AMPLITUDO 1(2) (2022)

AMPLITUDO: Journal of Science & Technology Innovation

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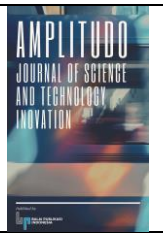

Using Google Form as an Evaluation Tool for Physics Learning in Phase F

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DOI: 10.56566/amplitudo.v1i2.15

Article Info
Received: June 18, 2022
Revised: August 25, 2022
Accepted: August 28, 2022
Publish: August 31, 2022

Abstract: This study aims to analyze the use of Google Forms as an evaluation tool for learning physics in Phase F at SMAN 1 Masbagik. The analysis was divided into two, namely students' mastery of physics concepts on Fluid Statics in terms of the question categories and students' responses to the use of google forms. This study used 18 respondents from Phase F at SMAN 1 Masbagik, East Lombok Regency, West Nusa Tenggara. This research was conducted in an odd semester of the 2022 school year. The link to the evaluation questions given to respondents contained 15 questions with 5 answer options, namely A, B, C, D, and E. Links to student response questionnaires for using the evaluation tool in the form of a Google form containing 10 attitude statements, with an assessment using a scale of 4. The results showed that students who answered correctly in the easy category 72.2%, the medium category was 50.0%, and the difficult category was 33.3%. Students who expressed interest in the Google form as an evaluation tool amounted to 35.7%, and students who stated that they were very satisfied with the Google form as an evaluation tool amounted to 42.9%. Thus, teachers need efforts to train students in working on questions that fall into the difficult category of Higher Order Thinking Skills (HOTS). The Google form can be an alternative evaluation tool in physics learning, especially during the COVID-19 pandemic which limited direct learning interactions in class.

Keywords: Google Form; Evaluation; Physics; Phase F.

Citation: Hikmawati, H., Rokhmat, J., Dewi, A.C., Firdaus, F., Farrizqi, M. N., Nisaa, M., & Hadi, Y.S. (2022). Using Google Form as an Evaluation Tool for Physics Learning in Phase F. *AMPLITUDO: Journal of Science and Technology Inovation*, *1*(2), 63–68. https://doi.org/10.56566/amplitudo.v1i2.15

Introduction

Various platforms in online learning are very useful to help the learning process in an all-digital era. Teachers can prepare teaching materials online so students can access them anytime and anywhere via the internet, including the process of taking grades or evaluations which can also be done online. The use of platforms in online learning is able to balance student motivation and interest in learning, interaction and communication of students with teachers and students with their classmates takes place comfortably and pleasantly (F. M. Sari & Oktaviani, 2021).

The COVID-19 pandemic demands the activeness and creativity of teachers in designing learning, including technology-based evaluation techniques. This is intended so that learning activities run well as expected, even though they are carried out online.

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Students' enthusiasm for online learning needs to be a consideration for teachers in designing innovative learning. Monotonous evaluation techniques such as giving assignments in the form of worksheets and then taking photos and sending them to the teacher's WA will experience problems. The obstacle is that students send only a few assignments so that the impact on student grades is empty. This can be overcome by using the Google Form application as an evaluation tool during online learning (Hanifah et al., 2022).

The evaluation tool using the Google form is not only used in formal education units from Elementary Schools to Universities, but also in program packages A (equivalent to elementary school), B (equivalent to junior high school), and C (equivalent to high school). Students who take the Equality Education test take the exam online via Google form more than coming directly to the exam location offline (Nainggolan & Rohman, 2021). The Google form can also be used as an assessment tool for undergraduate and postgraduate learners (Kapasia et al., 2020), even for students in vocational schools (Bensulong et al., 2021; Meirawati et al., 2021). The use of the google form as an evaluation tool is not only to measure cognitive learning outcomes at a low level, but also to measure high-level thinking skills such as critical thinking and creative thinking (Utama et al., 2022).

The use of the google form as an evaluation tool can be used not only for daily assessments, but also for formative and summative assessments. The Google form is quite efficient as an evaluation tool, especially in terms of preparation for assessment purposes, collecting answers, processing answers, and procedures for carrying out assessments (Sufriadi, 2022). In other words, the Google Form can be used as an alternative evaluation tool for midterm and final semester assessments. The use of Google forms has proven to be effective, practical and efficient in online learning (Anjani et al., 2021).

The Google form can not only be used to see student performance in the form of filling out a questionnaire in physics learning in high school (Utami, 2021; Yuliana et al., 2021), but also in other subjects such as Arabic (Nashrullah, 2021), and Islamic religious education (Samsiadi & Humaidi, 2022).

Student responses to the evaluation tool using the Google form were very good. The evaluation tool in the form of a google form needs to be developed when the Learning From Home program is still in effect due to government policies to prevent transmission of the virus, as well as during the New Normal period, after the COVID-19 pandemic. This is because teachers and students must also be accustomed to using technology, especially in the all-digital era of globalization (Kartono, 2020).

Students are satisfied with the online platform-based assessment system during the COVID-19 pandemic. The assessment options used by the teacher make it easier for students to solve the questions given when the conditions for conducting exams in class are still limited due to the pandemic (Almusharraf & Khahro, 2020).

The reality in the field shows that not all teachers can make evaluation tools using Google form (Dewi et al., 2021). Therefore, it is necessary to have training or mentoring activities by experts in helping teachers develop online learning evaluation tools (S. P. Sari et al., 2022).

Research trends on online learning topics tend to increase from year to year, including studies on evaluation tools (Martin et al., 2020). Technology integration in the implementation of evaluation is not only applied during national exams but also during daily assessments or assessments per chapter. Teachers respond positively to the use of evaluation tools such as Google Forms for various reasons, which are more energy efficient, time and cost-efficient, and more attractive than conventional evaluation tools (Wulandari et al., 2021). This study aims to analyze the use of Google Forms as an evaluation tool for learning physics in Phase F at SMAN 1 Masbagik.

Method

The research method used by researchers in analyzing the use of Google forms is an evaluative method with a qualitative approach. In this research, a study was conducted on the successful use of Google as an evaluation tool for learning physics in Phase F at SMAN 1 Masbagik. The analysis is divided into two namely: first, the students' mastery of the physics concept of Fluid Statics in terms of the category of questions (easy, medium, and difficult); second, students' responses to the use of google form.

This study used 18 students from Phase F at SMAN 1 Masbagik, East Lombok Regency, West Nusa Tenggara. The time for carrying out this research is in an odd semester of the 2022 school year. The steps taken include: 1) preparation for data collection by conducting scientific work studies and field observations; 2) implementation of data collection, namely preparation of questions for Fluid Statics and preparation of student response questionnaires in the form of google form; 3) data processing; 4) preparation of analysis results.

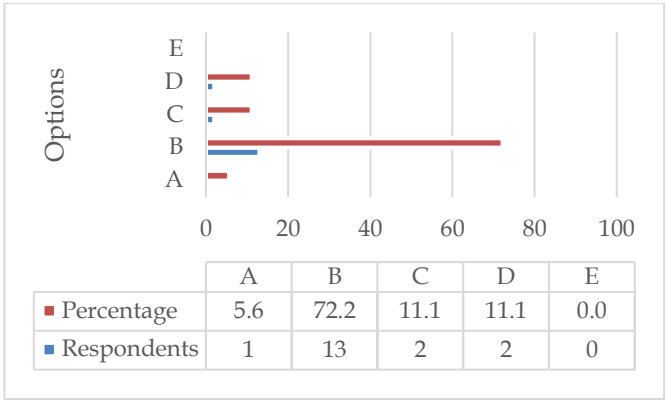
The link for the evaluation question for the Fluid Statics material given to the respondent contains 15 questions with 5 answer options namely A, B, C, D, and E. The link for the student response questionnaire to the use of an evaluation tool in the form of a Google form contains 10 attitude statements, with the assessment

uses a scale of 4. Student response indicators are divided into two main indicators, namely the level of interest and the level of satisfaction.

Assessment of respondents' interest in Google Form in the form of a score of 1 means that the respondent is not very interested, a score of 2 means not interested, a score of 3 means interested, and a score of 4 means very interested. Assessment of respondents' satisfaction with Google Form in the form of a score of 1 means that the respondent is very dissatisfied, a score of 2 means dissatisfied, a score of 3 means satisfied, and a score of 4 means very satisfied.

Result and Discussion

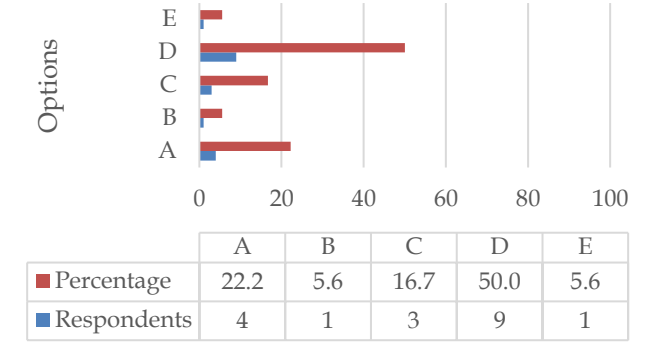
The results of the test using Google Form which are divided into categories of easy, medium, and difficult questions are described as follows. In question number 10 (Figure 1) it belongs to the category of easy questions, the correct statement about Archimedes' Law is multiple choice (B) 10 cm. In this question students who answered correctly amounted to 72.2%. The wrong statement in multiple choice (C) was 12 cm. In this question, the students answered incorrectly by 11.1%. Furthermore, the wrong statement in multiple choice (D) was 15 cm. In this question, the students answered incorrectly by 11.1%. Wrong statements in multiple choice (A) 5 cm, in this question the students answered incorrectly by 5.6%. Wrong statement in multiple choice (E) 20 cm, in this question the student answered 0% incorrectly.



	A	B	C	D	E
Percentage	5.6	72.2	11.1	11.1	0.0
Respondents	1	13	2	2	0

Figure 1. Questions with easy categories

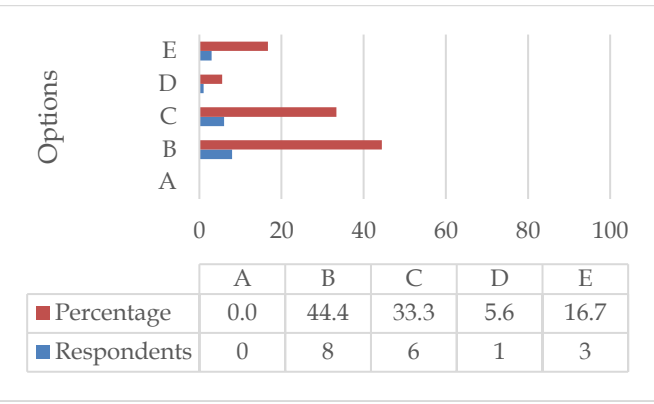
In question number 11 (Figure 2) belonging to the category of medium questions, the correct statement about "fluid surface tension" is multiple choice (D) with the number of students who answered correctly by 50%, the wrong statement in multiple choice (A) with the number of students who answered incorrectly by 22.2%, incorrect statements in multiple choice (C) with the number of students who answered incorrectly by 16.7%, incorrect statements in multiple choice (B) with the number of students who answered incorrectly by 5.6% , the wrong statement in multiple choice (E) 4 with the number of students who answered incorrectly was 5.6%.



	A	B	C	D	E
Percentage	22.2	5.6	16.7	50.0	5.6
Respondents	4	1	3	9	1

Figure 2. Questions with medium categories

In question number 14 (Figure 3) it is classified as a difficult question or Higher Order Thinking Skills (HOTS), the correct statement about "Density" is multiple choice (C) with the number of students who answered correctly at 33.3%, the wrong statement in multiple choice (B) with the number of students those who answered wrong were 44.4%, wrong statements in multiple choice (E) with the number of students who answered wrong were 16.7%, wrong statements in multiple choice (D) with the number of students who answered wrong were 5.6% , the wrong statement in multiple choice (A) with the number of students who answered incorrectly was 0%.



	A	B	C	D	E
Percentage	0.0	44.4	33.3	5.6	16.7
Respondents	0	8	6	1	3

Figure 3. Questions with difficult categories

Students' interest in using the Google Form as an evaluation tool for learning physics, especially for the concept of "Fluid Statics" is expressed in the form of a percentage. The number of respondents who stated that they were not very interested was 7.1%, 28.6% not interested, 35.7% interested, and 28.6% very interested. If seen from the largest percentage of respondents' answers, the rating scale chosen by the respondents is 3. This means that student's express interest in using the Google form. The percentage of respondents' level of

interest in Google Form as an evaluation tool can be seen in Figure 4.

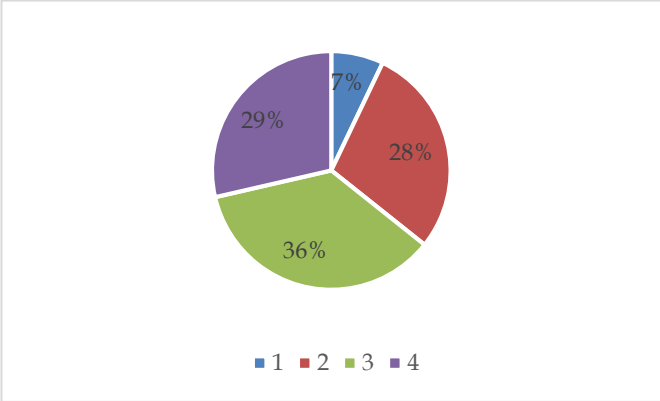


Figure 4. Student Interest in Google Form as an evaluation tool

Student satisfaction with the use of the google form as an evaluation tool for learning physics, especially for the concept of "Fluid Statics" is expressed in the form of a percentage. The number of respondents who stated very dissatisfied was 0.0%, 21.4% dissatisfied, 35.70% satisfied, and 42.9% very satisfied. When viewed from the largest percentage of respondents' answers, the rating scale chosen by the respondents was 4. This means that students stated that they were very satisfied with the use of the Google form. The percentage of respondents' level of interest in Google Form as an evaluation tool can be seen in Figure 5.

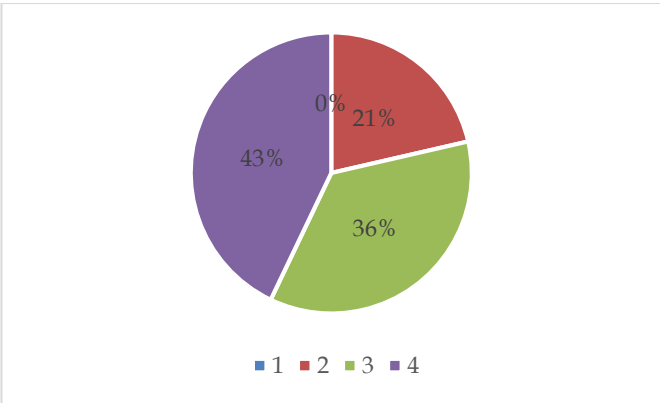


Figure 5. Student satisfaction with google form as an evaluation tool

The Google form is an alternative evaluation tool during the COVID-19 pandemic. Assessment using google form has an effect on student learning outcomes. Students stated that they were interested in the Google form in terms of their ability to use media, like using Google Forms, time efficiency, easy to understand, easy access, and saving paper use (Nurhaliza et al., 2022).

The existence of a virus outbreak, namely COVID-19, has caused all educational institutions to make a policy of not having face-to-face meetings in class to ensure that there is no physical contact with the public so that the chain of transmission of the virus can be broken. This has an impact on the pattern of implementing learning to change to an online system (Pal & Vanijja, 2020).

Various models of implementing learning during the COVID-19 pandemic can be carried out synchronously and asynchronously. Synchronous online learning means communication where students can interact in the same time space, for example via video conferencing, Google meet, zoom cloud meeting, or WebEx. Asynchronous online learning means communication that is separated by time, for example via Google forms, email, social media platforms, posting teaching materials, and streaming video content (Simamora, 2020).

Barriers to learning this online system include: first, limited facilities; second, internet network; third, the learning planning process, the learning implementation process, and the learning evaluation process; fourth, cooperation between the school and the parents of students (Fauzi & Sastra Khusuma, 2020). Specific obstacles that can be experienced by students when carrying out Google Form-based assessments include less stable internet, signal difficulties, internet access, and credit fees (Giatman et al., 2020; Maqableh & Alia, 2021).

The awareness of teachers, students and student guardians as well as all parties is needed to deal with changes in the learning system from conventional to technology-based learning systems (Alea et al., 2020). In other words, the quality of education is determined by the support of all parties, including government policies in the field of education.

The use of the Google form is not only done to measure the level of students' mastery of the concept of learning material, but also to carry out an analysis of a product or program. To find out the user's response to online learning such as the Learning Management System (LMS), we can use Google Forms as an alternative method of digitization in an online learning evaluation system which requires relatively low costs when compared to using a paper-based questionnaire (Anyidoho et al., 2022).

Conclusion

Phase F students at SMAN 1 Masbagik have mastered the concepts contained in the Fluid Statics. Students who answered correctly in the easy category were 72.2%, the medium category was 50.0%, and the difficult category was 33.3%. Teachers need to look for efforts to improve students' ability to solve questions with difficult categories. In this case, teachers can develop contextual learning models and innovative

learning media. Students expressed interest and were very satisfied with the evaluation tool in the form of a Google Form. The Google form can be an alternative evaluation tool in physics learning because it can train students' digital literacy and support government policies in preventing the spread of COVID-19.

Acknowledgements

The author would like to thank teachers and students at SMAN 1 Masbagik, East Lombok Regency, West Nusa Tenggara who have assisted in collecting research data. The author also thanks all parties who have provided assistance so that this research can be completed properly.

References

Alea, L. A., Fabrea, M. F., Roldan, R. D. A., & Farooqi, A. Z. (2020). Teachers' Covid-19 awareness, distance learning education experiences and perceptions towards institutional readiness and challenges. *International Journal of Learning, Teaching and Educational Research*, *19*(6), 127–144. https://doi.org/10.26803/ijlter.19.6.8

Almusharraf, N. M., & Khahro, S. H. (2020). Students' Satisfaction with Online Learning Experiences during the COVID-19 Pandemic. *International Journal of Emerging Technologies in Learning*, *15*(21), 246–267. https://doi.org/10.3991/ijet.v15i21.15647

Anjani, A., Fitriani, D., Kaputri, M. D., & Mahmudah, I. (2021). Efektivitas Penggunaan Google Form sebagai Media Evaluasi saat Penilaian Tengah Semester (PTS). *Seminar Nasional Pendidikan Jurusan Tarbiyah Ftik Iain Palangka Raya*. https://e-proceedings.iain-palangkaraya.ac.id/index.php/SNPJTFTIK/article/view/665

Anyidoho, E. D., Kwame, S. S., Kpeglo, C. S., & Woode, E. (2022). Examination of Student Evaluation of Teaching in COVID19 Era: Transition from Manual to online using Google Forms. *Ghana Journal of Higher Education Management*, *8*(July), 29–47.

Bensulong, A., Afifah, F. N., & Solikhah, I. Z. (2021). Penggunaan Whatsapp dan Google Form dalam pembelajaran Bahasa Indonesia di SMK N 2 Sewon Bantul. *Lingua Rima: Jurnal Pendidikan Bahasa Dan Sastra Indonesia*, *10*(1), 85–90.

Dewi, N. R., Susanti, E., Cahyawati, D., Suprihatin, B., & Hanum, H. (2021). Pelatihan Merancang Ujian Online Menggunakan Google Form Untuk Guru-Guru Di Wilayah Kecamatan Pampangan Kabupaten Ogan Komering Ilir. *Diseminasi: Jurnal Pengabdian Kepada Masyarakat*, *3*(2), 52–58. https://doi.org/10.33830/diseminasiabdimas.v3i2.1151

Fauzi, I., & Sastra Khusuma, I. H. (2020). Teachers' Elementary School in Online Learning of COVID-19 Pandemic Conditions. *Jurnal Iqra' : Kajian Ilmu Pendidikan*, *5*(1), 58–70. https://doi.org/10.25217/ji.v5i1.914

Giatman, M., Siswati, S., & Basri, I. Y. (2020). Online Learning Quality Control in the Pandemic Covid-19 Era in Indonesia. *Journal of Nonformal Education*, *6*(2), 168–175. https://journal.unnes.ac.id/nju/index.php/jne

Hanifah, S., Hermawan, I., Eki Waluyo, K., & Singaperbangsa Karawang, U. (2022). Penggunaan Aplikasi Google Form sebagai Media Evaluasi Pembelajaran Akidah Akhlak Kelas IX di MTs Al-I'anah Kosambi. *Al-Ulum Jurnal Pemikiran Dan Penelitian Ke Islaman*, *9*(2), 176–185. https://journal.uim.ac.id/index.php/alulum/article/view/1121

Kapasia, N., Paul, P., Roy, A., Saha, J., Zaveri, A., Mallick, R., Barman, B., Das, P., & Chouhan, P. (2020). Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India. *Children and Youth Services Review*, *116*(June), 105194. https://doi.org/10.1016/j.childyouth.2020.105194

Kartono, K. (2020). Respon Guru Dan Siswa Sekolah Dasar Terhadap Hasil Pengembangan Soal Online Menggunakan Google Form Sebagai Implementasi Belajar Dari Rumah. *Visipena*, *11*(2), 393–403. https://doi.org/10.46244/visipena.v11i2.1261

Maqableh, M., & Alia, M. (2021). Evaluation online learning of undergraduate students under lockdown amidst COVID-19 Pandemic: The online learning experience and students' satisfaction. *Children and Youth Services Review*, *128*(January). https://doi.org/10.1016/j.childyouth.2021.106160

Martin, F., Sun, T., & Westine, C. D. (2020). A systematic review of research on online teaching and learning from 2009 to 2018. *Computers and Education*, *159*(April), 104009. https://doi.org/10.1016/j.compedu.2020.104009

Meirawati, E., Azis, A., & Rohmadi, M. (2021). Pemanfaatan Google Form sebagai Alat Evaluasi Pembelajaran Mata Pelajaran Pendidikan Agama Islam di SMKN 2 Palangka Raya. *Muallimun : Jurnal Kajian Pendidikan Dan Keguruan*, *1*(1), 15–26. https://doi.org/10.23971/muallimun.v1i1.3201

Nainggolan, L. S., & Rohman, A. N. (2021). Penggunaan Google Form Sebagai Alat Evaluasi Pembelajaran Ujian Pendidikan Kesetaraan Paket C Secara Daring di SPNF SKN Wilayah 1 Kota Padang. *Journal of Millenial Community*, *3*(1), 31–39.

Nashrullah, M. (2021). Penggunaan Media Google Form

Dalam Evaluasi Pembelajaran Bahasa Arab (Pilihan Ganda). *NASKHI Jurnal Kajian Pendidikan Dan Bahasa Arab*, *3*(1), 2021. https://journal.iaimsinjai.ac.id/index.php/naskhi

Nurhaliza, A., Sudjani, D. H., & Maryani, N. (2022). Google Formulir Sebagai Alternatif Media Evaluasi Pembelajaran Bahasa Arab Pada Masa Pandemi Covid-19. *Tatsqifiy: Jurnal Pendidikan …*. https://doi.org/10.30997/tjpba.v3i1.4722

Pal, D., & Vanijja, V. (2020). Perceived usability evaluation of Microsoft Teams as an online learning platform during COVID-19 using system usability scale and technology acceptance model in India. *Children and Youth Services Review*, *119*(July), 105535. https://doi.org/10.1016/j.childyouth.2020.105535

Samsiadi, S., & Humaidi, M. N. (2022). Efektivitas Google Form Sebagai Media Penilaian Dan Evaluasi Pembelajaran Pai Di Smk Negeri 1 Berau Kaltim. *Research and Development Journal of Education*, *8*(2), 666. https://doi.org/10.30998/rdje.v8i2.13634

Sari, F. M., & Oktaviani, L. (2021). Undergraduate Students' Views on the Use of Online Learning Platform during COVID-19 Pandemic. *Teknosastik*, *19*(1), 41. https://doi.org/10.33365/ts.v19i1.896

Sari, S. P., Siregar, E. F. S., & Lubis, B. S. (2022). Pemanfaatan Google Form Sebagai Instrumen Evaluasi Belajar. *Martabe: Jurnal Pengabdian …*, *5*(1), 177–183. http://jurnal.um-tapsel.ac.id/index.php/martabe/article/view/4752

Simamora, R. M. (2020). The Challenges of Online Learning during the COVID-19 Pandemic: An Essay Analysis of Performing Arts Education Students. *Studies in Learning and Teaching*, *1*(2), 86–103. https://doi.org/10.46627/silet.v1i2.38

Sufriadi, D. (2022). Pemanfaatan Google Form untuk Penilaian Harian Mata Kuliah Mahasiswa. *Innovative: Journal of Social Science Research*, *2*(2), 58–62.

Utama, A. A. P. A. A. S., Astawan, I. G., & Adi, I. N. R. (2022). Pengembangan Instrumen Penilaian Keterampilan Berpikir Kritis dan Berpikir Kreatif Berbasis Google Form. *Jurnal Ilmiah Pendidikan Citra Bakti*, *9*(1), 219–229.

Utami, L. W. S. (2021). Penggunaan Google Form Dalam Evaluasi Hasil Belajar Peserta Didik Di Masa Pandemi C0Vid-19. *TEACHING : Jurnal Inovasi Keguruan Dan Ilmu Pendidikan*, *1*(3), 150–156. https://doi.org/10.51878/teaching.v1i3.453

Wulandari, A. D., Juni'ah, & Susilawati. (2021). Pemanfaatan Teknologi Sebagai Alat Evaluasi Dalam Dunia Pendidikan di Sekolah Dasar. *Proseding Didaktis*, 147–157. http://proceedings2.upi.edu/index.php/semnaspendas/article/view/2219

Yuliana, B., Gummah, S., & Sukroyanti, B. A. (2021). Penggunaan Google Form sebagai Alat Evaluasi Pelajaran Fisika Kelas X. *Lensa: Jurnal Kependidikan Fisika*, *9*(2), 178. https://doi.org/10.33394/j-lkf.v9i2.4691