The Effect of Online Learning on Academic Writing Course during Covid-19 Pandemic

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Abstract

Since Indonesia's Covid 19 epidemic, all universities, including Universitas Muhammadiyah Makassar, have decided to enable lecturers and students to learn from home (LFH) starting March 16, 2020. This decision has a substantial impact on the learning process, which was previously conducted face-to-face but is now primarily conducted online. The purpose of this study is to look at the impact of Google Meet-based online learning on the Academic Writing course in the English Education Study Program. Designed as a pre-experimental method, it examines 25 students that are purposefully chosen as the sample. A pre-test, a post-test, and a questionnaire are used to collect information. The study reveals that students writing skills improved after learning online through Google Meet. The pretest score of 40.16 is increased to 57.08 in the posttest. Meanwhile, after calculating the t-test, the t-table is greater than the t-test (-7,331 < 2.00). It is then concluded that online learning through Google Meet on Academic Writing Course positively affects students' writing skills.

Keywords: Online learning, Academic writing, Google meet

INTRODUCTION

The Coronavirus is now causing a worldwide pandemic. The virus, known as Covid-19, is an abbreviation for Corona Virus Disease, initially discovered in Wuhan, China, near the end of 2019. This undetectable virus has wreaked havoc on all economic sectors and health, sports, and other fields, including education. By wearing masks, avoiding crowds and personal contact, and keeping hygiene, people can reduce the spread of Covid 19 and its lethal transmission. Stopping all activities and work routines, such as the learning and

teaching process in schools from kindergarten to college, is one attempt. As a result, the only option in a context where teachers or lecturers, and students are involved is to learn from home (LFH).

Because of LFH, online learning is required. Even though teachers and students are primarily not familiar with it, they must do online learning. Online learning is an asynchronous learning activity conducted via an electronic computer device in which students obtain learning materials tailored to their specific needs(Amiti, 2020)

Since it is a new way of delivering lessons mainly in the English Education Study Program Universitas Muhammadiyah Makassar, then the online learning of all courses needs to be reviewed. One of the online courses that students learn and need to discuss is Academic Writing. Academic Writing is one of the English Education Study Program courses, offered in Semester Four. This course aims to improve students' ability in writing scientific papers using English.

In the Academic Writing course, students are accustomed to doing and mastering the writing process, identifying the types of paragraphs, and understanding how to make paragraphs reasonably and appropriately. It is relevant to Bailey(2021) who stated that Academic Writing will lead students to write, good, organized and directed and allows them to do it independently.

Moreover, in writing academically, students must express their ideas scientifically based on a specific idea or discipline as stated by Altunkaya & Ayranci (2020) that academic writing is a genre resorted to by individuals who can comment within the scope of a field and is based on various principles. They further say that individuals who engage in academic writing should have a thesis, have adequate preliminary knowledge about their idea, and have a good understanding of and acknowledge previous work in the relevant research domain. It is also supported by Kiriakos & Tienari (2018), who advance their understanding of academic writing with love, and explain that academic writing reflects writers' multifaceted experiences and has the potential to be confusing.

Learning Academic Writing is difficult for many students, particularly in writing their scientific papers, which then leads them to make some mistakes. It is proved by Wale and Bogale (2021)who found that many students make mistakes when writing thesis statements, providing evidence, and identifying claims and evidence. They also revealed that students struggle to produce influential written texts with good content, organization, language usage or accuracy, vocabulary or diction, and mechanics.

Thus, academic writing is considered difficult since it necessitates several skills; that is why it needs approaches. Students' approaches to expressing their ideas and thoughts in academic writing will vary depending on their goals(Hyland & Jiang, 2017; Liu & Jeba, 2018; Yundayani & Sri Ardiasih, 2021), previous writing experience (Kaufhold, 2015; Altinmakas and Bayyurt, 2018; Eldaba and Isbell, 2018), knowledge of writing rules(Elton, 2010; Sulaiman & Muhajir, 2019), and education (Aynur and Afacan, 2020; Schillings et al., 2021).

To write academically, several things need to be considered the essential part of writing. as Brown (2001), who agrees with Heaton (1988), that there are five aspects of writing namely content, form, grammar or language use, vocabulary, and mechanics. These five elements are considered in this study to see the students' academic writing. Therefore, after receiving this course, students are expected to have good skills in writing correct and appropriate paragraphs and implementing them to improve their English skills so that they can create and write final academic works in the form of a thesis. Besides, students also learn the writing techniques used as document research or other literary work.

There are some previous studies related to online learning on Academic writing which has been conducted and reviewed; they are; Scott et al (2018); Sütçü (2020); Haryanti et al., (2022); Zhang et al (2021); Rincón & Hederich-Martínez (2021);. However, most of the studies concentrated on strategies and the use of other applications in academic writing. As a result, this research is critical to filling the gap. Therefore, the purposes of this study were to determine the impact of online learning in Academic Writing Course with Google Meet platform on students' writing skills and students' opinions about online education in Academic Writing Course with Google Meet platform, as well.

METHOD

Research Design

The study aimed to investigate the effect of online learning using Google Meet on students' writing skills, as well as to find out the students' opinions on online learning. To reveal them, this study used a pre-experimental design based on Fraenkel and Wallen (2009) that experimentation means trying, searching, and confirming. It is a quantitative approach since numerical data were gathered and analyzed (Gay, 2012), with one group pretest-posttest design (Borg and Gall, 1983).

Sample and Research Site

This study took place at Universitas Muhammadiyah Makassar, where students of the Fourth Semester of the English Education department participated. 25 EFL students from one class were chosen as samples using the purposive sampling technique. Purposive sampling is a data retrieval technique with specific considerations (Sugiyono, 2012: 218). In this study, the samples are those who took the Academic Writing course since it focused on the impact of online learning on students' writing skills using Google Meet in the Academic Writing Course.

Data Collection and Analysis

The practical steps of collecting the data were based on Sugiono (2008), namely; (1) distributing a test as a pre-test, (2) administering treatment through Google Meet, and (3) administering a test as a post-test to determine the effect of online learning using Google Meet, as well as providing a questionnaire via Google Form to find out students' opinions about online learning through Google Meet.

Data on students' writing skills were collected by giving them tests before and after learning using Google Meet to measure their writing skills as Browns (2004) stated the test was a method of measuring a person's ability, knowledge, or performance in a given domain. Students' writings were analyzed based on the elements of writing using the scale rubric guidance criteria by Glass (2005) which covers content, organization, grammar, vocabulary, and mechanics. Following that, the teaching on Academic Writing was conducted through Google Meet until the end of the semester. Meanwhile, a questionnaire with a Likert scale was administered via Google Form to get data on students' opinions.

Then, the data were analyzed using descriptive and inferential statistics (Gay, 2012). Both statistical analysis models were used to describe and examine the t-test. The alternative hypothesis is that online learning using Google Meet on Academic Writing Course affects students' writing skills. In contrast, the null hypothesis is that online learning using Google Meet on Academic Writing Course does not affect students' writing skills. Descriptive analysis was to describe the calculation of mean score and standard deviation. Furthermore, hypothesis testing was used to determine the effect.
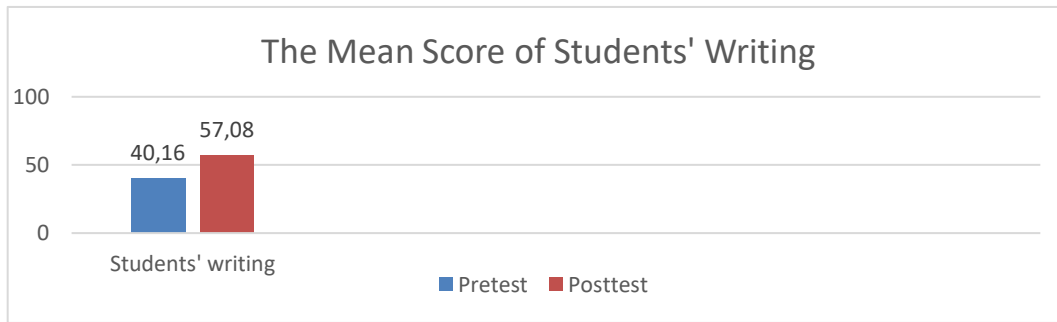
FINDING AND DISCUSSION

This study aims at investigating the effect of online learning with Google Meet on students' writing skills. To reveal it, before conducting the study, students were given writing tests before the treatment as the pre-test and after the treatment as the post-test. The mean score of both tests on all writing components obtained by students can be seen in Table 1.

Table 1. Average Scores of Students' Pre-test and Post-test in Writing

Indicators	Mean Score	
	Pre-test	Post-test
Content	36.6	58.8
Organization	35.8	53
Grammar	34.8	44.2
Vocabulary	43	53.6
Mechanics	50.6	75.8

Table 1 shows the differences in students' average pre-test and post-test scores on the five writing elements, including Content, Organization, Grammar, Vocabulary, and Mechanics. In the Content indicator, the average pre-test score ranges from 36.6 to 58.8 on the post-test. The Organization's average pre-test score is 35.8, and the post-test score is 53. The average pre-test score for the Grammar indicator is 34.8 to 44.2. The average pre-test score for the Vocabulary indicator is 43, increasing to 53.6 on the post-test. The average pre-test score for the Mechanics indicator is 50.6, rising to 75.8 on the post-test.

The results of the students' writing average scores in the pre-test and post-test can be seen in Graph 1:

The Mean Score of Students' Writing

(Graph showing bars: Pretest 40,16; Posttest 57,08; y-axis 0, 50, 100; category "Students' writing"; legend Pretest, Posttest)

Graph 1. The Average Score of Students' Writing in the Pre-test and Post-test

In Graph 1, it is seen that the average score of students' writing shows an increase wherein the pre-test students get an average score of 40.16 while in the post-test is 57.08. The findings indicate that online learning improved students' writing skills. As a result, online technology, used in the Academic Writing course, plays a significant role in writing English. This result is consistent with Phraratsutaporn and Klomkul's (2021) assertion that the use of technology is critical in teaching and learning. According to Dugartsyrenova (2020), students found it helpful in promoting their writing skills and valued the tool's technological affordances. Similarly, Ebadi and Rahimi (2019) discovered that using Google Meet and Docs improved the learners' academic writing skills significantly.

The descriptive statistical analysis results or its frequency distribution can be seen in Table 2 to be transparent with the categories and classifications of student scores in the pre and post-tests.

Table 2. Classification of Student Scores in the Pre-test and Post-test

No.	Classification	Score Range	Pre-test		Post-test	
			F	%	F	%
1	Excellent	96-100	0	0	0	0
2	Very good	86-95	0	0	0	0
3	Good	76-85	0	0	11	44
4	Fairly good	66-75	0	0	3	12
5	Fair	56-65	4	16	6	24
6	Poor	46-55	11	44	2	8
7	Very poor	0-35	10	40	3	12
Total	25		100	25	100	Total	25

Table 2 shows differences in the classification and percentage of scores obtained by students in the pre-test and post-test. There were ten students or 40% in the Very Poor category in the pre-test, while in the post-test, it changed to three students or 12%. There are eleven students, or 44% got the Poor category in the pre-test, and in the post-test, it changes to two students, or 8%. Furthermore, in the Fair category, there are four students in the pre-test or 16%, and in the post-test, there are six students or 24%. While in the following

category, namely Fairly Good and Good in the pre-test, no student scored for the two types, but in the post-test, there are three students or 12% who scored for the Fairly Good category and eleven students or 44% who scored for the good type. It indicates that online learning on the Academic Writing Course through Google Meet has increased even though it is not in the outstanding and excellent category, only in the superb category or 44%.

This study demonstrates that online learning with Google Meet influences teaching writing. Students' writing skills were in a poor category before participating in online learning then became Good mostly This result occurs because taking the Academic Writing Course through Google Meet allows students to accept the material delivered directly. Concurrent or synchronous learning enables lecturers and students to meet face-to-face online, allowing students to have active participation and listen to all lecturers' explanations without intermediaries carefully. Furthermore, both lecturers and students reciprocally interacted and responded when discussing the material at each meeting. It is similar to the findings of Putra (2021), who discovered that by utilizing Google Meet, students actively interact and engage in the teaching-learning process. Furthermore, the students were enthusiastic to respond to and answer questions, along with offering their thoughts on the meeting's topic.

Meanwhile, Table 3 presents how students perceive online learning in the Academic Writing course via the Google Meet platform.

Table 3. Frequency of Students' Satisfaction Levels using Google Meet

No	Category	Score	Frequency	Percentage (%)
1	Strongly unsatisfied	0 -3.2	0	0
2	Unsatisfied	3.3–6.5	3	12
3	Quite satisfied	6.6–9.8	1	4
4	Satisfied	9.9 – 13.1	11	44
5	Strongly satisfied	13.2–16.00	10	40
	Total		25	100

In Table 3, the level of students' satisfaction with online learning in the Academic Writing course via Google Meet shows that none of the students feels or are in the very dissatisfied' category, while three students (12%) feel 'dissatisfied.' one student (4%) is in the 'quite satisfied' category, eleven students (44%) are in the satisfied category, and ten students (40%) are in the 'very satisfied' category.

The 'satisfied' category of students' satisfaction with online learning enables better changes in students' writing abilities. They can immediately get answers or solutions if they have difficulty understanding and accepting the material presented. They can know and see corrections to the sentences they make so that learning can take place effectively. It is in line with Gherardini in Sobron et al. (2019), and Hrastinski in Adedoyin & Soykan (2020),

education and delivering learning materials online with the Google Meet platform is more effective and efficient.

Meanwhile, the students' level of understanding of the learning materials delivered through the Google Meet application can be seen in Table 4.

Table 4. Frequency of Students' Understanding of Learning Materials through Google Meet

No	Category	Score	Frequency	Percentage (%)
1	Very clueless	0 -3.2	0	0
2	Clueless	3.3–6.5	3	12
3	Quite understand	6.6–9.8	0	0
4	Understand	9.9 – 13.1	14	56
5	Really understand	13.2–16.00	8	32
	Total		**25**	**100**

Table 4 shows the level of students' understanding of learning materials through Google Meet. It illustrates that none of the students is in the 'very clueless' category; there are three students or 12% who feel Clueless, 14 students or 56% who are in the 'understand' category, and eight students or 32% who are in the 'really understand' category. From what is shown in Table 4, it is concluded that most of the students who take online learning in the Academic Writing course through the Google Meet platform are at a high level of understanding, which is in the range of values from 9.9 to 13.1. it indicates that the materials delivered using Google Meet facilitate students to learn efficiently in the Academic Writing Course from a distant place. It is supported by Syafrianti (2021), who found that google meets can help students continue and participate in distance learning. In addition, as the open question given to students regarding the obstacles they faced in online learning in the Academic Writing Course through Google Meet, all of them provided answers to the internet network that is often problematic.

Furthermore, to determine whether online learning through Google Meet influences students' writing skills, then the hypotheses were tested by calculating the t-test using SPSS for windows. The hypotheses testing showed that the score of the t-test at the 0.05 level of significance with 24 degrees of freedom is -7.331 (α 0.05). It means that the t-table, which has a value of 2.000, is greater than the t-test. This indicates that the null hypothesis is rejected, whereas the alternative one is accepted. In other words, online learning through Google Meet has a positive effect on students' writing skills.

Moreover, there are some advantages of Google Meet: the presentation menu enables lecturers to see and read students' writing, directly correct the student's essay, and allows students to know firsthand what needs attention that will improve the quality of their writing. The presentation menu on Google Meet may also let all students and lecturers see and read what is displayed while also providing an excellent chorus of voice facilities, allowing every student who attends a Google Meet virtual class to study simultaneously. In short, teachers and students get benefits. Teachers profit from an online learning and

teaching environment since it eliminates commutes and allows them to work from home (Bailey & Lee, 2020). Learners can also have more time to think and practice, study wherever they like, and participate in various asynchronous and synchronous activities to increase their language competence (Fageeh & Mekheimer, 2013).

Finally, the students' opinions about online learning in the Academic Writing Course via the Google Meet platform show that the level of satisfaction is high. This platform affects students' writing skills, which are better or higher than before taking Google Meet lessons. Google Meet as a modern application has a significant impact on learning, specifically the Academic Writing Course. Singhal stated in Ullah and Farzana (2018) that the use of technology and learning English are inextricably linked. This study's findings are similar to those of Pernantah et al. (2021), who discovered that using the Google Meet application is easier and more effective in delivering online learning materials.

Similarly, Fuady et al. (2021) found that the Google Meet application is one of the most influential media used in online learning. Sütçü (2020), who conducted a similar study on a different platform, found that students' writing skills improved significantly after the intervention. On the contrary, Scott et al. (2018) discovered that students experienced technical difficulties when there was no teacher-guided online learning.

CONCLUSION

The findings indicate that online learning conducted during the pandemic highly affects the writing skills of students. Based on the preceding description, it is possible to conclude that online learning in the Academic Writing Course using Google Meet positively impacts students' writing skills. The students' writing results in the post-test obtained higher scores than the pre-test for those five elements: content, organization, grammar, vocabulary, and mechanics. Meanwhile, student opinions about online learning in the Academic Writing course via the Google Meet platform are also positive.

However, this study only included a small number of English department students as a limitation. Therefore, further research or other researchers will use the same method of online learning with Google Meet—with larger sample size. Moreover, it is suggested that various online learning platforms be used for further studies and in multiple English Education Study Program courses such as Public Speaking, Intensive Reading, and others. Such research will expand knowledge and information on teaching and delivering material in online learning using various platforms that teachers or lecturers could use.

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REFERENCES

Adedoyin, Olasile Babatunde & Soykan, Emrah. (2020). Covid-19 Pandemic and Online Learning: Challenges and Opportunities. *Interactive Learning Environments*. https://doi.org/10.1080/10494820.2020.1813180

Alawamleh, et al. (2020). The effect of online learning on communication between instructors and students during Covid-19 pandemic. *Asian Education and Development Studies*. 10.1108/AEDS-06-2020-0131

Almarwani, Manal. (2020). Academic Writing: Challenges and Potential Solutions. *Arab World English Journal* (2020),10.24093/awej/call6.8

Altunkaya, H., & Ayranci, B. (2020). The use of Edmodo in academic writing education. *Journal of Language and Linguistic Studies*, *16*(1). https://doi.org/10.17263/JLLS.712659

Altınmakas, Derya and Bayyurt, Yasemin. (2018). An exploratory study on factors influencing undergraduate students' academic writing practices in Turkey. *Journal of English for Academic Purposes* (2019),10.1016/j.jeap.2018.11.006

Amiti, F. (2020). Synchronous and Asynchronous E-Learning. *European Journal of Open Education and E-Learning Studies*, *5*(2), 60–70. https://doi.org/10.46827/ejoe.v5i2.3313

Bailey, Stephen. (2011). *Academic Writing. A Handbook for International Students*. Third Edition. London and NewYork: Routledge Taylor and France Group.

Bailey, D. R., & Lee, A. R. (2020). Learning from experience in the midst of COVID-19: Benefits, challenges, and strategies in online teaching. *CALL-EJ, 21*(2), 178–198

Bailey, D., Almusharraf, N., & Hatcher, R. (2021). Finding satisfaction: intrinsic motivation for synchronous and asynchronous communication in the online language learning context. *Education and Information Technologies*, *26*(3). https://doi.org/10.1007/s10639-020-10369-z

Borg, W.R & Gall, M.D (1983). *Education research: an introduction.4th Edition*. New York: Longman Inc

Brown, H.D. (2001). T*eaching Principles: An Interactive Approach to Language Pedagogy, second edition*. New York: Longman,Inc.

Brown, H. D. (2004). *Language Assesment Principles and Classroom Practice*.San Francisco: Longman

Ebadi, Saman and Rahimi, Masoud. (2019). Mediating EFL learners' academic writing skills in online dynamic assessment using Google Docs. *Computer Assisted Language earning* ,10.1080/09588221.2018.1527362

Eldaba, Abir Aly and Isbell, Janet Kesterson. (2018). Writing gravity: International female graduate students' academic writing experiences. *Journal of International Students* (2018),10.5281/zenodo.1471736

Elton, L. (2010). Academic writing and tacit knowledge. *Teaching in Higher Education*, *15*(2),

151–160. https://doi.org/10.1080/13562511003619979

Fageeh, A., & Mekheimer, M. A. A. (2013). Effects of Blackboard on EFL Academic Writing and Attitudes. *JALT CALL Journal, 9*(2), 169–196. https://doi.org/10.29140/jaltcall.v9n2.154

Fraenkel, Jack R. And Wallen, Norman E.. (2009). *How to Design and Evaluate Research in Education*. New York. McGraw-Hill Companies

Fuady, Ikhsan, et al. (2021) Analysis of Students' Perceptions of Online Learning Media During the Covid-19 Pandemic (Study of E-learning Media: Zoom, Google Meet, Google Classroom, and LMS). *Randwick International of Social Science Journal* (2021),10.47175/rissj.v2i1.177

Gay, L. R. 2012. *Educational Research: Competencies for Analysis Application Tenth Edition.* New Jersey: Pearson Education.

Glass, Kathy Tuchman. 2005. *Curriculum Design for Writing Instruction*. California: Corwin Press

Haryanti, D. U., Rasyid, F., & Wahyuni, S. (2022). Path Analysis on Writing Anxiety, Writing Attitude, Language Awareness, and Writing Achievement of University Students. *English Learning Innovation*, *3*(1), 85–99. https://doi.org/10.22219/englie.v3i1.19657

Heaton, J. B. (1988). *Writing English Language Tests: Longman Handbook for Language Teachers* (New Edition). London: Longman Group UK Ltd.

Hyland, K., & Jiang, F. K. (2017). English for Specific Purposes : Is academic writing becoming more informal ? *English for Specific Purposes*, *45*.

Kaufhold, Kathrin. (2015). Conventions in postgraduate academic writing: European students' negotiations of prior writing experience at an English speaking university. *Journal of English for Academic purposes* ,10.1016/j.jeap.2015.08.007

Kiriakos, C. M., & Tienari, J. (2018). Academic writing as love. *Management Learning*, *49*(3). https://doi.org/10.1177/1350507617753560

Liu, J., & Jeba, J. (2018). Changing communicative purposes of academic journal writing in transition to multimodality. *ESP Today*, *6*(2), 208–227. https://doi.org/10.18485/ESPTODAY.2018.6.2.4

Pernantah, Piki Setri, dkk.(2021). Penggunaan Aplikasi Google Meet dalam Menunjang Keefektifan Belajar Daring Masa Pandemi Covid-19 di SMA Negeri 3 Pekanbaru. Pedagogi: *Jurnal Ilmu Pendidikan* ,10.24036/pedagogi.v21i1.991

Phraratsutaporn, & Klomkul, Lampong. (2021). Technological Innovation for Online Learning during the Situation of COVID-19 Pandemic in Thailand. *Psychology And Education* (2021) 58(1): 1578-1584

Putra, Rizal Wahid Permana. (2021). Improving the Students' Motivation in Learning English through Google Meet during the Online Learning. *Reserachgate.*

Rincón, L. J., & Hederich-Martínez, C. (2021). Effects of a self-regulating writing course on academic text production in a PhD and Master sample. *Tesis Psicológica*, *16*(1), 1–34.

https://doi.org/10.37511/tesis.v16n1a1

Scott, D., Burns, A., Danyluk, P., & Ulmer-Krol, S. (2018). Evaluating the Effectiveness of Academic Writing Interventions in a Community-Based B.Ed. Program. *International Journal of E-Learning & Distance Education*, *33*(2), 1–20. https://login.jproxy.nuim.ie/login?url=https://www.proquest.com/scholarly-journals/evaluating-effectiveness-academic-writing/docview/2228631924/se-2?accountid=12309%0Ahttps://maynoothuniversity.userservices.exlibrisgroup.com/discovery/citationlinker?institu

Schillings, Marlies, Roebertsen, Herma, and Dolmans, Diana. (2021). Improving the understanding of written peer feedback through face-to-face peer dialogue: students' perspective. *Higher Education Research and Development*,10.1080/07294360.2020.1798889

Sobron A.N, Bayu , Rani, dan Meidawati S. (2019). Pengaruh Daring Learning terhadap Hasil Belajar IPA Siswa Sekolah Dasar. *Conference seminar article.* http://conference.upgris.ac.id/index.php/snse/article/view/204

Sugiyono. 2008. *Metode Penelitian Kuantitatif Kualitatif dan R&D.* Bandung: Alfabeta.

Sugiyono. 2012. *Metode Penelitian Kuantitatif Kualitatif dan R&D.* Bandung: Alfabeta.

Sulaiman, R., & Muhajir, M. (2019). the Difficulties of Writing Scientific Work At the English Education Students. *Journal of English Education*, *4*(1), 54–60. https://doi.org/10.31327/jee.v4i1.923

Sütçü, S. S. (2020). Blogging in EFL Learners' Academic Writing. *International Journal of Progressive Education*, *16*(6), 344–351. https://doi.org/10.29329/ijpe.2020.280.21

Syafrianti, Maria. (2021). The Utilization of E-Learning Media Assisted By Google Classroom and Google Meet in Learning Test of English As a Foreign Language (Toefl) Preparation During the Pandemic. *English Language and Literature International Conference (ELLiC) Proceedings.*

Ullah, Q dan Farzana. (2018). Using technology in teaching English at the S.S.C. level. *Journal of NELTA Volume* 23 (1-3)

Wale, B. D., & Bogale, Y. N. (2021). Using inquiry-based writing instruction to develop students' academic writing skills. *Asian-Pacific Journal of Second and Foreign Language Education*, *6*(1). https://doi.org/10.1186/s40862-020-00108-9

Yundayani, A., & Sri Ardiasih, L. (2021). Task-based material design for academic purposes: Learners' english writing skill improvement. *Studies in English Language and Education*, *8*(1), 258–275. https://doi.org/10.24815/siele.v8i1.18169

Zhang, L., Fu, X., Luo, D., Xing, L., & Du, Y. (2021). Musical Experience Offsets Age-Related Decline in Understanding Speech-in-Noise: Type of Training Does Not Matter, Working Memory Is the Key. *Ear and Hearing*, *March*, 258–270. https://doi.org/10.1097/AUD.0000000000000921