaysian Ministry of Education has cooperated with tech heavyweights such as Google, Microsoft, and Apple to rebuild its year-old digital learning platform and strengthen the e-learning platform, recognizing the role of technology in education (Xiung, 2020). Since the Ministry of Education (MoE) has provided the teachers and pupils from primary and secondary schools that are registered under the MoE the identification documents for digital learning, access to the virtual learning platforms could never be easier. It is aligned with the Malaysia Education Blueprint 2013-2025, which emphasizes access where "every Malaysian child deserves equal access to an education that will enable that child to achieve his or her potential" (Malaysia Ministry of Education 2013, p E-9). The Ministry of Education also launched a portal for digital learning, namely DELIMa, which stands for Digital Educational Learning Initiative Malaysia, in June 2020 in collaboration with Microsoft, Google, and Apple (Microsoft Malaysia, 2020). Google Classroom is one of the platforms that can be accessed via the portal. Google Classroom was introduced in 2014 as one of the features under G-Suite for education, the former application for education under Google (Gupta & Pathania, 2020). There are several applications that have been integrated with Google Classrooms, such as e-mail, cloud storage, and web-based document editors such as Google Docs, Google Slides, and Google Sheet (Gupta & Pathania, 2020).

Since Google Classroom is perceived as one of the ways to carry out the teaching and learning process, it is important to gather any information from the previous studies in having a projection of possible answers that might be received. Therefore, the effectiveness of Google Classroom for the teaching and learning process can be observed. Thus, this paper provides a literature review on the effectiveness of Google Classroom in the teaching and learning environment. This literature review also will try to answer the following research questions:

- How does Google Classroom help students in teaching and learning?
- What are the benefits and drawbacks of Google Classroom in teaching and learning?

## **2. Literature Review**

### **2.1 Online Learning**

The change in distance education as practice began many years ago when it is an individual pursuit defined by geographical barriers between student and teacher (Anderson, 2008). Anderson (2008) also states that the introduction of three new generations, aided by mass media such as television and radio, synchronous tools like as audio and video conferencing, and computer conferencing, has accelerated the development since the last half of the twentieth century. According to Clark and Mayer (2016), online learning can also be called e-learning or digital learning as well as computer-based learning can be derived as the use of the digital device in delivering instruction that purposely supports learning. According to Clark and Mayer (2016), the definition consists of three parts, including what, how, and why. In terms of what, it involves the materials used that may include words either in spoken or printed version, and it may also contain graphics such as diagrams, photos, videos, animations, or even illustrations. As for the how, it involves the medium used for online learning, and the medium is likely to be computer-based devices such as laptops, smartphones, virtual reality devices, desktop computers, and tablets. The last part is why and this involves the reason for online learning as it is perceived to impact pupils' knowledge changes. Learning could take place anywhere in the world as long as the equipment and tools needed are present (Rubens et al., 2012). Singh and Thurman (2019) state that students will be able to learn and interact with their teachers and other students anywhere in the online learning environment. Video conferences, Virtual Learning Environment, and other online platforms changed the way learning was carried out. The technology that is developing very fast has turned remote learning to be easier to access and conduct (McBrien et al., 2009). Dhawan (2020) states that there are two types of lectures; the first one is an asynchronous learning environment where it involves pupils attending live classes, and the pupils and the teachers have real-time interaction between them. The feedback also can be possibly given instantly. On the other hand, the asynchronous learning environment is where the classes are not structured properly.

### **2.2 The effectiveness of Google Classroom in teaching and learning: international studies**

Google Classroom was introduced in 2014, and the studies related to its effectiveness seem to be limited. However, Shaharane, Jamil, and Rodzi (2016) have conducted a study of active learning activities via Google Classroom. To investigate the effectiveness of the activities posted on Google Classroom, they have used Technology Acceptance Model (TAM). The result shows that Google Classroom is better in interaction, easy to be used, overall satisfaction of the students, communication, and usefulness with the sample of 100 students. Ventayen et al. (2017) have conducted a study to figure out the effectiveness of Google Classroom as a Learning Management System. It is found that the use of Google Classroom as an effective LMS is mainly because of the cost of which Google Classroom is a free platform. They have also found out that the assignment function promotes collaborative learning, and it is perceived as an effective tool in promoting the students' engagement.

There is a study conducted by Basher (2017) regarding how Google Classroom can impact teaching efficiency for pre-teachers. The researcher opts for an experimental approach where the sample consists of the control and the experimental group. The traditional teaching and learning process has been done for the controlled group, while the experimental group has been exposed to Google Classroom. The results show that the experimental group that used Google Classroom had a better statistical result compared to the controlled group that used the traditional teaching and learning method. In addition, the teaching efficiency for the pre-teachers has improved in terms of planning, executing, and evaluating compared to the face-to-face teaching method.

Heggart and Yoo (2018) also have researched to measure the effectiveness of Google Classroom. The research has been conducted for the final year students who will become primary school teachers. The purpose is to promote the students to be more active and see whether Google Classroom might influence pedagogy in the future at the tertiary level. The results show that Google Classroom has increased the participation of the students, and it also has improved classroom conditions. Pace and user experience are among the concerns regarding the use of Google Classroom. The research has identified the practicality of online learning platforms via four concepts: pace, collaboration, ease of access, and students' voice that led to the construction of a framework in evaluating the use of online platforms.

Al Maarof and Al Emran (2018) have conducted research to study the factors affecting the Students' Acceptance of Google Classroom. The result shows that ease of use and usefulness have a positive impact on behavioral intention, and this leads to the

influence in using Google Classroom. This study aids the higher educational institutions to share holder to have better views on the use of Google Classroom and its effectiveness towards the students.

However, there is a study that has been conducted by Abid Azhar and Iqbal (2018) to assess the perception of teachers towards the effectiveness of Google Classroom. The research has a qualitative research design where the semi-structured interview has been carried out for 12 higher education teachers, and those teachers have been using Google Classroom for at least one semester with the students. The result shows that the teachers perceive Google Classroom as the tool to facilitate classroom management and document management. It also shows that Google Classroom has no significant impact on teaching methodology. The participants also state that the interface of Google Classroom that is not user-friendly is the main reason for its inefficiency.

### ***2.3 The effectiveness of Google Classroom in teaching and learning: studies in Malaysia***

A study has been conducted by Abd Manan and Hanafi (2019) regarding Google Classroom, and they have studied the acceptance towards Google Classroom by using the UTAUT model. The study has been conducted in a secondary school in Selangor, which comprises 40 students. The result shows that Google Classroom does have a positive impact on teaching and learning sessions. Based on the UTAUT model that has been used by the researchers, the students agree that they are positive about the integration of Google Classroom with their daily lessons. This is based on the first part of the questionnaire, which focuses on the attitude towards Google Classroom. The second part of the questionnaire involves performance expectancy. The students' response shows that they agree that Google Classroom makes their learning easier. This shows that Google Classroom has been effective in facilitating students' learning. In addition, this result also shows that Google Classroom is a tool for learning as it eases the process. The next point that the researchers have conveyed in their paper is facilitating conditions. The obtained result shows that students have enough resources to use Google Classroom. This can be meant that the students are ready to use the application in their learning.

Ramly and Latiff (2021) have conducted research in identifying the effectiveness of Google Classroom as a learning medium during Movement Control Order (MCO) from secondary teachers' perception. They found out that Google Classroom or GC has no significant sign of effectiveness in terms of whole classroom teaching. However, they have also found out that Google Classroom has been successfully used for task uploading, classroom administration, and student interaction. It is less effective due to some constraints. Teachers have been working hard to create educational instruments, but they are having difficulties dealing with not only the pupils' discipline and their eagerness to study but also a lack of resources. Internet connection and the availability of gadgets to be used for Google Classroom sessions also lead to the platform being less effective.

### **3. Conclusion**

In conclusion, this literature review aims to study the effectiveness of Google Classroom as a Virtual Learning Environment (VLE) for school teachers. There are some advantages and disadvantages of using Google Classroom as a VLE for school teachers, especially during remote learning. Some of the advantages are better interaction, ease of use, overall satisfaction of the students, communication, and usefulness. Pre-teachers also have benefited from Google Classroom, where they have improved in terms of planning, executing, and evaluating compared to the face-to-face teaching method. However, some drawbacks have been identified in some studies, such as Google Classroom has no significant impact on teaching methodology and the interface of Google Classroom is not user-friendly. In addition, teachers face difficulties in handling students' behavior during Google Classroom sessions and a lack of resources in producing teaching materials. Internet connection and the availability of gadgets to be used for Google Classroom sessions also contribute to the drawbacks of using Google Classroom as a VLE for teachers. This study is significant for readers or any stakeholders who are interested in using Google Classroom as a platform for VLE. The literature should spark some thoughts for further action in making Google Classroom a more versatile and effective platform. The limitations for this study are the previous studies related to the effectiveness of Google Classroom are still lacking, and most studies focus on the students' perspective rather than teachers. Furthermore, the previous studies also focus on the developing countries and not the developed ones. The studies from the developing countries and the developed countries are important in identifying the common and distinct issues that might arise. Future studies also should focus on different demographic backgrounds within a country in order to identify the different characteristics of Google Classroom users in making it an effective platform for teaching and learning.

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## References

- [1] Abd-Manan, N. Z., & Hanafi, H. F. (2019). Google Classroom: Student's acceptance using the UTAUT model. *Journal of Applied Arts*, 1(1), 64-72.
- [2] Al-Marouf, R. A. S., & Al-Emran, M. (2018). Students acceptance of Google classroom: An exploratory study using PLS-SEM approach. *International Journal of Emerging Technologies in Learning*, 13(6).
- [3] Anderson, T. (2008). *The theory and practice of online learning*. Athabasca University Press.
- [4] Azhar, K. A., & Iqbal, N. (2018). Effectiveness of Google classroom: Teachers' perceptions. *Prizren Social Science Journal*, 2(2), 52.
- [5] Basher, S. A. O. (2017). The impact of Google classroom application on the teaching efficiency of pre-teachers. *International Journal Social Sciences and Education*, 7(2), 45-54.
- [6] Chang, V., & Fisher, D. L. (2001). A new learning instrument to evaluate online learning in higher education. *New horizons in university teaching and learning*, 23-34.
- [7] Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of educational technology systems*, 49(1), 5-22.
- [8] Gupta, A., & Pathania, P. (2021). To study the impact of Google Classroom as a platform of learning and collaboration at the teacher education level. *Education and Information Technologies*, 26(1), 843-857.
- [9] Heggart, K., & Yoo, J. (2018). Getting the most from Google Classroom: A pedagogical framework for tertiary educators. *Australian Journal of Teacher Education*, 43(3), 140-153.
- [10] Jayaraman, R., & Jothiswaran, V. V. (2020). Web-based platforms for virtual learning. *Biotica Research Today*, 2(5 Spl.), 184-186.
- [11] Malaysian Ministry of Education (2013). Malaysia Education Blueprint 2013-2025. Putrajaya, MOE.
- [12] Mayer, R. E. (2019). Thirty years of research on online learning. *Applied Cognitive Psychology*, 33(2), 152-159.
- [13] McBrien, J. L., Cheng, R., & Jones, P. (2009). Virtual spaces: Employing a synchronous online classroom to facilitate student engagement in online learning. *International review of research in open and distributed learning*, 10(3).
- [14] Microsoft Malaysia News Centre (2020). Ministry of Education launches a new digital learning platform with participation from Google, Microsoft, and Apple. <https://news.microsoft.com/en-my/2020/06/15/ministry-of-education-launches-new-digital-learning-platform-with-participation-from-google-microsoft-and-apple/#:~:text=Called%20DELIMa%2C%20or%20'Digital%20Educational,with%20Google%2C%20Microsoft%20and%20Apple>.
- [15] Ramly, R. A. M., & Latiff, Z. A. (2021). Secondary teachers' perception of the effectiveness of google classroom as a learning medium during movement control order (MCO). *Journal of Media and Information Warfare* 14(1), 1-10.
- [16] Rubens, N., Kaplan, D., & Okamoto, T. (2012, September). E-Learning 3.0: anyone, anywhere, anytime, and AI. *In International conference on web-based learning* (171-180). Springer, Berlin, Heidelberg.
- [17] Shaharane, I. N. M., Jamil, J. M., & Rodzi, S. S. M. (2016). The application of Google Classroom as a tool for teaching and learning. *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, 8(10), 5-8.
- [18] Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education*, 33(4), 289-306.
- [19] Skelton, D. J. (2007). An investigation into the learning environments of blended delivery (e-learning and classroom) in a tertiary environment (Doctoral dissertation, Curtin University).
- [20] Ventayen, R. J. M., Estira, K. L. A., De Guzman, M. J., Cabaluna, C. M., & Espinosa, N. N. (2018). Usability evaluation of google classroom: Basis for the adaptation of gsuite e-learning platform. *Asia Pacific Journal of Education, Arts, and Sciences*, 5(1), 47-51.
- [21] Wan-Hassan, W. A. S., Ariffin, A., Ahmad, F., Sharberi, S. N. M., Nor Azizi, M. I., & Zulkiflee, S. N. (2020). Covid-19 pandemic: Langkawi vocational college student challenge in using google classroom for teaching and learning (t&l). *International Journal*, 9(3).
- [22] Xiung, J. (2020, June 16). Education Ministry relaunches digital learning platforms with help from Apple, Google and Microsoft. Malay Mail. <https://www.malaymail.com/news/malaysia/2020/06/16/education-ministryrelaunches-digital-learning-platform-with-help-from-apple/1875981>[16 July 2020]
- [23] Zakaria, M., Hanim, J., Bahari, R., Hasan, S. J., & Zolkafil, S. (2021). Benefits and Challenges of Adopting Google Classroom in Malaysian University: *Educators' Perspectives. Ilkogretim Online*, 20(1).