

CHALLENGES OF DIGITAL TOOLS AND EDUCATION PRACTICES FACED BY TEACHERS IN ONLINE TEACHING DURING THE COVID-19 PANDEMIC

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ABSTRACT: The spread of COVID-19 has caused widespread disruption of education, forcing schools to seek urgent solutions to reconfigure traditional education programs for distance learning. The emergency restrictions related to social distancing, gathering, etc., have generated a disruption, resulting in a massive quick shift to distance and online teaching. The disruption of teaching has been highly critical and complex, especially for developing countries due to the lack of technological infrastructure, low Internet access, low level of preparation of teachers and parents to use technology, and lack of learning motivation. This paper aimed at identifying the main teaching practices, challenges, and contextual characteristics that have impacted the adoption and use of online teaching solutions during the COVID-19 outbreak. The paper reached this goal by providing the results of a survey involving 25 English teachers taught at senior high schools. The results revealed that despite a set of challenges faced, the online teaching experience during the pandemic time brought improvements in computer teaching skills and communication with students by using several applications for interactivity.

Keywords: *Challenges and opportunities; online teaching; technology*

The worldwide pandemic of coronavirus has had a profound effect on all aspects of life, including education. The World Health Organization (WHO) has proposed a policy of social and physical distancing as a way to cope with the increasing numbers of coronavirus patients, but this is a challenge for many countries. In Indonesia, the government embraced a policy of large-scale social restrictions known as Pembatasan Sosial Berskala Besar (PSBB) in March 2020. These guidelines were followed to help improve work from home, prayer from home, and study from home. (Regulation of Indonesian Government No.21, 2020, 2020). The learning system has undergone a change, and we need to adapt it both technologically and non-technically. The digital teaching-learning model used involves online learning, e-learning, distance education, correspondence education, external studies, flexible learning, and massive open online

courses, and those models have been successfully used worldwide (Wei& Chou, 2020). Some countries are not ready for the sudden change of instruction that will come with the availability of digital textbooks. These countries need to make major adjustments to their instructional strategies, technological readiness, and mental support provisions in order to be ready (Wei& Chou, 2020).

The COVID-19 pandemic has forced all levels of education to rapidly migrate into online learning. This migration has been associated with many challenges for educators, students, and the education system in general. Some of the challenges include the fact that online learning is new for many educators, and that students need to be able to stay engaged in their education while also keeping up with their busy lives. Additionally, the migration has had a negative impact on the quality of education, as educators have had to spend more time on administrative tasks instead of teaching. However, despite these challenges, the migration into online learning is necessary in order to keep up with the changing needs of the education system. The COVID-19 pandemic has forced all levels of education to rapidly migrate into online learning. This migration has been difficult for educators, students, and the education system as a whole (Delen & Liew, 2016). The emergency restrictions related to social distancing, gathering, and communication have caused a disruption in various areas, including education (Baig, 2011). The worldwide education systems were disrupted when new technologies made it possible for students to learn from anywhere in the world. A radical transformation was necessary to keep up with the changing times (Wei& Chou, 2020). The adoption of digital technologies has allowed for new educational strategies and processes to be developed, while also presenting a number of challenges at both micro and macro levels. These technologies have been successfully used to deliver education at all levels, without taking into account the level of familiarity students have with online learning (Delen & Liew, 2016).

Different studies have found that having a good understanding of how to use digital tools, and having a good relationship with the teachers who will be teaching online, is important for successful online learning (OECD 2021; Alexander et al. 2019). Despite having a wide range of digital tools and technologies that could be used to teach and deliver information, education institutions have had some difficulty adopting them due to the fact that many countries do not have the same levels of digital infrastructure as we do, and their students do not have the same level of digital skills (OECD 2021).

There are several problems with the way schools have set up their digital infrastructure, and these problems have been compounded by recent changes (Bakalar, 2018). For example, all schools don't have pre-purchased internet connections and computers, especially in suburban and rural areas; buying all this equipment is expensive. Bakalar (2018) further urges that, despite the Indonesian government's allocation of educational funds to purchase internet data packages, many students and teachers find schooling at home online unbearable. These distractions, such as poor internet connection, house chore distraction, and an unfriendly learning atmosphere, still exist, leading to students' inability to understand material and teachers' increased burdens in providing explanations.

In covid-19 pandemic, the learning language, especially English, when studying from home using online has many challenges. According to Small (2014), learning a language can take many forms and styles, and self-study is one of the most common and effective ways to learn. From a personal perspective, you can progress and enhance your language knowledge and skills with just an hour per week of self-study. We can't ignore the fact that many people can't learn language this way, so online resources are an important part of the language learning process (Krishan et al., 2020).

The current study investigated the challenges in Online Learning During Covid-19 Pandemic and how the teachers overcome the obstacles they faced in online learning. Based on the background of the study above, the research questions were formulated as follows: Which are the main challenges encountered by high school English teachers during the COVID-19 outbreak?

The researchers used an exploratory methodology to survey English teachers from high schools in South Sumatera, and their data was analyzed through descriptive analysis.

LITERATURE REVIEW

Online teaching

Online teaching refers to the use of technology to provide educational experiences that take place outside of the traditional classroom setting. This can include virtual learning, cyber learning, and e-Learning. Instruction and content is typically conveyed over the

Internet, which can allow for a more interactive and engaging educational experience (Schwirzke et al., 2018).

Online learning has become more prevalent in post-secondary education settings where interactive telecommunications platforms are used to connect learners, resources, and instructors. This technology allows for more flexible and individualized learning experiences, which can be especially beneficial for students who are busy or have busy schedules (Simonson et al., 2009). Students are enrolled primarily (often only) in online classes, and are certified by earning the required credit and diplomas (Schwirzke et al., 2018).

With web-based learning tools, traditional classroom lectures are replaced by engaging and interactive learning materials and resources. This provides students with the flexibility to learn at their own pace and in the way that works best for them. In addition, online learning provides students with the opportunity to develop the skills of creative thinking and problem solving. The online learning designs are designed to help students learn on their own and become competent in difficult situations. Teachers are available to provide prompt feedback and clear instructions, and students' progress is monitored to ensure they are learning the material correctly.

Online teaching affordances and challenges

Online teaching has many advantages over traditional teaching methods, including helping students be more motivated, interacting and communicating more effectively (Amasha et al., 2018). Motivation in an online setting is related to students' active engagement with learning, enjoyment of learning, perceptions of learning, learner satisfaction, online participation, and academic performance (Hartnett, 2018). Simonson et al. (2009) noted that distance education can provide the same level of student success as traditional teaching methods, and online learners often have more positive attitudes about learning than those who take traditional courses. Online education also has advantages for some learners, such as shy students (Smith et al., 2018).

These affordances are also accompanied by challenges and obstacles. Synchronous platforms offer opportunities for interactivity and relationship-building, but they can also be difficult to use and navigate (Smith et al., 2018). Many people believe that the biggest disadvantage of online learning is that it can be isolating and impersonal (Searls, 2012).

Students who learn online often have fewer opportunities to interact with teachers and classmates, which may have negative effects on their motivation, cognitive skills, and emotional well-being (Zhang & Lin, 2020). There are several barriers to effective use of technology in the classroom, including inadequate technology access, a lack of equipment and infrastructure, teachers' time management issues due to increased workload, teachers' lack of technological skills, and teachers' self-efficacy when using online tools. In addition, inadequate teacher training can further impede the use of technology in the classroom (Barril, 2018; Ferri et al., 2020).

Many teachers find that some academic subjects and in-school activities are difficult to effectively transfer to an online learning environment without major modifications/accommodations (Barron Rodriguez et al., 2021). Teachers face challenges in fostering higher order thinking and implementing student-centered teaching methods in online classrooms. Some of the challenges include motivating students to engage in thoughtful conversations, providing support for students when they encounter difficulties, and ensuring that all students have the opportunity to learn (Baran et al., 2011).

METHODOLOGY

The researchers undertook a study of learning challenges during the Covid-19 pandemic by surveying teachers at high schools in South-Sumatera. They used an exploratory methodology, which focuses on what teachers are experiencing.

A web-based survey was conducted through an online self-administered survey questionnaire using the Google platform. The surveys provide a number of benefits, such as time efficiency, bias elimination, cost efficiency, and continuous and customized messages. Additionally, surveys have a lower chance of error than other methods (Chang and Vowles, 2013).

The questionnaire contains four main sections, each with questions about different aspects of respondents' lives. In Part 1, the researchers ask about their age, education, professional backgrounds, and experience using online learning tools. In Part 2, the researchers ask about respondents' experiences teaching online, and in Part 3 the researchers ask about any barriers or opportunities they've encountered while doing so. Finally, in Part 4, the researchers ask about respondents' general thoughts on online learning.

This questionnaire consists of 20 questions. It was developed based on constructs that have been validated by relevant prior research (Khemani et al. 2021). After developing the questionnaire, the qualitative stage consisted of interviewing teachers to gather their knowledge for developing the questionnaire.

The questionnaire was sent to a convenience sample of English teachers in July 2022. Out of the 40 teachers who received the questionnaire, only 25 completed it all. This means that the final set of responses is only 25 out of the 40 that were sent out.

Questionnaire

This questionnaire, for study effect, aims the data collecting from teachers of pre-university education on online teaching. Your answers will be completely confidential. Thank you!

Note: For questions 6, 7, 8, 12 you have more than an option.

1. Gender
a. Female
b. Male
-

2. Age
a. 25–35
b. 35–45
c. 45–55
d. 55–60
-

3. Education/Tittle
a. University
b. Master
c. PhD
-

4. How many years of work do you have as a high school teacher?
a. less than 5 years
b. 5 years
c. 10 years
d. 20 years
e. over 20 years
-

5. The subject you teach is:
-

-
6. The platform you have used in online teaching is:
a. Teams
b. Google classroom
c. Zoom
d. akademia.al
-

7. Add any other platform:
Other:
-

-
8. Did you have any experience with online teaching experience before COVID?
- Frequently
 - Occasionally
 - Never
-
9. Which lesson presentation form have you used in online teaching?
- PowerPoint
 - Video
 - Materials in PDF
 - Materials in Word
 - Grafic
-
10. Add any other lesson presentation form you used in online teaching:
Other:
-
11. Which technique you used in online teaching?
- Venn Diagram
 - Electronic Brainstorming
 - PMI Brainstorming
 - Cluster
 - Discussion in teams and in group
 - DLTA—Directed Listening
 - INSERT
 - Close
 - SCAMPER—Substitute-Combine-Adapt-Modify-Put to another use-Eliminate-Reverse
 - ‘SQ3R’ Survey—Question-Read-Recite-Review
 - ‘SWOT’—Strengths-Weaknesses-Opportunities-Threats
 - none
-
12. Add any other technique you used in online teaching:
Other:
-
13. Have you used online Quiz as a technique for knowledge measurement?
- Yes
 - No
-
14. Are you trained for online teaching or you studied by yourself?
- Yes, I am trained
 - No, I am not trained
 - I learned autodidact
-
15. Do you think is necessary the teacher’s training for online teaching?
- Yes
 - No
-
16. For what would you like to be trained for your online teaching?
- To create a quiz
 - To create graphics
 - To create a test
 - To create individual works and in groups with students/special students
-

-
17. Add for any other activity or method that you would like to be trained:
Other: _____
-
18. Do you have difficulty in correcting homeworks online?
a. Yes
b. No
-
19. What did you benefit from online teaching?

-
20. What difficulties you faced in online teaching?

-
21. From 1 to 5 how much are improved your skills in online teaching compared a year ago?
a. 5 (a lot)
b. 4
c. 3
d. 2
e. 1 (at all)
-

Table 1. Teachers' characteristics: age, sex, education

High School Teachers	
Sex	
Women	15
Men	10
Age	
45–55	17
55–60	8
Education Experience	
20 years	12
Over 20 years	13

Based on the majority of English teachers' experience, it can be said that the final sample is composed of experienced teachers with over 15 years of experience. This means that they have had to adapt to several curriculum changes during their career. All of the respondent teachers are permanent staff members at high schools, which makes their experiences especially valuable.

4. Results and Discussion

4.1.1. Digital Tools and Education Practices

Table 2. Online teaching platforms

Platforms Used	
Teams	3
Google classroom	20
Zoom	2

As it could be evinced, high school teachers mostly used google classroom, zoom and a few used Teams. On the other hand, high school English teachers mostly used google classroom, zoom, and teams.

Many English teachers used different online teaching platforms to teach. Some teachers used online resources, took online courses, and created materials to be shared. Few teachers recorded their videos and shared them online with others.

Table 3. Lesson Presentation

High School Teachers	
PowerPoint	30
Video	21
PDF	17
Word	34
Graphic	11

Google classroom platform is a great way to supplement traditional teaching methods. It allows teachers and students to interact face-to-face, distributing assignments and files easily. Additionally, the platform provides a safe space for students to work together and share ideas. English teachers have found that most of their presentation materials are in PowerPoint, which makes the learning process easy for students.

Table 4. Teaching Techniques by teachers

Teaching Techniques	
Reciprocal Teaching	18
Flipped Classroom	21
Problem Based Project	14
Electronic Brainstorming	9
Group Discussion	12

Teachers used to apply a lot of techniques in the classroom, but they can't always do that online. There is a big difference between how we teach in person and online. To create a successful online teaching method, we need to develop a design for an instructional system. Design is the level of analysis where we consider what the objectives of a method are, how content is selected and organized within the method, how learners learn, and how the method incorporates instructional materials.

4.1.2. Online Teaching Challenges

In this section, the researchers presented the results related to What are the main challenges and opportunities encountered by high school and university educators during the COVID-19 outbreak? The participants were asked to indicate the main challenges they faced and to evaluate them on a Likert scale from 1 (low) to 5 (high) for the following issues:

1. Difficult to communicate and involve students with socioeconomic problems;
2. Personal health problems;
3. Confusion related to governmental directives;
4. Lack of support from technicians administering;
5. Difficulties in interacting and communicating with students or parents;
6. Mixed personal needs with job tasks (parenting, homeschooling);
7. Low level of skills and knowledge about online teaching instruments, devices, and approaches;
8. Internet access;
9. Quality of technological infrastructure;
10. Difficulties in dealing with overwhelming online learning resources and tools available

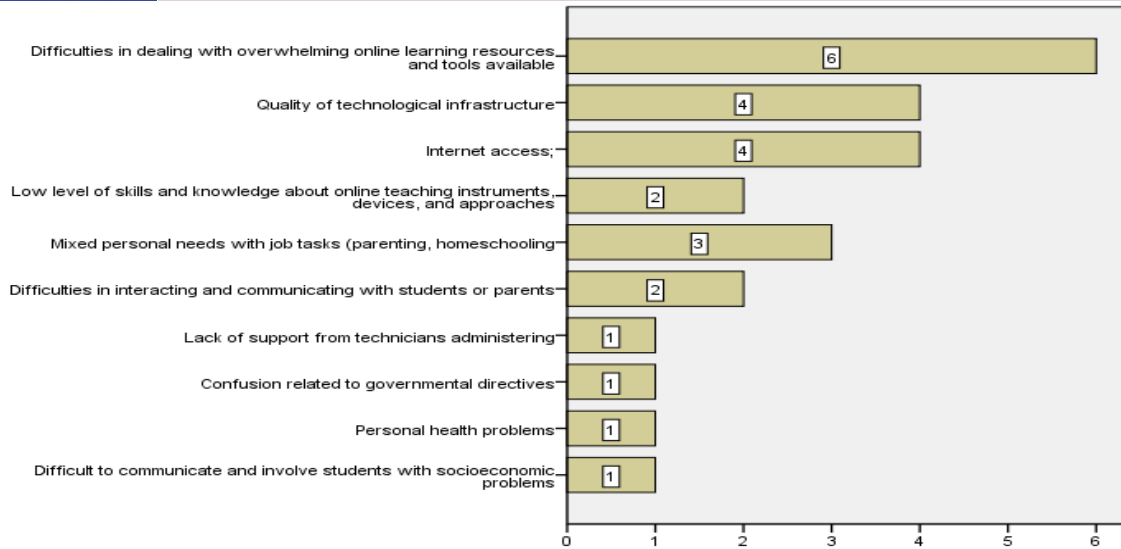


Figure 1. The findings obtained by our respondents

It is clear that the biggest challenges facing online learning are related to lack of time, inadequate technical infrastructure, and a lack of skills and knowledge about the best teaching tools and approaches.

CONCLUSIONS

Technology can have a big impact on the effectiveness of online learning. So, it is important to have tools and support that will help make the process work well. Some of the techniques used in classrooms can work well in online environments, like group discussion and electronic brainstorming. Teachers should be aware of the different roles and responsibilities in an online learning system, so they can find the right resources and make the learning process easier for students.

Our research has found that educators' behaviors are very dependent on sex, age, and experience. This means that it is important to take these factors into account when developing and using online teaching methods in the future.

The study found that many online teaching challenges exist, including the difficulty of managing content and technology, a lack of previous online teaching experience, and a lack of systematic approaches. This results in students lacking engagement and understanding.

This study contributed to strengthening the body of research on developing countries' experiences and characteristics, as well as defining key constructs and variables for designing effective online learning programs for these countries.

REFERENCES

- Amasha, M. A., Abougalala, R. A., Reeves, A. J., & Alkhalaf, S. (2018). Combining online learning & assessment in synchronization form. *Education and Information Technologies*, 23(6), 2517–2529. <https://doi.org/10.1007/s10639-018-9728-0>.
- Baig, M. A. (2011). A critical study of effectiveness of online learning on student's achievement. *I-Manager's Journal of Educational Technology*, 7(4), 28–34. <https://doi.org/10.26634/jet.7.4.1391>
- Bakalar, B. (2018). Book Review: Justice on both sides: Transforming education through restorative justice. *American Journal of Qualitative Research*, 2(2), 145-149.
- Baran, E., Correia, A.-P., & Thompson, A. (2011). Transforming online teaching practice: Critical analysis of the literature on the roles and competencies of online teachers. *Distance Education*, 32(3), 421–439. <https://doi.org/10.1080/01587919.2011.610293>
- Barril, L. (2018). Assessment for culturally inclusive collaborative inquiry-based learning. In *Handbook of distance education*, (pp. 311–320). Routledge.
- Barron Rodriguez, M.R., Cobo Romani, J.C., Munoz-Najar, A., & Sanchez Ciarrusta, I. A. (2021). *Remote learning during the global school lockdown: Multi-country lessons (English)*. Washington, DC: World Bank Group. <https://documents.worldbank.org/curated/en/668741627975171644/Remote-Learning-During-the-Global-School-Lockdown-Multi-Country-Lessons>
- Chang, Tung-Zong Donald, and Nicole Vowles. (2013). Strategies for improving data reliability for online surveys: A case study. *International Journal of Electronic Commerce Studies* 4: 121–30.
- Delen, E., & Liew, J. (2016). The use of interactive environments to promote self-regulation in online learning: A literature review. *European Journal of Contemporary Education*, 15(1), 24–33. <https://doi.org/10.13187/ejced.2016.15.24>
- Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies*, 10(4), 86. <https://doi.org/10.3390/soc10040086>.
- Hartnett, M. (2018). Motivation in distance education. In *Handbook of distance education* (pp. 145–157). New York: Routledge

- Khemani, Bharti, Jewel Sabhani, and Mala Goplani. (2021). Use of a precious commodity-‘Time’ for building skills by teachers for online teaching during pandemic by using decision tree and SVM algorithm of machine learning. In *Proceedings of Third International Conference on Computing, Communications, and Cyber-Security*. Singapore: Springer, pp. 551–65.
- Krishan, I. A., Ching, H. S., Ramalingam, S., Maruthai, E., Kandasamy, P., De Mello, G., Munian, S., & Ling, W. W. (2020). Challenges of Learning English in 21st Century: Online vs. Traditional During Covid-19. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 5(9), 1–15.
- Schwirzke, K., Vashaw, L., & Watson, J. (2018). A history of K-12 online and blended instruction in the United States. In *Handbook of research on K-12 online and blended learning* (pp. 7–20). Pittsburgh: ETC Press.
- Searls, D. B. (2012). Ten simple rules for online learning. *PLoS Computational Biology*, 8(9), e1002631. <https://doi.org/10.1371/journal.pcbi.1002631>.
- Simonson, M. R., Smaldino, S., Albright, M., & Zvacek, S. (2009). *Teaching and learning at a distance: Foundations of distance education*, (4th ed.,). Boston: Allyn & Bacon/Pearson.
- Small, M. (2014). Theoretical implementations of various mobile applications used in English language learning. *Teaching English with Technology*, 14(1), 35–46.
- Smith, A. C., Warren, J. M., & Ting, S. M. R. (2018). *Developing online learning in the helping professions: Online, blended, and hybrid models*. New York: Springer Publishing Company.
- Wei, H. C., & Chou, C. (2020). Online learning performance and satisfaction: Do perceptions and readiness matter? *Distance Education*, 41(1), 48–69. <https://doi.org/10.1080/01587919.2020.1724768>
- Zhang, Y., & Lin, C.-H. (2020). Student interaction and the role of the teacher in a state virtual high school: What predicts online learning satisfaction? *Technology, Pedagogy and Education*, 29(1), 57–71. <https://doi.org/10.1080/1475939X.2019.1694061>