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## Preface

We are delighted to introduce the proceedings of the 2nd Workshop on Engineering, Education, Applied Sciences, and Technology (WEAST 2020) and joint conference with The 4th International Conference on Mathematics, Science, Technology, Education and their Applications (ICMSTEA). The event is organized by a Faculty of Mathematics and Natural Sciences Universitas Negeri Makassar.

The technical program has brought researchers and practitioners around the world to a good forum for discussing, leveraging and developing all scientific and technological aspects that are relevant to digital society. This event that discussed the development of the era of industrial revolution 4.0 and how to anticipate this era in various fields of science. Due to Covid-19 outbreak, the event has been successfully held virtual and non-virtual (for authors from Makassar or near of the event with Health Protocol of COVID-19 in Opening Ceremony) on October 5, 2020. Total more than 100 participants in the plenary room were enthusiastic about listening to the keynote speakers.

We hope that the future 2<sup>nd</sup> WEAST and 4<sup>th</sup> ICMSTEA will be as successful and stimulating, as indicated with the contributions presented in this volume. In closing, we would like to thank the all parties, for supporting the successful conference. We would also like to thank all contributors for your good cooperation. Special thanks for OC members for their hard work and patience.

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# Google Classroom as a Distance Learning Tool during a Pandemic

**Maman<sup>1</sup>, Hasan Baharun,<sup>2\*</sup> Ramadhan Witarsa<sup>3</sup>, Dewi Tumatul Ainin<sup>4</sup>, Zafrul Hodaili<sup>2</sup>, Mushorfan<sup>2</sup>, Majid Afnani Wiranata<sup>2</sup>**

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**Abstract.** This research was conducted to analyze the assessment strategy using Google Classroom at Nurul Jadid University, Paiton, Probolinggo, East Java, Indonesia. Learning through Google Classrooms is an alternative in the distance learning system during the Covid-19 pandemic. Data collection techniques are carried out through interviews, observation and documentation. The data analysis was carried out in a circular manner, starting from presenting the data, reducing data to drawing conclusions. It uses a case study type qualitative approach. The results of this study indicate that the Google Class room based assessment strategy is carried out through; assessment of student discipline, assessment of student performance / portfolio assessment, self-assessment and assessment through forms.

## 1. Introduction

COVID-19 is a virus that spreads very quickly. Some quick steps were taken by the government so that the coronavirus does not spread quickly, namely by implementing work from home (WFH), social distancing, wearing masks, and others. In order to prevent the spread of COVID-19 in the wider community and for educational institutions, the Ministry of Education and Culture (Kemendikbud) provides policies on prevention and handling of COVID-19, through social distancing and work from home [1][2].

With the development of sophisticated technology and information [3], It is hoped that the learning program can make good use of technology products to generate learning motivation of students [4]. One of the uses of technology during the COVID-19 pandemic, especially at Nurul Jadid University, Paiton Probolinggo, East Java, is the use of Google Classroom [5] for distance learning [6].

Google classroom is an application that allows the creation of classrooms online. Google classrooms can be a means of distributing assignments, submitting assignments, and even assessing submitted assignments. Besides, google classroom provides a discussion forum feature, so that lecturers can open a class discussion that can be responded to and commented on, such as commenting on Facebook[7]. The google classroom application is also used for online learning that can be done remotely, making it easier for lecturers to create, group, and share assignments. Lecturers and students can carry out



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learning activities at any time through the Google Classroom online class, and students can also learn, listen, read, and send assignments remotely.[8].

In the learning process, evaluation is a very important part [9]. Evaluation is a process of fostering and developing creative and innovative human resources to shape student personality and skills both from an intellectual, emotional, and spiritual perspective[10]. Evaluation can make learning easier for students. The evaluation results will later determine a truly effective result [11]. Effective in the sense that students have succeeded in achieving their competence from not / less competent to more competent [12][13].

Assessment is carried out to measure the achievement of the overall learning objectives that have been set at the tertiary level, and the results are used as reports to students about their learning outcomes, to lecturers, the community and the government as a form of education[14]. Departing from the above, the research focuses on efforts to analyze the assessment strategies carried out by lecturers in Google Classroom-based learning activities at Nurul Jadid Paiton University, Probolinggo, East Java. [15].

## 2. Google Classroom-based assessment

Assessment plays a very important role [16], because the assessment can provide feedback on the material that students have learned. Assessment is understood as an assessment of the process, progress, and student learning outcomes [17]. Assessment is an integral part of learning, assessment is an attempt to collect data or information using multiple techniques and multiple sources which are used as a basis for decision making [18].

The use of assessment nowadays has become a necessity, given the importance of education which is not just learning to know [19], but also to skillfully use what is learned [20]. When the results of the student assessment are still low, then this is where the assessment is useful to find out what students have obtained while studying. This happens because the assessment can provide feedback on an ongoing basis to improve the quality of learning [21].

With the rapid development and advancement of technology today, the application of the assessment has become very easy, especially with the internet network[22]. One way that can be used to carry out the learning process online is by using the Google Classroom application[23].

Google Classroom is used to maximize the process of delivering material to students, done online so that the material can be conveyed as a whole. Google Classroom also can make automatic copies of assignments that have been made by students. Lecturers can also check every assignment that students collect in the virtual classroom learning that has been made.

Google Classroom also helps lecturers to create and organize class assignments quickly and easily, provide feedback to lecturers efficiently, and communicate with students without being limited by space and time. Google Classroom is considered as the best application that can improve lecturer performance. Google Classroom provides very useful facilities that can be used by students[24].

In the learning process, students are given an assignment by a lecturer and send the results of the report to the google classroom application. Besides, students are given additional material to understand more broadly the material that may not be able to be conveyed directly when face to face in class[25].

Google Classroom also has advantages, namely, it saves time, is cloud-based, flexible, and free. This is a consideration that the Google Classroom is very appropriate to be used by students and lecturers who can provide problem-solving skills both from dose and the student concerned.[26].

### 3. Research Method

This research used a qualitative with case study. Researchers collected some information obtained from interviews with several informants who had been determined, namely the Chancellor, Lecturers and Students at Nurul Jadid University, Paiton, Probolinggo, East Java, Indonesia, observation and documentation of online teaching and learning activities carried out using google classroom. While the Assessment Strategy is carried out on learning activities carried out by lecturers by utilizing Google Classroom. Data analysis was performed by presenting data, reducing data, and drawing conclusions.

### 4. Results and Discussion

The results showed that the assessment strategies carried out by lecturers in learning activities based on Google Classroom at Nurul Jadid University, Paiton, Probolinggo were as follows:

1. Assessment of student discipline. In implementing learning using Google Classroom, students can follow the lecture process by clicking on the link that has been shared by the lecturer. The lecturers' assessment of student discipline in participating in lectures using nGoogle Classroom media, can be seen from several aspects, such as student attendance, student responsiveness to joining through the provided link, then following online lectures.

The number of students who attended the lecture can be seen from the comments column filled in by the participants in the format determined by the lecturer. Assessment of student discipline can also be seen through the enthusiasm of students in completing assignments that have been given by the lecturer through Google Classroom by a predetermined period.

2. Assessment of student performance/portfolio assessment. In its implementation, the lecture process through Google Classroom media is relatively easy, because lecturers can prepare classes and invite students to take lectures online. On the class assignment page, lecturers can provide assignment information and lecture material, and students can ask questions related to the material that has been submitted. The track record of lectures and assessments can be managed properly through files that are automatically stored in the Google Drive folder.

Each student assignment according to the basic competency standards included in the portfolio list is collected in one file, to prove student assignments as evidence of submitting assignments, the assessment scale is assessed, if the better the student's assignment results, the higher the value / score given by the lecturer.

3. Self-assessment. Google Classroom-based learning activities at Nurul Jadid University are carried out by measuring all aspects of learning, carried out using several stages, namely; assessment or independent tests that must be carried out by students individually, which are carried out after learning is complete. This technique is used to determine the results and effectiveness of Google Classroom-based learning activities that have been carried out personally by lecturers.
4. Assessment via the form. In the Google Classroom application, there is a Google Form facility that can help lecturers distribute assignments to students, submit assignments from the form in the form of quizzes, questions, and can even provide an assessment of assignments submitted by students.

In other words, the media makes it easier for lecturers to check the assignments sent by students and makes it easier for lecturers to provide assessments of student assignments. This assessment is a process for gathering and processing information to measure the achievement of student learning outcomes, to what extent a student or a group of students has achieved predetermined goals.

By utilizing Google Classroom media in learning and assessment, it is hoped that lecturers can make assessments without having to be constrained by space and time.

## 5. Conclusion

Based on the results of the research above, it can be concluded that the use of learning by utilizing Google Classroom and its assessment system makes it easy for lecturers to carry out their learning activities. Google Classroom is used to maximize the process of delivering material to students, evaluations and assessments are carried out online, so that the material can be conveyed and its success can be measured.

## References

- [1] A. Purwanto *et al.*, “Studi Eksploratif Dampak Pandemi COVID-19 Terhadap Proses Pembelajaran Online di Sekolah Dasar,” *J. Educ. Psychol. Couns.*, vol. 2, no. 1, pp. 1–12, 2020.
- [2] S. Atuahene, Y. Kong, and G. Bentum-Micah, “COVID-19 Pandemic, Economic Loses and Education Sector Management,” *Quant. Econ. Manag. Stud.*, vol. 1, no. 2, pp. 103–109, Nov. 2020.
- [3] H. Baharun, “Management information systems in education : the significance of e-public relation for enhancing competitiveness of higher education,” *J. Phys. Conf. Ser.*, vol. 1175, no. 1, 2019.
- [4] S. Islam, C. Muali, and I. M. Ghufron, Moh Idil, “To Boost Students ’ Motivation and Achievement through Blended Learning To Boost Students ’ Motivation and Achievement through Blended Learning,” *J. Phys. Conf. Ser.*, vol. 1114, pp. 1–11, 2018.
- [5] I. F. Ahmad, “Alternative Assessment in Distance Learning in Emergencies Spread of Coronavirus Disease ( Covid-19 ),” *J. Pedagog.*, vol. 07, no. 01, pp. 195–222, 2020.
- [6] A. Fauzi, A. Mundry, and U. Manshur, “E-Learning in Pesantren : Learning Transformation based on the Value of Pesantren E-Learning in Pesantren : Learning Transformation based on the Value of Pesantren,” *Phys. Conf. Ser. Pap.*, vol. 1114, 2018.
- [7] I. Suhada *et al.*, “Pembelajaran Daring Berbasis Google Classroom Mahasiswa Pendidikan Biologi Pada Masa Wabah Covid-19,” *Digit. Libr. UIN Sunan Gunung Jati*, vol. 2019, pp. 1–9, 2020.
- [8] S. Nawawi and T. F. Wijayanti, “Pengembangan asesmen biologi berbasis keterampilan berpikir kritis terintegrasi nilai Islam,” *Pengemb. asesmen Biol. Berbas. keterampilan berpikir Kritis terintegrasi nilai Islam*, vol. 4, no. 2, pp. 136–148, 2018.
- [9] M. E. Mahmud and S. Suratman, “Evaluasi Program Manajemen Pembelajaran Pada Sekolah Adiwiyata Kalimantan Timur,” *Al-Tanzim J. Manaj. Pendidik. Islam*, vol. 3, no. 2, pp. 85–96, 2019.
- [10] F. Chairawati, “Evaluasi Pembelajaran Pada Kelas Internasional Fakultas Dakwah IAIN Ar-raniry,” *J. Al-Bayan*, vol. 20, no. 29, pp. 15–32, 2014.
- [11] K. Setemen, “Pengembangan Evaluasi Pembelajaran Online,” *J. Pendidik. dan Pengajaran*, vol. 43, no. 3, pp. 207–214, 2010.
- [12] Sabran and E. Sabara, “Keefektifan Google Classroom sebagai media pembelajaran,” *Pros. Semin. Nas. Lemb. Penelit. Univ. NEGERI Makasar*, no. 1–4, pp. 122–125, 2019.
- [13] A. de B. Machado and F. Fialho, “Interaction and Interactivity Process: Communication in Digital Education,” *JINAV J. Inf. Vis.*, vol. 1, no. 2, pp. 67–73, Dec. 2020.
- [14] Nirfayanti and Nurbaeti, “Pengaruh Media Pembelajaran Google Classroom Dalam Pembelajaran Analisis Real Terhadap Motivasi Belajar Mahasiswa,” *J. Penelit. Mat. DAN Pendidik. Mat.*, vol. 2, no. 1, pp. 50–59, 2019.
- [15] R. Utami, “Analisis Respon Mahasiswa terhadap Penggunaan Google Classroom pada Mata Kuliah Psikologi Pembelajaran Matematika,” *Prism. Pros. Semin. Nas. Mat.*, vol. 2, pp. 498–502, 2019.
- [16] Hefniy, A. Fauzi, Faridy, and R. Fatmasari, “National assessment management based on information and communication technology and its effect on emotional intelligence learners,” *J. Phys. Conf. Ser.*, vol. 1175, no. 1, pp. 9–13, 2019.



- [17] A. R. Wulan, "Pengertian Dan Esensi Konsep Evaluasi, Asesmen, Tes, Dan Pengukuran," *FMIPA Univ. Pendidik. Indones.*, pp. 1–12, 2001.
- [18] H. Setiawan, C. Sa, dan Akbar, I. Artikel Abstrak, and H. Setiawan Pendidikan Dasar, "Pengembangan Instrumen Asesmen Autentik Kompetensi Pada Ranah Keterampilan Untuk Pembelajaran Tematik Di Sekolah Dasar," pp. 874–882, 2017.
- [19] C. Muali, S. Minarti, M. Taufik Qurohman, and Haimah, "Analysis of metacognitive capability and student learning achievement through edmodo social network," *J. Phys. Conf. Ser.*, vol. 1175, no. 1, 2019.
- [20] M. Sholeh, "Kajian Kritis Tentang Standar Nasional Pendidikan (SNP) Kajian," *Al-Tanzim J. Manaj. Pendidik. Islam*, vol. 1, no. 1, pp. 36–55, 2017.
- [21] B. R. Sahara, N. Kadaritna, and L. Tania, "Pengembangan Instrumen Asesmen Kinerja Praktikum Larutan Elektrolit dan Non Elektrolit," no. 1, pp. 1–14.
- [22] C. Muali *et al.*, "Free Online Learning Based on Rich Internet Applications; The Experimentation of Critical Thinking about Student Learning Style," *J. Phys. Conf. Ser.*, vol. 1114, no. 1, 2018.
- [23] U. N. El Fauziah, L. Suryani, and T. Syahrizal, "Penerapan Google Classroom Dalam Pembelajaran Bahasa Inggris Kepada Guru-Guru Bahasa Inggris Smp Di Subang," *Abdimas Siliwangi*, vol. 2, no. 2, p. 183, 2019.
- [24] U. A. Dahlan, "Efektifitas Google Classroom Terhadap Keaktifan Mahasiswa Dalam Era Revolusi Industri 4.0," pp. 44–53, 2016.
- [25] F. Puspitorini, "Strategi Pembelajaran Di Perguruan Tinggi Pada Masa Pandemi Covid-19," *J. Kaji. Ilm.*, vol. 1, no. 1, pp. 99–106, 2020.
- [26] S. Sukmawati, "Implementasi Pemanfaatan Google Classroom Dalam Proses Pembelajaran Online di Era Industri 4 . 0," *J. Kreat. Online*, vol. 8, no. 1, pp. 39–46, 2020.

