Students' readiness in following online learning during the Covid-19 pandemic

Siti Wakijah [1] *, Thomas Sukardi [1], Putu Sudira [1], Pramu [2], Ranu Iskandar [3], Rijalul Haq [2]

[1] Universitas Negeri Yogyakarta, Indonesia.

[2] Politeknik Pembangunan Pertanian Yogyakarta – Magelang, Indonesia

[3] Universitas Negeri Semarang, Indonesia.

* Corresponding Author. Email: wakijahsiti3@gmail.com

ARTICLE INFO

ABSTRACT

The Covid-19 pandemic has impacted various sectors, including the education sector. This study aimed to determine Polbangtan YoMa students' readiness to follow online learning during the Covid-19 pandemic. This research is survey research. The subjects of this study were 158 Polbangtan YoMa students. The instrument used for data collection was a questionnaire. Data were analyzed using descriptive statistics. This study results are: (1) the aspects of facilities and infrastructure get the percentage of 66%, meaning that Polbangtan YoMa students are ready to follow the learning from the aspect of facilities and infrastructure; (2) the technological literacy aspect gets the percentage of 65%; meaning the Polbangtan YoMa students are ready to follow the learning from the aspect of their technological literacy abilities; (3) the quality aspect of online interactions gets the percentage 35%; meaning that Polbangtan YoMa students are not ready to take part in learning from the aspect of online interaction quality capabilities; (4) aspects of the benefits of online learning get the average sroce percentage of 52%, meaning that Polbangtan YoMa students agree that online learning will be helpful; (5) aspects of assistance services get the percentage of 67%, meaning that Polbangtan YoMa students entirely agree that assistance services help in online learning; and (6) aspects of online learning prospects get the average score percentage of 57%, meaning that Polbangtan YoMa students somewhat agree that online learning provides online learning prospects, thus Polbangtan YoMa students are ready to do online learning with an average proportion of 57%. The online learning model used at Polbangtan YoMa is asynchronous learning using e-learning, WhatsApp, and Google Classroom.

INTRODUCTION

Coronavirus disease 2019 (Covid-19) is a contagious and deadly disease caused by the recently discovered coronavirus. This infectious disease was known as the 2019 novel Coronavirus (2019-nCoV). The World Health Organization (2020) renewed the name, becoming Coronavirus Disease 2019 (Covid-19) which was caused by the virus of Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2). This Covid-19 infection occurred through SARS-CoV-2 transmission from symptomatic humans to other humans through coughing or sneezing droplets (Jin

et al., 2020). The initial symptoms when Covid-19 allegedly infects a person struck by fever, cough, runny nose, sore throat, fatigue, headache, shortness of breath, and diarrhea (Chen et al., 2020; Guan et al., 2020; Huang et al., 2020; Wang et al., 2020).

This new virus and the disease it causes were unknown before the outbreak began in Wuhan, China, in December 2019 (World Health Organization, 2020b). The Worldometer (2022) site reported that until 27 May 2020, Covid-19 had become a pandemic affecting many countries. The number of positive infections was 5,804,679 cases, at which the mortality rate was 357,738, and the number of healing patients was 2,509,531. COVID-19 was identified and spread out into Indonesia starting on 2 March 2020. Gugus Tugas Percepatan Penanganan COVID-19 Republik Indonesia (2020) reported that until 16 August 2020, the positive infection rate was 23,851 cases, the recovery rate by 6,057 patients, and the mortality rate by 1,473 deceased. The disease with high risk and the high rate of Covid-19 cases in Indonesia impacted every sector of people's lives.

One of the sectors affected by the Covid-19 pandemic is education. At the time, the education sector in Indonesia still conducted offline or face-to-face learning. In addition, education staff had to undertake their work in the institutions. If the activities were still conducted amid the Covid-19 pandemic, it would create many other infection cases or clusters, eventually increasing the Covid-19 infection rates in Indonesia. Therefore, government, teachers, and students must try to prevent the disease.

Through the Ministry of Education and Culture, the government of the Republic of Indonesia instructed that education for students should be carried out in an online system. At the same time, academic staff and teachers worked from home in their respective houses to prevent Covid-19 infections (Minister of Education and Culture of the Republic of Indonesia, 2020). As a result, all schools, from kindergarten to higher education, must comply with the circular.

In order to follow up on the instruction, the Head of Sekolah Tinggi Penyuluhan Pertanian Magelang (2018) immediately issued a circular SE.1172/I.8/3/2020 regarding self-awareness, preparedness, and infection preventive action of the Covid-19 outbreak at Polbangtan YoMa Magelang Campus. Consequently, all academic communities at Polbangtan YoMa must comply with the instruction, including students. The instruction of sudden online learning that has yet to be socialized obliged the students to prepare in every aspect. Students' readiness becomes very urgent and essential, considering the purpose of education in Polbangtan YoMa is to make students skillful in applying applied science in agriculture and farming.

Therefore, there is a need to map out Polbangtan YoMa students' readiness to follow online learning during the Covid-19 pandemic. Many previous studies examined readiness in online learning; however, there has yet to be a study investigating vocational higher education, particularly in agriculture and farming.

RESEARCH METHOD

This study is survey research. The research subjects are Polbangtan YoMa students. The sample was established using the random sampling technique. The data collection instrument is a questionnaire using Google Forms spread through WhatsApp. The questionnaire consists of six aspects, i.e.: (1) facilities and infrastructure, (2) technological literation, (3) the quality of online interaction, (4) assistance service, (5) the advantage of online learning, (6) the prospect of online learning (Direktorat Jendral Perguruan Tinggi Kementerian Pendidikan dan Kebudayaan Republik Indonesia, 2020; Sadikin & Hamidah, 2020). The questionnaire and its aspects were firstly validated for its content validity through expert judgments (Sugiyono, 2017). The instrument reliability test applied is Alpha Cronbach assisted with SPSS Software. The instrument coefficient reliability of Alpha Cronbach is > 0.60 (Ghozali, 2011). The collected data are quantitative and qualitative. The qualitative data are used to support quantitative data displayed descriptively. The per aspect of quantitative data was determined using the technique of students' response percentage with the following Formula 1.

$$\text{Percentage of Aspect} = \frac{\text{Expected Score}}{\text{Expectation Score}} \text{ x } 100\% \tag{1}$$

The result per aspect and total aspect percentage was then compared with Table 1 to interpret the data qualitatively.

Table 1. Interpretation of Result Percentage

Interval Percentage	Interpretation Category
76% < x ≤ 100%	Strongly Agree /Highly Prepared
51% < x ≤ 76%	Agree/ Ready
26% < x ≤ 51%	Disagree/Unprepared
0% < x ≤ 26%	Strongly Disagree/ Extremely Unprepared

FINDINGS AND DISCUSSION

Two expert validated the questionnaire and provided suggestions for improvements. After the instruments were revised, the two experts deduced that the questionnaire was valid to be used for data collection. Meanwhile, the questionnaire was tested on 20 respondents and found that the Cronbach alpha was 0.732, so the questionnaire was reliable because it was > 0/60.

The questionnaire was worked out by 158 Polbangtan YoMa students who did different study programs. As many as 18.3 % of the students did livestock production technology study program, 19.1 % did animal feed technology study program, 31.4 % did animal health education program, 14.6 % did agricultural counseling study program, and 16.6 % did agribusiness horticulture study program. Of the total students, 46.6 % are male students and 43.4 % are female students.

The collected quantitative data were tabulated and searched for the mean of each aspect. The result percentage of each element is shown in Figure 1.
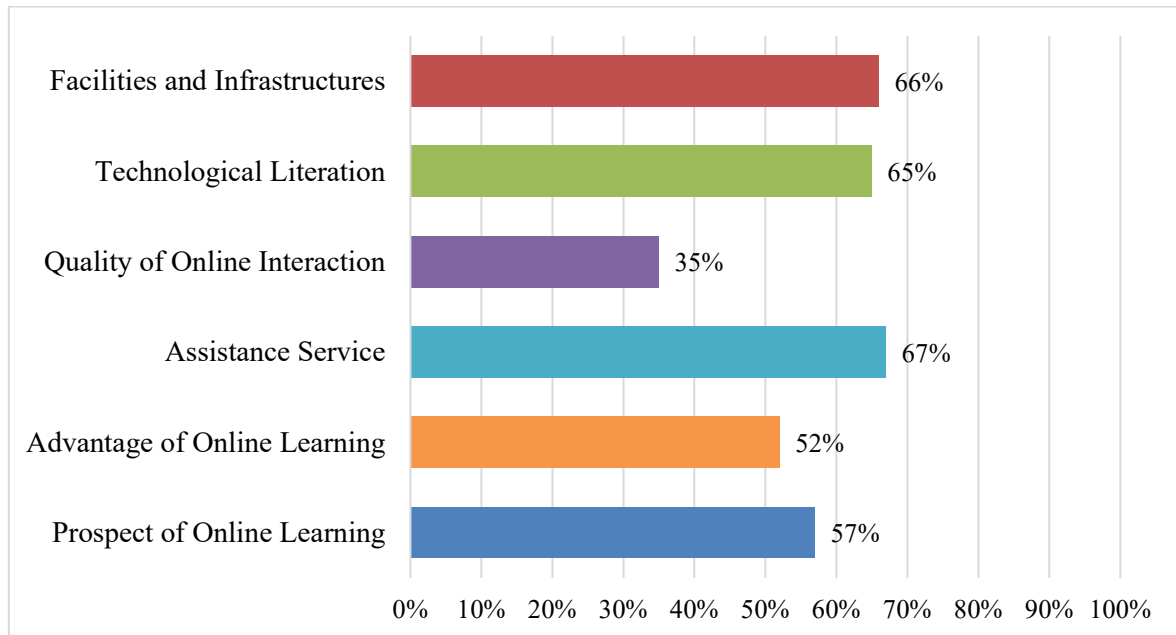
Figure 1. Chart of Polbangtan YoMa Students' Readiness Aspect Percentage

The percentage of facilities and infrastructures derives as much as 66%, meaning that Polbangtan YoMa students were ready to follow the learning system viewed from the facilities and infrastructure aspects. The percentage of technological literation aspect obtains as much as 65%, meaning that Polbangtan YoMa students are prepared to participate in the learning observed from the technology literation aspect they have. The percentage of the quality of the online interaction

aspect derives as much as 35%, meaning that Polbangtan YoMa is not ready to participate in the learning viewed from the skill of online interaction quality aspect. The percentage of the advantage online learning aspect gets as much as 52%, meaning that Polbangtan YoMa students agree that online learning is helpful for them.

The percentage of assistance service aspect obtains as much as 67%, indicating that Polbangtan YoMa students agree that assistance service helps them greatly during online learning. The percentage of the prospect of online learning derives as much as 57%, meaning that Polbangtan YoMa students agree that online learning provides a reasonable prospect of online learning. The average percentage of the sixth aspect is 57%, meaning that Polbangtan YoMa students are ready to participate in online learning.

Polbangtan YoMa Students' Readiness to Participate in the Online Learning

Online learning requires equipment and tools like a laptop, smartphone, and Internet connection. The students of Polbangtan YoMa must have the equipment and tools to work on their assignments. Nevertheless, online learning will spend more on Internet credit quota than offline or face-to-face learning. Thus, this is the main problem.

The Internet credit quota in the market is varied. Usually, they have packages starting from 1 GB to unlimited quota. Unfortunately, the Internet credit quota available in the market is costly. The price varies depending on how much Internet credit quota one wants to buy. Additionally, the price offered among service providers is also varied. Students must be selective in choosing the package conforming to their requirements and the provider's signal strength in their regions of the Polbangtan YoMa students. The Internet network is presented in Figure 2.
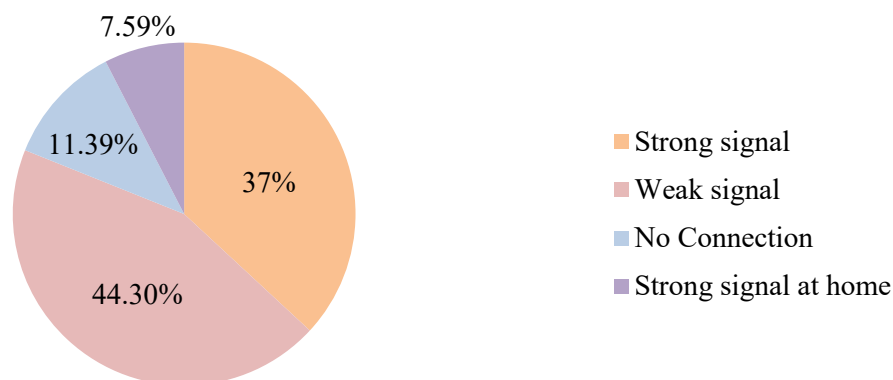

Figure 2. Diagram Response of Internet Network Signal Strength

The Covid-19 pandemic requires Polbangtan YoMa students to return to their respective regions' homes. Compared to students at Polbangtan YoMa Campus in the urban area, most students at home were found in low-signal or rural areas. They experience difficulty getting Internet connections due to bad signals in their villages or regions. Only 37% of the students can get uninterrupted internet access during online learning. This difficulty makes the students burdened with Internet access to move to other spots (certain areas) with a good signal when they follow online learning. Many students change their phone numbers with a different provider to get a good internet connection.

The Covid-19 pandemic requires Polbangtan YoMa students to return to their respective regions' homes. Compared to students at Polbangtan YoMa Campus in the urban area, most students at home were found in low-signal or rural areas. They experience difficulty getting Internet connections due to bad signals in their villages or regions. Only 37% of the students can get uninterrupted internet access during online learning. This difficulty makes the students burdened with Internet access to move to other spots (certain areas) with a good signal when they follow online

learning. Many students change their phone numbers with a different provider to get a good internet connection.
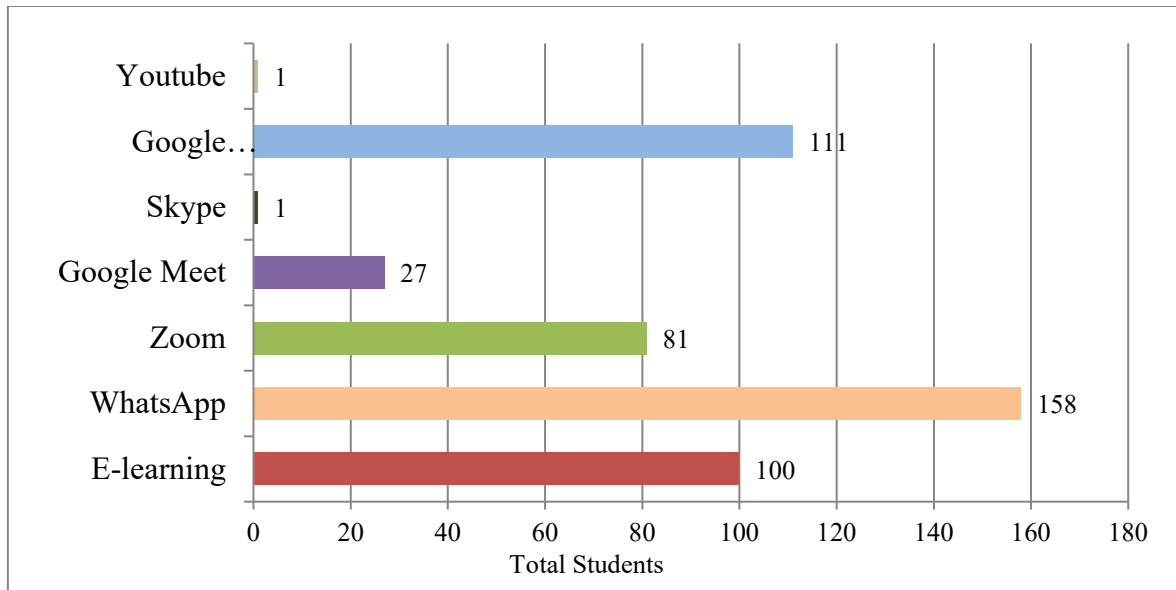

Figure 3. Charts of Online Learning and E-learning Applications Used by Polbangtan YoMa Students
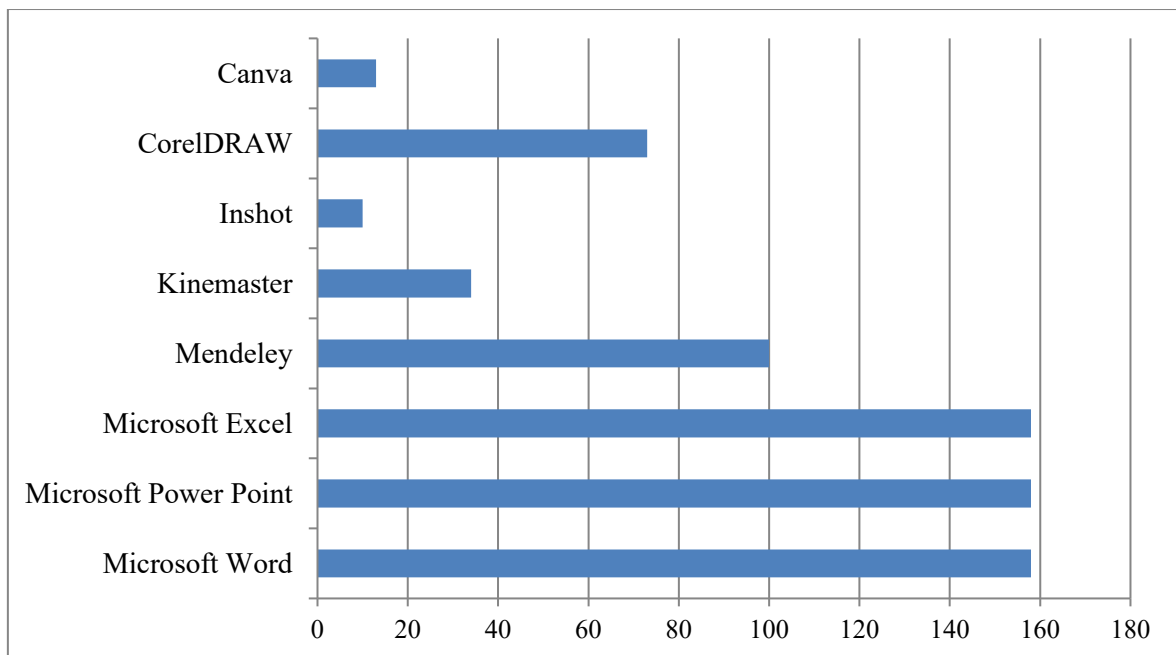

Figure 4. Chart of Applications Used by Polbangtan YoMa Students

In online learning, the students are usually assigned many tasks. The more they master the tools to work on their assignments, the better they can complete the job excellently. Of the various existing tools in the market, there are five tools that most students master, i.e., Microsoft Word, Microsoft PowerPoint, Microsoft Excel, SPSS, and Mendeley. Unfortunately, only a few students can master photo or video editing applications, such as CorelDraw, kinemaster, Photoshop, Canva, and Inshot.

Nonetheless, college task is usually not only in text but also in photo or video. Hence, students must adapt to mastering photo or video editing applications. For students with difficulty mastering such applications, 56.3% will learn using the Internet, 34.2% will ask their friends, and the rest, 10%, only responded as they were. It means that although students have not mastered

technological literation, they will be ready to master the skill or applications to work on their tasks during online learning with satisfying results.

Regarding assistance services, students feel relieved that the campus provided an Internet credit quota of as much as 150.000 IDR for two months of online learning. Additionally, because of the online learning from home, students' meals are still borne by Polbangtan YoMa, so the meal money can be saved to buy Internet credit quota if it runs out.

The aspect of advantage of online learning, students perceive it as applicable. However, the effectiveness in understanding the learning materials provided is lacking. The matter is that Polbagtan YoMa organizes vocational education, emphasizing practical classes rather than theoretical ones (Head of Sekolah Tinggi Penyuluhan Pertanian Magelang, 2018). If they have many theories but lack practical courses, they will experience problems while undertaking fieldwork practice.

In the next aspect, according to Politeknik Pembangunan Yogyakarta-Magelang students, the prospect of online learning can be managed well during the Covid-19 pandemic. It is because education during the Covid-19 pandemic prioritizes more students' and lecturers' safety, but it did not put aside education. This priority is mentioned in the Ministry of Education and Culture of the Republic of Indonesia (2020). This decision states that the principle of education policy during the Covid-19 pandemic, the health and safety of students, teachers, education staff, families, and the community, is a top priority in setting learning policies. Nevertheless, if online learning is conducted long-term, it will cause eye pain, and the Internet quota will run out quickly.

Online Learning Model at Polbangtan YoMa

Based on the survey, Polbangtan YoMa must select a suitable online learning model. The right online learning would make online lessons more effective and efficient. The asynchronous learning model is the right online model for education. This model can overcome the problems of unstable Internet connection and wasteful use of Internet quotas (Hadi, 2015; Perveen, 2016). In addition, the learning time has become more flexible, and the schedule is not fixed because students can participate in online learning at the scheduled time and anytime (Northey et al., 2015). Online learning applications like Google classroom or WhatsApp can be used for online presence lists and discussions related to the problems in online learning.

Meanwhile, teachers can use e-learning on this site: http://e-learning.polbangtanyoma.ac.id to distribute learning materials and exercise worksheets. However, this learning model has a shortcoming, i.e., there needs to be direct interaction between the lecturers and students, so they feel reluctant to study the learning materials and work on the tasks by the lecturers. Therefore, the lecturers should provide learning materials in the handout text and videos, images, and animations (Choe et al., 2019; Perveen, 2016). It is advisable that the worksheets not only in an essay but also in multiple choice questions and right or wrong choices in which the content is not only text but also images and animations (Martín-SanJosé et al., 2015).

CONCLUSION

Polbangtan YoMa students are ready to follow online learning during the Covid-19 pandemic. Nonetheless, it needs to make innovation in learning. The online learning model that should be used is the asynchronous learning model. The reason for selecting the asynchronous learning model is that it is accessible to students in Polbangtan YOMA, so it is better to use mixed Google Classroom, WhatsApp, and e-learning. Further research should study activities within the class by implementing an asynchronous online learning model both for theoretical and practical learning. Additionally, teachers should develop online learning, which can replace practical learning, such as making virtual laboratories.

REFERENCES

Chen, J., Qi, T., Liu, L., Ling, Y., Qian, Z., Li, T., Li, F., Xu, Q., Zhang, Y., Xu, S., Song, Z., Zeng, Y., Shen, Y., Shi, Y., Zhu, T., & Lu, H. (2020). Clinical progression of patients with COVID-19 in Shanghai, China. *Journal of Infection*, *80*(5), e1–e6. https://doi.org/10.1016/j.jinf.2020.03.004

Choe, R. C., Scuric, Z., Eshkol, E., Cruser, S., Arndt, A., Cox, R., Toma, S. P., Shapiro, C., Levis-Fitzgerald, M., Barnes, G., & Crosbie, R. H. (2019). Student satisfaction and learning outcomes in asynchronous online lecture videos. *CBE—Life Sciences Education*, *18*(4), ar55. https://doi.org/10.1187/cbe.18-08-0171

Direktorat Jendral Perguruan Tinggi Kementerian Pendidikan dan Kebudayaan Republik Indonesia. (2020). *Buku panduan medeka belajar kampus merdeka*. Direktorat Jendral Perguruan Tinggi Kementerian Pendidikan dan Kebudayaan Republik Indonesia. http://dikti.kemdikbud.go.id/wp-content/uploads/2020/04/Buku-Panduan-Merdeka-Belajar-Kampus-Merdeka-2020

Ghozali, I. (2011). *Aplikasi analisis multivariate dengan program IBM SPSS 19 edition*. Badan Penerbit Diponegoro.

Guan, W., Ni, Z., Hu, Y., Liang, W., Ou, C., He, J., Liu, L., Shan, H., Lei, C., Hui, D. S. C., Du, B., Li, L., Zeng, G., Yuen, K.-Y., Chen, R., Tang, C., Wang, T., Chen, P., Xiang, J., … Zhong, N. (2020). Clinical characteristics of Coronavirus Disease 2019 in China. *New England Journal of Medicine*, *382*(18), 1708–1720. https://doi.org/10.1056/NEJMoa2002032

Gugus Tugas Percepatan Penanganan COVID-19 Republik Indonesia. (2020). *Intervensi pemerintah dalam penanganan Covid19*. Gugus Tugas Percepatan Penanganan COVID-19 Republik Indonesia. https://st.redbus.in/idn/text.pdf

Hadi, B. (2015). Pemanfaatan aplikasi WhatsApp pada pembelajaran berbasis blended learning di SMK N 1 Sragen. *Prosiding Seminar Nasional Teknologi Pendidikan*, 36–44. https://jurnal.fkip.uns.ac.id/index.php/psdtp/article/view/9047

Head of Sekolah Tinggi Penyuluhan Pertanian Magelang. (2018). *Keputusan Ketua Sekolah Tinggi Penyuluhan Pertaninan Magelang Nomor 2015/Kpts/SM.220/1.8/8/2018 tentang Struktur dan Deskripsi Mata Kuliah Program Pendidikan Sarjana Terapan Politeknik Pembangunan Pertanian Yogyakarta Magelang*. Sekolah Tinggi Penyuluhan Pertanian Magelang. https://pertanian.polbangtanyoma.ac.id/wp-content/uploads/2020/07/KURIKULUM-REVISI-8-2-2019.pdf

Huang, C., Wang, Y., Li, X., Ren, L., Zhao, J., Hu, Y., Zhang, L., Fan, G., Xu, J., Gu, X., Cheng, Z., Yu, T., Xia, J., Wei, Y., Wu, W., Xie, X., Yin, W., Li, H., Liu, M., … Cao, B. (2020). Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet*, *395*(10223), 497–506. https://doi.org/10.1016/S0140-6736(20)30183-5

Jin, J.-M., Bai, P., He, W., Wu, F., Liu, X.-F., Han, D.-M., Liu, S., & Yang, J.-K. (2020). Gender differences in patients with COVID-19: Focus on severity and mortality. *Frontiers in Public Health*, *8*. https://doi.org/10.3389/fpubh.2020.00152

Martín-SanJosé, J.-F., Lizandra, M. C. J., Vivó, R., & Abad, F. (2015). The effects of images on multiple-choice questions in computer-based formative assessment. *Digital Education Review*, *28*, 123–144. https://doi.org/10.1344/der.2015.28.123-144

Minister of Education and Culture of the Republic of Indonesia. (2020). *Surat Edaran Nomor 4 Tahun 2020 tentang Pelaksanaan Kebijakan Pendidikan dalam Masa Darurat Penyebaran Coronavirus Disease (Covid-19)*. Minister of Education and Culture of the Republic of Indonesia. https://pusdiklat.kemdikbud.go.id/surat-edaran-mendikbud-no-4-tahun-2020-tentang-pelaksanaan-kebijakan-pendidikan-dalam-masa-darurat-penyebaran-corona-virus-disease-covid-1-9/

Ministry of Education and Culture of the Republic of Indonesia. (2020). *Panduan penyelenggaraan pembelajaran pada tahun ajaran dan tahun akademik baru di masa pandemi Covid-19: Satuan pendidikan di zona kuning, oranye dan merah dilarang melakukan pembelajaran tatap muka*. Ministry of Education and Culture of the Republic of Indonesia. https://www.kemdikbud.go.id/main/blog/2020/06/panduan-penyelenggaraan-pembelajaran-pada-tahun-ajaran-dan-tahun-akademik-baru-di-masa-covid19

Northey, G., Bucic, T., Chylinski, M., & Govind, R. (2015). Increasing student engagement using asynchronous learning. *Journal of Marketing Education*, *37*(3), 171–180. https://doi.org/10.1177/0273475315589814

Perveen, A. (2016). Synchronous and asynchronous e-language learning: A case study of virtual University of Pakistan. *Open Praxis*, *8*(1), 21–39. https://doi.org/10.5944/openpraxis.8.1.212

Sadikin, A., & Hamidah, A. (2020). Pembelajaran daring di tengah wabah Covid-19. *BIODIK*, *6*(2), 214–224. https://doi.org/10.22437/bio.v6i2.9759

Sugiyono, S. (2017). *Metode penelitian dan pengembangan untuk bidang pendidikan, manajemen, sosial, teknik: Research and development/R&D*. Alfabeta.

Wang, D., Hu, B., Hu, C., Zhu, F., Liu, X., Zhang, J., Wang, B., Xiang, H., Cheng, Z., Xiong, Y., Zhao, Y., Li, Y., Wang, X., & Peng, Z. (2020). Clinical characteristics of 138 hospitalized patients with 2019 novel Coronavirus–infected pneumonia in Wuhan, China. *JAMA*, *323*(11), 1061–1069. https://doi.org/10.1001/jama.2020.1585

World Health Organization. (2020a). *Naming the coronavirus disease (COVID-19) and the virus that causes it*. Who.Int. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it#:~:text=Human%20disease%20preparedness%20and%20response,virus%20on%2011%20February%202020.

World Health Organization. (2020b). *Pertanyaan dan jawaban terkait Coronavirus*. Who.Int. https://www.who.int/indonesia/news/novel-coronavirus/qa/qa-for-public

Worldometer. (2022). *COVID-19 Coronavirus Pandemic*. Worldometers. https://www.worldometers.info/coronavirus/