Al-Ulum

Exploring Teacher's Technological Approaches in Conducting Teaching and Learning Activities

[1]Hery Noer Aly, [2]Bustomi, [3]Mawardi Lubis

[1,3] Universitas Islam Negeri Fatmawati Sukarno Bengkulu
[2]Universitas Islam Negeri Sunan Gunung Djati Bandung

Abstract

This study explores teachers' technological approaches to learning activities during a pandemic disruption. The teachers' role in solving learning activity problems during education disruption was essential. So, the expected learning outcomes can be achieved as optimally as possible. We have searched for data on book application sources and other scientific works that can be used to answer research problems. As for the review, we have analyzed the data involving data coding, interpretation, evaluating, and making conclusions to find these findings relevant to validity and reliability. After conducting an in-depth study and discussion, we finally have informed several points, including the technology approach; teachers are dominant and play a key role in implementing learning during the policy of closing schools but opening small classes remotely. We hope this finding is helpful for the following study in a relevant context.

Keywords: *Technological Approaches, Teaching, and Learning, Pandemic Disruption, Teachers' Roles.*

Menggali Kemampuan Guru Bidang IT dalam Melakukan Kegiatan Belajar Mengajar

Abstrak

Studi ini mengeksplorasi pendekatan teknologi guru dalam kegiatan pembelajaran di masa pandemi. Peran guru dalam memecahkan masalah kegiatan pembelajaran selama gangguan pendidikan sangat penting. Sehingga, hasil belajar yang diharapkan dapat tercapai seoptimal mungkin. Kami telah mencari data sumber aplikasi buku dan karya ilmiah lainnya yang dapat digunakan untuk menjawab permasalahan penelitian. Adapun tinjauan, kami telah menganalisis data yang melibatkan pengkodean data, interpretasi, evaluasi, dan membuat kesimpulan untuk menemukan temuan ini relevan dengan validitas dan reliabilitas. Setelah melakukan kajian dan diskusi mendalam, akhirnya kami menginformasikan beberapa hal, antara lain pendekatan teknologi; guru dominan dan berperan penting dalam pelaksanaan pembelajaran selama kebijakan menutup sekolah tetapi membuka kelas kecil dari jarak jauh. Kami berharap temuan ini bermanfaat untuk studi berikut dalam konteks yang relevan.

Kata kunci: Pendekatan Teknologi, Belajar Mengajar, Disrupsi Pandemi, Peran Guru.

Author correspondence
Email: hery.noer.aly@gmail.com
Available online at http://journal.iaingorontalo.ac.id/index.php/au/index

A. Introduction

The pandemic has disrupted health and impacted many business and educational activities in almost all parts of the world. The most pronounced impact is on the continuity of educational Learning. For this reason, each country's government firmly issues sudden rules to close physical access to schools but still requires schools to use internet technology networks.[1] This was done to minimize the impact of educational disruptions from schools to universities. Closing physical access, it turns out, is a new issue after remote implementation solutions: how is the government ready to deal with online learning policies?. The problem that is often raised is the teacher's ability to prepare according to the norms expected by the parties. In educational practice, the origins of teacher capabilities that are relied upon in distance learning remain an important topic. Because the appropriate teacher's ability does not synergize, there will undoubtedly be a decrease in the quality of student learning outcomes. As a result, new problems will emerge, and it is feared that no one will solve them.[2] For students to learn adequately, teachers who are ready for all conditions are needed, such as teachers who are ready with solutions for using technology during a pandemic that hits education.

The issue of distance learning in the university environment during the pandemic reaction in many parts of the country is a thrilling issue to illuminate.[3] Because each showing part, for example, the limit of teaching stuff which should

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[1] Syed Khuram Shahzad et al., "Impact of Virtual Teaching on ESL Learners' Attitudes under COVID-19 Circumstances at Post Graduate Level in Pakistan," *English Language Teaching* 13, no. 9 (2020): 1–9. Purniadi Putra et al., "The Students Learning from Home Experiences during Covid-19 School Closures Policy In Indonesia," *Jurnal Iqra' : Kajian Ilmu Pendidikan* 5, no. 2 (September 5, 2020): 30–42, https://doi.org/10.25217/ji.v5i2.1019. Purniadi Putra et al., "The Relevancy on Education Release Revolution 4.0 in Islamic Basic Education Perspective in Indonesia (An Analysis Study of Paulo Freire's Thought)," *Test Engineering & Management* 83 (2020): 10256–63.

[2] Dr Thomas Gordon, *Teacher Effectiveness Training: The Program Proven to Help Teachers Bring Out the Best in Students of All Ages* (Crown, 2010). Aslan Aslan et al., "Teacher's Leadership Teaching Strategy Supporting Student Learning During The Covid-19 Disruption," *Nidhomul Haq : Jurnal Manajemen Pendidikan Islam* 5, no. 3 (November 21, 2020): 321–33, https://doi.org/10.31538/ndh.v5i3.984.

[3] Aleksander Aristovnik et al., "Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective," *Sustainability* 12, no. 20 (January 2020): 8438, https://doi.org/10.3390/su12208438. Amat Suroso et al., "Challenges and Opportunities towards an Islamic Cultured Generation: Socio-Cultural Analysis," *Linguistics and Culture Review* 5, no. 1 (June 28, 2021): 180–94, https://doi.org/10.37028/lingcure.v5n1.1203.

have the option to work in a very crisis area, serving educational communities who are likewise extremely complex in Learning, distance online learning should be taken without the assistance of innovation and an exceptionally unexpected pandemic reaction strategy.[4] As a result, this investigation examines lecturers' experiences at several universities in many areas of Indonesia, particularly their roles in managing technological solutions for learning and evaluation purposes. This study is intriguing due to the high demands and the varying pace of the learning process. Therefore, we attempted to gather data from several respondents across universities in Indonesia.[5] The lecturers' prior knowledge of how to acquire teaching aids and tailor the curriculum to meet student's needs in an emergency caused by the pandemic. This study provides in-depth feedback on how lecturers handled the search for learning-focused teaching support, such as technology use. This study provides us with new data from numerous parties; government, policymakers, universities, and students in the field.[6]

One of the most critical aspects of teaching during a crisis, such as the Covid-19 pandemic, is the selection of learning methods and strategies at universities. This is because the various learning approaches used during the educational disruption response period reflect knowledge and readiness of methods, understanding, and application of methods to present appropriate processes to online classrooms. Since the outbreak, the delivery of educational materials has evolved from a conventional system of classroom activities to a high-tech application method.[7] For this situation, the implementation of higher

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[4] Qian Liu et al., "Spatiotemporal Patterns of COVID-19 Impact on Human Activities and Environment in Mainland China Using Nighttime Light and Air Quality Data," *Remote Sensing* 12, no. 10 (January 2020): 1576, https://doi.org/10.3390/rs12101576.

[5] Giustina Secundo et al., "Threat or Opportunity? A Case Study of Digital-Enabled Redesign of Entrepreneurship Education in the COVID-19 Emergency," *Technological Forecasting and Social Change* 166 (May 1, 2021): 120565, https://doi.org/10.1016/j.techfore.2020.120565.

[6] Gürkan Yildirim, Mehmet Elban, and Serkan Yildirim, "Analysis of Use of Virtual Reality Technologies in History Education: A Case Study," *Asian Journal of Education and Training* 4, no. 2 (2018): 62–69.

[7] Y. Yustina, W. Syafii, and R. Vebrianto, "The Effects of Blended Learning and Project-Based Learning on Pre-Service Biology Teachers' Creative Thinking through Online Learning in the Covid-19 Pandemic," *Jurnal Pendidikan IPA Indonesia* 9, no. 3 (September 30, 2020): 408–20, https://doi.org/10.15294/jpii.v9i3.24706. Sardjana Orba Manullang, Mardani Mardani, and Aslan Aslan, "The Effectiveness of Al-Quran Memorization Methods for Millennials Santri During Covid-19 in Indonesia," *Nazhruna: Jurnal Pendidikan Islam* 4, no. 2 (2021): 195–207. M. S. Nugraha, R. Liow, and F. Evly, "The Identification of Online Strategy Learning Results While Students Learn from

education training mostly takes place in different spaces with the utilization of innovation and its fusion, which, per this specialist, is an opportunity for the creative discovery required as cooperative Learning. Khan et al.,[8] acknowledge many concerns regarding distance learning, particularly at several unhelpful universities that have had to get used to technology-based Learning. In fact, before the pandemic, many tertiary institutions had implemented technology-based Learning; As a result, during a pandemic, a learning method known as distance learning, which also utilizes technology, is nothing new.[9]

The success of learning programs during this severe pandemic can vary from class to class. Teaching under challenging times depends on technological support and the teacher's skills in using technology.[10] Likewise, the existence of student residence locations where student residences are located. Therefore, educational technology equipment, impressions, and learning success with distance teaching depend on the methods and materials and the teacher's skills.[11] Therefore, based on the explanation of the problem above, the role of the teacher and methods supported by a technology approach can close the learning gap in difficult times. The teacher's ability in the method of choice will determine learning outcomes. Likewise, the existence and skills lecturers have adequate technology-based teaching experience, including the ability to access an internet connection and all the requirements needed to meet the needs of learning education in emergencies.[12] The positive impact of information technology in the world of

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Home During the Disruption of the COVID-19 Pandemic in Indonesia," *Journal of Contemporary Issues in Business and Government* 27, no. 2 (2021): 1950–56.

[8] Sarah Khan, Mona El Kouatly Kambris, and Hamda Alfalahi, "Perspectives of University Students and Faculty on Remote Education Experiences during COVID-19- a Qualitative Study," *Education and Information Technologies* 27, no. 3 (April 1, 2022): 4141–69, https://doi.org/10.1007/s10639-021-10784-w.

[9] Abdelsalam M. Maatuk et al., "The COVID-19 Pandemic and E-Learning: Challenges and Opportunities from the Perspective of Students and Instructors," *Journal of Computing in Higher Education* 34, no. 1 (April 1, 2022): 21–38, https://doi.org/10.1007/s12528-021-09274-2.

[10] Robert Connor Chick et al., "Using Technology to Maintain the Education of Residents During the COVID-19 Pandemic," *Journal of Surgical Education* 77, no. 4 (July 1, 2020): 729–32, https://doi.org/10.1016/j.jsurg.2020.03.018.

[11] Eidan M. Al Zahrani et al., "E- Learning Experience of the Medical Profession's College Students during COVID-19 Pandemic in Saudi Arabia," *BMC Medical Education* 21, no. 1 (August 20, 2021): 443, https://doi.org/10.1186/s12909-021-02860-z.

[12] Donald C. Orlich et al., *Teaching Strategies: A Guide to Effective Instruction* (Cengage Learning, 2012).

education during the pandemic response is that the information technology needed will be more quickly and easily accessed for educational purposes; innovation in Learning is growing with the existence of e-learning innovations which make the education process easier, advances in information technology. This includes the changing trend of shopping online, which continues to be a community need. Payments with digital systems will be increasingly in demand because they are efficient, and teleworking or working from home, which is widespread, will produce supporting technology.[13]

Teachers responding to crisis learning often encounter problems that impede the success of teaching assignments. Some problems arise among teaching staff, for example, relatively slow curriculum adaptation, the readiness of educators to teach online, and other problems that the relevant institutions still need to gather.[14] Issues such as limited devices for Online Learning. Internet quota limitations. Geographical conditions that are difficult to reach the internet network. Disturbance at home. Students and teachers lack interaction[15] and offline learning resources' availability. Learning must be flexible because Learning in crowded places such as libraries and halls is against the rules in society, only at home or in self-isolation, where learning methods are permitted. This exacerbates gaps and disparities in student learning in education services.[16] This situation requires the efforts of several researchers to investigate the challenges faced by higher education in Indonesia as a result of the pandemic, as well as the methods used by lecturers to meet the learning needs of their students and obtain new content. As a result, many teachers in distance learning environments have equal access to the technology needed to purchase teaching materials at every university

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[13] John (Jianqiu) Bai et al., "Digital Resilience: How Work-From-Home Feasibility Affects Firm Performance," Working Paper, Working Paper Series (National Bureau of Economic Research, March 2021), https://doi.org/10.3386/w28588.

[14] Chrysi Rapanta et al., "Online University Teaching During and After the Covid-19 Crisis: Refocusing Teacher Presence and Learning Activity," *Postdigital Science and Education* 2, no. 3 (October 1, 2020): 923–45, https://doi.org/10.1007/s42438-020-00155-y.

[15] Delipiter Lase et al., "Parents' Perceptions of Distance Learning during COVID-19 in Rural Indonesia," SSRN Scholarly Paper (Rochester, NY, February 25, 2021), https://doi.org/10.2139/ssrn.3890610.

[16] C. A. Mutch, "COVID-19 and The Exacerbation of Educational Inequalities in New Zealand," *Perspectives in Education* 39, no. 1 (March 12, 2021): 242–56, https://doi.org/10.18820/2519593X/pie.v39.i1.15.

287

in Indonesia to achieve the expected standards of learning outcomes during the severe pandemic.[17]

B. Research Methods

This study explores teachers' technological approaches to teaching and learning processes during the pandemic disruption.[18] The author believes that the success of implementing education during a pandemic disruption is closely related to the technological approach played by teachers in ensuring educational services are as expected. We explored this approach to understand teachers' approach to making distance education successful during disruptions and responding to pandemics in several places.[19] For this reason, we have conducted a scientific search for Budi in the literature that discusses technology-based Learning to respond to pandemic disruptions by enabling distance learning by optimizing a technological approach. After a series of electronic data theft, we analyzed it using several techniques, including the data.[20]

After a series of electronic data theft, we analyzed it by involving several data analysis techniques, including the data coding bank carefully managing the data and further evaluating and interpreting the data to obtain valid findings to answer the issues we raised. We report the data that we have studied in a collective descriptive design of how this study seeks to gain an understanding of the approach taken by teachers in the success of education disrupted by the pandemic with the policy of the closing school and other learning centers and then directing education remotely relying on technology.[21] Thus, describing the steps

[17] Maila D. H. Rahiem, "Remaining Motivated despite the Limitations: University Students' Learning Propensity during the COVID-19 Pandemic," *Children and Youth Services Review* 120 (January 1, 2021): 105802, https://doi.org/10.1016/j.childyouth.2020.105802.

[18] Yassine Ismaili, "Evaluation of Students' Attitude toward Distance Learning during the Pandemic (Covid-19): A Case Study of ELTE University," *On the Horizon* 29, no. 1 (January 1, 2021): 17–30, https://doi.org/10.1108/OTH-09-2020-0032.

[19] Aslan et al., "Teacher's Leadership Teaching Strategy Supporting Student Learning During The Covid-19 Disruption."

[20] Aras Bozkurt et al., "A Global Outlook to the Interruption of Education Due to COVID-19 Pandemic: Navigating in a Time of Uncertainty and Crisis," *Asian Journal of Distance Education* 15, no. 1 (June 6, 2020): 1–126.

[21] Helena ML Daudt, Catherine van Mossel, and Samantha J. Scott, "Enhancing the Scoping Study Methodology: A Large, Inter-Professional Team's Experience with Arksey and O'Malley's Framework," *BMC Medical Research Methodology* 13, no. 1 (March 23, 2013): 48, https://doi.org/10.1186/1471-2288-13-48.

for carrying out the study we design in a literature review begins with formulating problems and questions and shows them by searching data, analyzing data, and final reporting.

C.   Results and Discussion

Distance Learning during Pandemic Response

During the Covid-19 pandemic, distance education replaced traditional classroom instruction. The rapid expansion of Internet access has significantly affected business and education. Higher education has undergone a revolution in recent months due to the Covid-19 pandemic, and the government requires assistance in funding universities and providing sufficient access to Online Learning. According to the United Nations Sustainable Development Group recorded lectures and online platforms are typically used for online learning in the higher education subsector. However, due to the requirement for additional information technology infrastructure for teachers and students, several universities have postponed teaching and learning activities until further notice. It is still being decided how to align semesters and academic calendars because some programs have been successfully implemented online, and others still need to be. According to Chelghoum and Chelghoum,[22] Covid-19 has led to the closure of schools worldwide. Over 1.2 billion children worldwide do not attend school.

Consequently, education has been significantly altered by the rise of e-learning, in which instruction is delivered remotely and through digital platforms. Some people wonder how this change will affect the global education market and whether the widespread adoption of online learning will continue following the pandemic. Online learning has improved information retention and saved time.[23] Additionally, some wonder if the widespread adoption of online education will continue following the pandemic and how this shift will impact the global

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[22] Ahlem Chelghoum and Hanane Chelghoum, "The Covid-19 Pandemic and Education: Big Changes Ahead for Teaching in Algeria," *ALTRALANG Journal* 2, no. 02 (December 31, 2020): 118–32.

[23] Mohammad Ziaul Hoq, "E-Learning During the Period of Pandemic (COVID-19) in the Kingdom of Saudi Arabia: An Empirical Study," *American Journal of Educational Research*, n.d. Aslan Aslan, "Relevancy Of Research Evidence With The Success Of Alquran Memorising: Young Hafiz Motivational Approach," *Jurnal Ilmu Pendidikan Islam* 20, no. 1 (June 30, 2022): 1–26, https://doi.org/10.36835/jipi.v20i1.3929.

education market. Online education has helped establish educational establishments like Ruangguru, Zenius, Kemendikbud Learning Center, and Quipper School in Indonesia. Students have used YouTube, Zoom, Google Meet, and other applications as online learning tools in higher education.[24]

When learning activities are disrupted, teaching and learning at schools directly affect learning methods and lecture support facilities, which typically take place simultaneously in each class but immediately transform learning into a remote network system. Sinaga & Pustaka,[25] conducted a study that compared to this one. They demonstrated that the sudden shift in the English teaching system due to the pandemic had resulted in new challenges and demands from the teaching system that had been in place for such a long time. This is because, contrary to popular belief, the previous method of instruction relied heavily on lecturers. However, teachers continue to play a crucial role in the technologically advanced lecture system's management. Therefore, lecturers must be prepared to transition to a technology-aided teaching control system to present a more innovative and collaborative learning system to their students. The management of teaching materials that are appropriate for each student's needs is one of the issues. Even though technology can provide as many unrestricted teaching resources as possible, it is important to educate those who teach significantly at higher education levels about the skills and roles of lecturers who have handled remote lecture systems.[26]

Distance Learning VC Online Education

While the policy to respond to the pandemic required distance learning that also involved technology, it is undeniable that online Learning has been carried out

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[24] Ria Lusiyani and Widya Dara Anindya, "Choosing and Using Learning Media during Remote Teaching: Teachers' Thought," *Journal of English Language Teaching and Linguistics* 6, no. 2 (August 17, 2021): 407–23, https://doi.org/10.21462/jeltl.v6i2.555.

[25] Robekka Risten Fransiska Sinaga and Reza Pustika, "Exploring Students' Attitude Towards English Online Learning Using Moodle During Covid-19 Pandemic At Smk Yadika Bandarlampung," *Journal of English Language Teaching and Learning* 2, no. 1 (June 25, 2021): 8–15, https://doi.org/10.33365/jeltl.v2i1.850.

[26] Roy Martin Simamora et al., "Practices, Challenges, and Prospects of Online Learning during Covid-19 Pandemic in Higher Education: Lecturer Perspectives," *Studies in Learning and Teaching* 1, no. 3 (2020): 185–208.

at the university level.[27] These systems are believed to differ in ways that necessitate lecturers' ability to adapt to those differences. This is because online Learning is typically planned, designed, and implemented in a non-sudden manner, whereas classroom learning during a pandemic is rushed and completely disrupted.[28] During the pandemic, all teaching is conducted remotely. This makes sense, something that suddenly causes new issues and necessitates adequate solutions because both instructors and students are forced to adopt the distance classroom model in response to Covid-19, a challenge that most instructors continue to face. They have experienced it, despite attending lectures as a student. However, the story will be different when they become teachers; in combination with academic demands, distance education must succeed despite its limitations, even with few support facilities. According to Atmojo & Nugroho,[29] we want to acquire the understanding and experience of lecturers, particularly their strategies and methods, to prepare instructional materials for remote Learning that meet the learning requirements of students.

Technology and the gap among teachers

Some aspects of the technological divide among English lecturers also impede the issue of distance education and teacher response readiness. When teaching during a pandemic, the technology gap becomes critical. Trust & Whalen,[30] argued that numerous considerations must be made before implementing remote network teachings, such as how lecturers can access technology and the availability of a dependable internet network. The internet network does not adequately cover all student areas or campuses. Economic and technological disparities also influence the success of teaching. In speaking,

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[27] S. B. Urokova, "Advantages and Disadvantages of Online Education," *ISJ Theoretical & Applied Science* 9, no. 89 (2020): 34–37.

[28] Dragan Gašević et al., "Where Is Research on Massive Open Online Courses Headed? A Data Analysis of the MOOC Research Initiative," *International Review of Research in Open and Distributed Learning* 15, no. 5 (2014): 134–76, https://doi.org/10.19173/irrodl.v15i5.1954.

[29] Arief Eko Priyo Atmojo and Arif Nugroho, "EFL Classes Must Go Online! Teaching Activities and Challenges during COVID-19 Pandemic in Indonesia," *Register Journal* 13 (May 28, 2020): 49–76, https://doi.org/10.18326/rgt.v13i1.49-76.

[30] Torrey Trust and Jeromie Whalen, "Emergency Remote Teaching with Technology during the COVID-19 Pandemic: Using the Whole Teacher Lens to Examine Educator's Experiences and Insights," *Educational Media International* 58, no. 2 (April 3, 2021): 145–60, https://doi.org/10.1080/09523987.2021.1930479.

technology teaching illustrates how inequality has occurred in technology development, including the absence of facilities and leadership in higher education.[31]

It is also essential to consider the many issues school teachers face with technology. Technology and access gaps have been created immediately due to the pandemic. These differences should be survived, considering that Learning in the pandemic period does not just gamble with learning results but also endangers the well-being of teachers and understudies. This injustice must be taken into consideration. The location of technology access has emerged as a standard in Indonesia. Also, not all of the university environment is in the city center. This makes the problem more complicated, necessitating careful handling. However, it does not raise new questions about how lecturers can ensure that they can accommodate all learning difficulties students face without being supported by the best practices of each university.[32]

Preparing Material for Remote Classroom Learning

According to Arras et al.,[33] several studies on using materials from teaching electronic applications have demonstrated that English instructors used a variety of strategies when using learning materials before and during the pandemic. The obtained teaching materials include presentations, exercises, demonstrations, tutorials, interaction videos, modeling, collaboration, and other generative learning materials that meet course material requirements. A lesson instructor's expertise and experience are required for the acquisition strategies for the course above materials.[34] We tried to understand the role of educational program lecturers in

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[31] Wen-Long Chang and Chun-Yi Lee, "Virtual Team E-Leadership: The Effects of Leadership Style and Conflict Management Mode on the Online Learning Performance of Students in a Business-Planning Course," *British Journal of Educational Technology* 44, no. 6 (2013): 986–99, https://doi.org/10.1111/bjet.12037.

[32] Maria Helena Martins, Maria Leonor Borges, and Teresa Gonçalves, "Attitudes towards Inclusion in Higher Education in a Portuguese University," *International Journal of Inclusive Education* 22, no. 5 (May 4, 2018): 527–42, https://doi.org/10.1080/13603116.2017.1377299.

[33] Peter Arras, Galyna Tabunshchyk, and Tomaš Kozík, "E-Learning Concept for the Properties of Materials Remote Study," in *2013 IEEE 7th International Conference on Intelligent Data Acquisition and Advanced Computing Systems (IDAACS)*, vol. 02, 2013, 742–47, https://doi.org/10.1109/IDAACS.2013.6663024.

[34] Hilmi Mizani et al., "Understanding Islamic Education Model for Children of Early Married Families in South Kalimantan," *Talent Development & Excellence* 12, no. 2 (2020): 4365–74.

identifying the material needs of students by considering appropriate and relevant needs to improve student learning outcomes because the process of obtaining course materials during the pandemic response period and other lecture materials requires a management strategy, so that the material is relevant to typical Learning disrupted by a pandemic. As a result, several lecturers' abilities to access learning materials' data through technology or other means will be discussed later. We observe that many lecturers process teaching materials following the national higher education English program curriculum's criteria, standardization, assessment, and expectations. According to Cahyadi & Widyastuti,[35] "What was accommodated in the field during emergency learning in planning, implementation, and evaluation should become new insights for other educational stakeholders.

Challenge for students and teacher

Many academic studies have proved the challenges for students in distance learning, and they face numerous difficulties in utilizing and achieving success with e-learning in academic settings.[36] Five difficulties are the subject of the current discussion: challenges with time management, pedagogical e-learning, technology, and cultural learning styles.[37] This paper examines students' essay writing abilities to highlight the advantages, drawbacks, and experiences of online learning. The Coronavirus pandemic has changed how understudies learn in schools and universities. Face-to-face education has been replaced by distance learning, also known as online learning. Online education has been implemented in various regions and closed campuses.[38]

Additionally, this is being done to lessen the virus's impact by altering the government's social distance policy. For the past few weeks, learning has been

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[35] Ani Cahyadi et al., "COVID-19, Emergency Remote Teaching Evaluation: The Case of Indonesia," *Education and Information Technologies* 27, no. 2 (March 1, 2022): 2165–79, https://doi.org/10.1007/s10639-021-10680-3.

[36] Shivangi Dhawan, "Online Learning: A Panacea in the Time of COVID-19 Crisis," *Journal of Educational Technology Systems* 49, no. 1 (September 1, 2020): 5–22, https://doi.org/10.1177/0047239520934018.

[37] Dhawan.

[38] Sumitra Pokhrel and Roshan Chhetri, "A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning," *Higher Education for the Future* 8, no. 1 (January 1, 2021): 133–41, https://doi.org/10.1177/2347631120983481.

conducted online. Naturally, this aligns with the evaluation and focuses on the requirements for the activation process.[39] This frequently enhances the quality and effectiveness of the learning process. The first depicts students' motivation, expectations, and online learning. Every student takes personal responsibility for whether or not they succeed in online learning.[40] Despite their difficulty, online learning tasks necessitate recording, reading, memorizing, and accessing online-based learning media. In addition, during the COVID-19 pandemic, they need support from friends, family, schools, and previously the government as a policymaker. Online students may also face natural obstacles, but they need universities with easy-to-use route management tools and interactive online learning environments. Students observed, supported by this research, that the advantages of online Learning included quicker access to materials and improved data comprehension, which improved learning outcomes. However, Indonesian students, particularly those enrolled in Basic Education, need help with online education.[41]

Teachers as resources in remote Learning

According to students, the most advantageous feature of online education is the possibility to access subject matter at any time, from any location. In addition, lecturers can easily incorporate web- or application-based resources into learning materials.[42] This provides students with one-of-a-kind learning opportunities. However, some students argue that online Learning has both positive and negative effects, particularly on students' health, due to the number of tasks they must complete. The decision to pursue online education is one of many choices that have

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[39] Thomas Wanner and Edward Palmer, "Personalising Learning: Exploring Student and Teacher Perceptions about Flexible Learning and Assessment in a Flipped University Course," *Computers & Education* 88 (October 1, 2015): 354–69, https://doi.org/10.1016/j.compedu.2015.07.008.

[40] Khe Foon Hew and Wing Sum Cheung, "Students' and Instructors' Use of Massive Open Online Courses (MOOCs): Motivations and Challenges," *Educational Research Review* 12 (June 1, 2014): 45–58, https://doi.org/10.1016/j.edurev.2014.05.001.

[41] Andrew Rosser and Anuradha Joshi, "From User Fees to Fee Free: The Politics of Realising Universal Free Basic Education in Indonesia," *The Journal of Development Studies* 49, no. 2 (February 1, 2013): 175–89, https://doi.org/10.1080/00220388.2012.671473.

[42] Retna Panjaitan, Erni Murniarti, and Hotmaulina Sihotang, "Learning Plan with Blended Learning in Elemetary School," *Advances in Social Sciences Research Journal* 8, no. 2 (2021): 558–73.

both positive and negative effects.[43] The positive effect is that we can make the most of the technology that has come out in recent years. We can learn the material quickly and in a manner that fits our preferences, for instance, while lying down, eating, or chatting with other people. The material is easily accessible so that we will not feel rushed or pressured by the overly formal environment of the classroom.

Additionally, we may study at our own pace without being restricted by the usual course schedule on campus.[44] The negative effect is that online Learning only takes place in one direction, making it difficult for students to consult material that requires a more in-depth explanation or comprehension. "This is because online lectures should replace the teaching and learning activities, but instead, they are replaced by a mountain of assignments that make me dizzy. We are not expressing dissatisfaction; instead, we are merely posing how we can improve our bodies' immune systems if we are constantly beset by responsibilities that occasionally cause us to sleep late at night. We are sorry about this online Learning because it does not work, and in this pandemic, we should be able to keep going and not be distracted by all the tasks we already have to do. The jobs are getting bigger and bigger and bigger.

This is the source of their anxiety. Many people even give up and do not finish because they cannot complete many tasks before the deadline, and they all fall on the same day and simultaneously. By utilizing internet media, online lectures have evolved into interactive learning tools. Lecturers can instruct students in various settings and distribute course content via the internet and pre-existing applications in videos, readings, writings, articles, or files. Applications commonly utilized for online talks incorporate Edmodo, Zoom Mists Meeting,

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[43] Mariia Rizun and Artur Strzelecki, "Students' Acceptance of the COVID-19 Impact on Shifting Higher Education to Distance Learning in Poland," *International Journal of Environmental Research and Public Health* 17, no. 18 (January 2020): 6468, https://doi.org/10.3390/ijerph17186468.

[44] Robert Bozick and Benjamin Dalton, "Balancing Career and Technical Education With Academic Coursework: The Consequences for Mathematics Achievement in High School," *Educational Evaluation and Policy Analysis* 35, no. 2 (June 1, 2013): 123–38, https://doi.org/10.3102/0162373712453870.

WhatsApp, Line, and more.[45] However, out of the numerous applications, there are certain advantages and disadvantages. For instance, the WhatsApp app can easily send and receive files with the WhatsApp group of lecturers and all students, but it cannot be used for video calls or calls with more than four people. Students can follow the learning process from home to save time at school or on campus, especially those who live in large cities with traffic congestion problems.[46]

D. Conclusion

In the final section, we can conclude from literature data reviews exploring teacher technology approaches in learning activities responding to pandemic disruptions. These findings have received a high principle of validity because these findings have attempted to answer problems supported by existing scientific ethics related to teachers' responses in carrying out technology-based teaching activities in the era of educational disruption by a pandemic. We can conclude from the exploration results of the teacher's approach and articles, among other things, that the pandemic response during distance learning is a relevant solution to implement considering the pandemic disruption, which has dramatically disrupted the implementation of education. Moreover, this is following the directions of the United Nations to continue implementing education. Our following findings show how distance learning and online education from the perspective of responding to a pandemic.

Furthermore, how are the application of technology to answer educational problems, the impact of the pandemic, and the gap between teachers related to the readiness of each teacher to use technology following the demands of distance learning? Likewise, we get how students and teachers adapt to material obtained electronically for distance learning. Furthermore, another issue is the responses of parents and students to the challenges posed by the application of technology-

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[45] Breanna N. Harris et al., "From Panic to Pedagogy: Using Online Active Learning to Promote Inclusive Instruction in Ecology and Evolutionary Biology Courses and Beyond," *Ecology and Evolution* 10, no. 22 (2020): 12581–612, https://doi.org/10.1002/ece3.6915.

[46] Wafika A. Suliman et al., "Experiences of Nursing Students under the Unprecedented Abrupt Online Learning Format Forced by the National Curfew Due to COVID-19: A Qualitative Research Study," *Nurse Education Today* 100 (May 1, 2021): 104829, https://doi.org/10.1016/j.nedt.2021.104829.

based Learning. We also find that technology and teachers are a source of distance learning. Those are some of the critical points that we have explored in order to gain a deeper understanding of how teachers can approach technology to ensure the implementation of distance learning during a pandemic can be carried out. We realize that the findings we get have limitations and weaknesses. Therefore we hope for input and constructive suggestions for future improvements.

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