

ENGLISH EDUCATION

English Journal for Teaching and Learning Vol. 08 No. 02 December 2020 pages 138 - 154 http://jurnal.iainpadangsidimpuan.ac.id/index.php/EEJ



Challenges and Strategies using Application in Online Teaching during Pandemic

Fransiska M. Ena Tukan

Universitas Sarjanawiyata Tamansiswa Yogyakarta

e-mail: fransiskatukan08@gmail.com

Abstract This study aims to explain (1) the teacher's challenges using the application in online teaching classroom during the COVID-19 pandemic, and (2) the strategies used by teachers in teaching using the application. The participants of the research were the English teachers at SMA/SMK/MA in Yogyakarta, Gunungkidul, Magelang, and Kebumen. A qualitative method was employed in this research and using interviews via WhatsApp as a data collection technique. The findings showed that teachers had the challenges such as (1) operating the application during online learning, (2) developing the material, assessment, and evaluation in teaching, (3) developing the teaching method, (4) combining the material and application, and (5) motivating the students and parents. The strategies used by the teacher when using the application in teaching such as (1) watching the video tutorial, (2) choosing a suitable application for teaching, (3) arranging the new learning schedule, (4) developing the creativity in designing the material, and (5) giving the simple material and task for the students.

Keywords: Application; Challenges; Online Teaching; Teaching Strategies; Motivation.

Abstrak

Penelitian ini bertujuan untuk menjelaskan (1) tantangan guru menggunakan aplikasi dalam pengajaran kelas online selama masa pandemic COVID-19, dan (2) strategi apa saja yang digunakan guru dalam pengajaran menggunakan aplikasi. Subjek dalam penelitian adalah para guru bahasa Inggris tingkat SMA/SMK/MA dari Yogyakarta, Gunungkidul, Magelang, dan Kebumen. Penelitian ini menggunakan metode kualitatif dan dengan teknik wawancara melalui WhatsApp sebagai proses pengumpulan data. Hasil penelitian menunjukan bahwa tantangan yang dihadapi para guru diantaranya dalam (1) mengoperasi aplikasi selama pembelajaran online, (2) mengembangkan materi, tugas, dan evaluasi dalam pengajaran, (3) mengembangkan metode pengajaran, (4) menggabungkan materi dan aplikasi, dan (5) memotivasi siswa dan orang tua. Strategi yang digunakan guru dalam pengajaran menggunakan aplikasi diantaranya (1) menonton video tutorial, (2) memilih aplikasi yang cocok untuk pengajaran, (3) menyusun jadwal pembelajaran baru, (4) mengembangkan kreativitas dalam membuat materi, dan (5) memberikan materia dan tugas yang lebih mudah kepada siswa.

Kata Kunci: Aplikasi; Tantangan; Pengajaran Online; Strategi Pengajaran, Motivasi.

E-ISSN: 2579-4043 P-ISSN: 2338-8781

INTRODUCTION

As we know in the situation of the COVID-19 pandemic, every people should make a social distance to avoid the spread of this virus. The government should temporarily close the schools, universities, and all public places to avoid the COVID-19 (Bhamani et al. 2020). The normal classroom teaching could not be carried out and the COVID-19 pandemic has made all the entire school system shocks (Johnson, Veletsianos, and Seaman 2020).

The change of the learning system forces the system school should apply the distance education or online learning (Rasmitadila et al. 2020). All schools in the world are announcing about what teacher's expectations, the schools should close their door (Nasr 2020).

As we see in a normal classroom, the teachers usually pass the knowledge to students, and then the students learn from the teacher's instruction. The teachers are responsible to complete the task for each lesson, and the students should complete the learning task based on the instruction (Cheng 2020). But because of the COVID-19 pandemic, the teaching activity at school should be changed from offline to online. The teachers should use the internet for carrying out online teaching with their students.

Teachers are expected to guide their students for learning and give them opportunities for learning by themselves (CiĞerci 2020). If the online learning conducted until the end of the year, it will become the challenges for teachers and students (Atmojo and Nugroho 2020). The environment of teaching online is very different than in the face to face classroom. The formative feedback between a teacher and a student is lost because there are no opportunities for spontaneous. Students are more asked to read the instruction for the task rather than hear the instructions directly from their teachers like in the normal classroom (Martin 2019).

Affected by the COVID-19 pandemic, the schools should know how to make sure the quality of their student's learning activities during the online classroom. At the same time, the teachers also should know how to develop the student's physical and mental in learning during the pandemic (Zhao, Zhou, and Liu 2020). When the teachers are difficult to know the student's individual during the online classroom, it can make them not feel confident in their ability to teach in the online classroom (Haverback 2020).

From this pandemic situation, each teacher should have other strategies for applying his or her teaching through an online classroom. The teachers can not meet the students, as usual, so the teachers should quickly adopt the new teaching method (Yao, Rao, and Xiong 2020). On the other side, teachers should provide feedback in the manner and amount that students can learn most effectively from whilst following up on its effects on their progress and engagement with the subject (Canals and Robbins 2017). The feedback from the students is

based on the evidence of teaching practices (Byrne and Donlan 2020). Commonly the online environment can be controlled but without effective feedback, it makes the learning becomes more difficult (Steele and Holbeck 2018). Each teacher is pushed to more improve themselves in learning and teaching using technology.

The educational system needs to collaborate with technology in education and increase the teacher's awareness of the application in teaching (Al-Takhyneh 2018). Technology in education is not a stranger. Technology has grown so widely across the world. Many technologies have been developed to assist the students in education as reference materials and tools such as courseware, e-learning, web-based learning, mobile application, blended learning, and so on. So, this technology has also taken numerous innovations to add value to education and evaluate digital reference materials (Samsudin et al. 2017).

The advent of ICT comes with its attendance to student's accessibility to information. Information and communication technology whose development is so fast indirectly requires humans to use in all their activities, one of which is in the world of education (Ibrahim and Kadiri 2018). The use of apps can be integrated into educational objectives, it is challenging to the educators and students and also prompting innovations in the teaching and learning process. The app-building is the way for mediating the learning. Teachers and students may gradually find ways to use applications.

However, simply using the applications is not sufficient for supporting educational goals. It needs to formulate the pedagogical strategies which can integrate the elements involved in the teaching and learning process to promote the quality of education (Zaheer et al. 2018). As an educator, the teacher should adapt to the new norm of technology and can enhance the course in teaching. Technology has grown and offered the many tools to help the teachers to teach in the online classroom (Wilson 2018). Besides teaching using the technology, the teacher should consider the role of the internet, the World Wide Web, and the other social media in educating the students in learning (Topacio 2018). The technology becomes special attention particularly in the situation of the COVID-19 pandemic (Ali 2020).

Responding to prepare the online teaching in a COVID-19 situation, The roles, characteristics, competencies, and skills that one requires to be a competent and successful online instructor should be identified and highlighted by educational institutions, online learning organizations and authorities, and online learning theorists (Albrahim 2020). The teachers try to do their best such as figuring out how to effectively respond and support the students on their own. The teachers have an important role in designing the classroom, besides having a good internet connection (Welch et al. 2015). Although, they do not have to

continue to work alone (Tracey Hodges, Cailin Kerch 2020). On the other hand, some of the teachers have their problem in teaching the students using the application in an online classroom during the situation of the COVID-19 pandemic. The ability of teachers in teaching using technology requires the teacher more than understanding the material (Niess and Roschelle 2018). The bad connection can annoy the communication of the classroom. The teacher cannot give clear instructions or explain the material to the students. Some teachers also have problems in operating the application when starting to teach the students. Assessing online learning and instruction is one of the challenges also in online learning (Song 2016).

Therefore, finding the best strategy to solve the problem during teaching the students should be created by the teacher. The teacher should make sure each of his or her students have good learning during the online classroom. If the effectiveness of the online environment is the same one which is considered to be effective to the normal classroom, so it includes the use of multiple pedagogies and learning resources to support student learning needs (S. Lockman and R. Schirmer 2020). Meanwhile, the teacher education period is also important in creating the effectiveness of an education system in this pandemic (Ergunay and Adiguzel 2019).

Teachers should focus on the opportunities to increase the learner's knowledge. Many factors should be noticed by the teacher during the online learning program (Berry 2019). The advance of technology, the speed of connection, and the availability of tools will also help the teacher to improve the online collaboration (Robinson, Kilgore, and Warren 2017). Teachers should use the internet effectively to improve themself, because it has become their obligation (Gültekin et al. 2020) and design the good course to overcome the online teaching challenges (Cross and Polk 2018).

At senior high school (SMK/SMK/MA), some English teachers have tried to use the application in teaching their students during online learning. The teachers usually use Edmodo, WhatsApp, Google classroom, and other applications to teach their students in the online classroom. But sometimes the teachers still have a problem with operating the current applications because it is not their field. Teaching using the applications during learning from home, it pushes the teachers to think more about how to design the material and find a suitable application in his or her class. The expectation of high performance, the respect of learning preference, learning techniques, and time management tasks are necessary for supporting the student's engagement in the class (Tanis 2020). For developing the teaching method, the teacher should make sure that the set of activities can support the virtual environment itself (Fernando Batista et al. 2020). Online learning will be effective if there are

an appropriate learning strategy and method provided by the teachers to teach their students (Silalahi and Hutauruk 2020). So, from the explanation above, this paper the research aims to investigate the challenges using the applications in online teaching classroom during the COVID-19 pandemic, and the strategies used by the teachers to solve their problems in online teaching classroom.

METHOD

To describe the results of the challenges and strategies using the application in an online teaching classroom during the COVID-19 pandemic, the researcher used the qualitative method. The researcher collected the data through the interview via WhatsApp. The researcher prepared some questions and then gave them to the teachers through WhatsApp. This research aimed to know what kinds of challenges faced by the teachers during using the application in an online teaching classroom and what the strategies used by the teachers to solve the problem itself. After collecting the data, the researcher concluded the result.

The subjects of the research were the English teachers from senior high school (SMA/SMK/MA). The research chose five teachers from different schools and regions. They were from Yogyakarta, Kebumen, Magelang, and Gunung Kidul in the 2019/2020 academic year. From the five teachers, the researcher finds out their challenges using the application in online teaching classroom during the COVID-19 pandemic, and what their strategies to solve their problem.

The researcher used the interview as the data collection technique. Some questions were provided by the researcher. The researcher interviewed the teachers via WhatsApp. The researcher asked some questions and then got the teacher's answer. There were some questions used by the researcher for interviewing the teacher. It can be seen as follows:

Table 1. List of interview questions

No	Questions
1	Have you ever used the application for online teaching before the
	COVID-19 pandemic?
2	What is the name of the application that you use in your online
	teaching?
3	Are there difficult things in teaching the students through the
	application?
4	What are your challenges in using the application in an online

No	Questions
	teaching classroom?
5	What are your strategies to solve your problems in online teaching using the application?

The manual analysis of the data was done. The researcher explained the result of the interview via WhatsApp. The data were divided and explained related to the challenges in online teaching using the application and the strategies used by the teacher to solve their problems in online teaching, and then concluded the results of the research.

RESULT AND DISCUSSION

Two points that emerged from the analysis of the current data set: (1) challenges using the application in online teaching classroom; and (2) strategies used in using the application for online teaching.

Table 2. Teacher Opinion

Teacher opinion	Frequency
Challenges using the application in online teaching classroom	
Building student's understanding during teaching using application	1
Developing material into the simple one	1
Developing the best assessment and evaluation for the learning	1
Preparation the material and tools	1
Developing the method in teaching to get the student's interest during	1
the online learning	
Motivate me myself as a teacher and also the students to focus during	1
the online class	
I should find the best way to combine the teaching English and	1
suitable application.	
Difficult to build a good atmosphere in class during teaching through	1
the application	
I need more time to learn about the application for teaching	1
Preparating the material and tools.	1
Sometimes application did not work smoothly	1
Sometimes I lost my student's work because the error system	
Total	

Table 3. Teacher opinion

Teaher Opinion	Frequency		
strategies used in using the application for online teaching			
Use application that is simpel, cheap, and easy to be operated by students. That's why I never used video based apps	1		
Time management such as learning schedule	1		
Open my whatsApp 24/7 so students can contact me anytime they want to discuss about the subjects	1		
Giving the special time for student that used parents phone. Usually they could not join the class but they could contact me in the evening after they parents backed home from work	1		
Developing the creativity in designing the materials, quiz, games, discussion, so students will not noted joining the class	1		
Giving the task that students do not feel difficult to do it	1		
Keep the mindset to learn more about methods that appropriate to apply in the learning	1		
Adapt with the condition	1		
Noted means bored	1		
Using the the reading-mode, searching the tutorial, and sharing with other person who mastering in that field	1		
Give the simple material using video or power point which I made by myself	1		
Give simple assignment related their environment	1		
Give long collecting of the assignment until night after learning process in morning	1		
I just try to create the material as fun as I can	1		
I use to solve my problem in my online learning is that I do not burden my students with so many homeworks, I give my students the material and the task as simple as possible, so that we can pass this online learning in this pandemic situation comfortably	1		
Total	15		

1) The Challenges using the Application in Online Teaching Classroom during the Covid-19 Pandemic

The challenges using the application in online teaching classroom consists of operating the application during online learning; developing the material, assessment, and evaluation

for teaching the students using the application; developing the teaching method in teaching to get the students interested during online learning; combining the material and the suitable application, and motivating the students and parents.

a. Operating the Application During Online Learning

It can be explained that the teachers still have some problems during teaching the students using the applications. Some teachers are familiar with the current applications for teaching and can operate it rightly, but some of the others still have difficulty operating the application to teach.

This problem does not only happen to the teacher, there are still some students who also have a difficulty in operating the application too. That is why the teachers should guide their students before starting their online learning. Teachers also have a problem in controlling the students who do not join the class based on the schedule because they have not their handphones.

"The problem that happens in my teaching such as students did not understand well about how to use those apps, some of them don't use their phone, usually use their parents' phone so students could not join the class as a schedule".

"I need more time to guide the students on how to use the application instead of focusing on the purpose of the teaching.

On the other hand, the internet signal also becomes a big problem when the teacher is still explaining the material. Running out of internet data during online teaching can annoy the learning process.

"Sometimes the apps did not work smoothly during the learning, and Technical problem like internet signal, out of date phone".

"I lost my student's work because of the error system, and I don't know how to fix it because it is not my field".

Most of the teachers still have a difficulty in starting their online teaching when using the new application. A good internet connection also has an important role in applying online teaching. The teachers also should control their students during the learning process.

b. Developing the Material, Assessment, and Evaluation for Teaching the Students Using the Application.

During teaching the online classroom using the application, the teachers still have some problems, especially how to developing the material to make the students can easier understand the material during the online learning through the application.

"The challenges in teaching using applications are how to developing the material into the simplest one, developing the best assessment and evaluation for the learning.

It tells us clearly that in designing the material, assessment, and evaluation during an online teaching classroom, it still becomes a challenge for each teacher. Teaching in an online classroom, the teachers are pushed to find out the best way to design the material for the students and can design a good assessment and evaluation for their students.

c. Developing the Teaching Method in Teaching to Get the Students Interested During Online Learning.

The teachers mentioned that they have some problems when getting his students do not understand the material during doing the online class using the application. And it is right, some of the students cannot understand the material clearly during the class running on, and some of the others do not enjoy the online classroom.

"The challenges are to develop the method of teaching to get students' interest during online learning."

When getting their students cannot understand the material well during the online class, it makes the teachers should rethink to find the method of teaching the students.

d. Combining the Material and the Suitable Application

During online teaching classrooms using the application, sometimes the teachers are still confused to find out the best way how to combine the material with a suitable application. The teacher should find the appropriate applications which can support his or her teaching in the online classroom.

"I should find the best way to combine teaching English and suitable application". "The challenges in teaching online are how to prepare the material and tools".

Many applications can be used in online teaching, but not all of them can support the learning goal itself. The teachers should know which the better one of the applications that can support their classes and make the students are easier to learn the material through the application that is suggested by their teachers at home.

e. Motivating the Students and Parents

Teaching the students using the application during the online classroom, the teachers have the challenges in how to motivate the students to learn and make the parents understand the situation right now.

"Motivate me as a teacher, the students to focus, and also a parent's mindset"

All teachers realize that the situation right now does not support the class face to face. In an online classroom, sometimes it makes the students are bored when learning with the application. The teachers have the responsibility to motivate their students to learn from home and convince the student's parents to always support their children in learning during the online classroom. During online learning, teacher and parent have an important role in controlling the students in learning and doing their assessment.

2) The Strategies in the Online Teaching Classroom Using the Application During the COVID-19 Pandemic

The strategies used by the teachers consist of watching the video tutorial; choosing suitable applications, arranging the schedule, developing creativity to design the material; and giving simple material and tasks.

a. Watching the Video Tutorial

When getting the problems during the online classroom, the teachers try to watch the video tutorial for understanding how to operate the applications rightly. Because it is not their field, some teachers still have difficulty in operating the current applications.

"There are several difficulties in teaching English using the current application".

Because having a difficulty in operating the applications, so they need another guiding to solve their problem.

"I use the reading-mode, searching the tutorial, and sharing with another person who mastering in that field".

When watching the video tutorial, the teachers can try to find out their solution in online teaching. When they know how to operate the applications, the teachers can apply the application in their online classroom. Besides watching the tutorial, the teachers also ask their friends or other people who mastering with technology.

b. Choosing Suitable Applications for Teaching

The strategies to help the students in learning using the application in the online classroom, the teachers try to find out the suitable applications that can be easier to operate and it also is cheaper.

"I use an application that is simple, cheap, and easy to be operated by students. That's why I never used video-based apps"

Choosing suitable applications for teaching is important. Not all applications can support the material. The teachers should find out the good applications which can help them to deliver the knowledge well to their students during the running of the class.

c. Arranging the New Learning Schedule

During teaching the online classroom using the application, the teachers should arrange the new learning schedule for their classes. It can help the students to remember the schedule and can remind the student's parents to control and help their children in learning from home. "The strategies in teaching are time management such as learning schedules. Open my WhatsApp 24/7 so students can contact me anytime they want to discuss the subjects. Giving a special time for the student that used parents phone. Usually, they could not join the class but they could contact me in the evening after their parents back home from work".

The teacher should prepare time management, the teacher also provides more time for the students who want to consult about the material after the class.

d. Developing Creativity in Designing the Material

Teaching using the application forces the teacher to more creative in designing the material based on the situation right now. To make the students are not bored with the online classroom, the teacher should create more fun activities to make the learning class can run effectively.

"The strategies I used such as developing the creativity in designing the materials, quizzes, games, discussion, so students will not note joining the class. Giving the task that students do not feel difficult to do it. Keep the mindset to learn more about methods that appropriate to apply in the learning. Adapt to the condition". "Teaching using google classroom and give simple material using video or PowerPoint which I made by myself, give simple assignments related to their environment, and give long collecting of the assignment until the night after the learning process in the morning.

Developing the creativity in designing the material, the teacher also opens a discussion session with the student to know how far their understanding of the material, and also what are their difficult things during the online learning. The teacher also tries to design the games for their students and gives some quizzes, it aims to make the students are not bored in learning.

e. Giving the Simple Material and Task to the Students

The teachers try to solve their problems during teaching online classroom using the application. They try to limit the assignment to the students.

"The strategy I use to solve my problem in my online learning is that I do not burden my students with so many homework, I give my students the material and the task as simple as possible so that we can pass this online learning in this pandemic situation comfortably".

When students have much homework, they can get bored with learning. The teachers can give simple material and tasks that can be understood by the students. Teachers are hoped to give their best way in online teaching classrooms through the applications. There is a way that can be used by a teacher in guiding their students during online learning.

In online teaching, most teachers still have the challenges in using the application to support their learning process. The finding shows that the teachers still have some problems during operating the application in their classroom. Some teachers are familiar with the current application in teaching, but some of the others still have difficulty in operating it rightly.

In teaching the online classroom, the teacher should make sure that all of the students are ready for joining the class or not yet. Before starting the online classroom, the teacher should provide more times to guide their students to join the class through the application. a good internet connection and data phone also have an impact on the learning process. It can become a big problem for the teachers when having a bad connection or out of data phone during the class is running on. The success of the online learning process depends on the teachers, and how the teachers can adapt to the situation of the class itself and control their students in the learning process.

In an online teaching classroom, the teachers still have the challenges to develop the material for the teaching, assessment, and evaluation of the class. Most of the teachers say that they should prepare more time to develop the material that they will teach to the students. Learning through the applications, sometimes it makes the class does not run effectively, and the teachers realize about it. When giving the task after the end of the class, the teacher should make sure that the task can be done by the students or not. The teachers cannot guide their students directly, so they should contact the student's parents to always controlling their children in learning and finishing the task. Evaluation of the learning process also determines the class runs effectively or not. The teachers have an important role in class.

The teachers need to be more creative in developing their teaching methods in their online classrooms. As we know the normal classroom is very different from the online classroom. The teachers cannot see their students and control them directly. That is why the teachers should provide the other method that can support their teaching in the online classroom. When the students are getting bored during the class, it is difficult for the teachers to controlling the class well. Fourthly, combining the material and application. It is a challenge for the teachers when they combine the material with the application, they should know whether the application can support their teaching or not, whether the application can help the students are easy to understand the material or not, and whether the students can have new knowledge or not. In teaching listening, speaking, reading, and writing, the teachers have different strategies for each subject.

Most teachers realize that teaching through applications sometimes make them feel so tired and bored. Preparing many tools for learning, finding the teaching method, creating the material, assessment, and evaluation, sometimes it makes the teachers are stress. Sometimes

the teachers say that they have difficulty motivating themselves for teaching in the online classroom and push themselves to adapt to the situation right now. On the other side, teachers should always control the learning process of their students during an online classroom. It is a challenge for the teachers because they should always monitor their students. Each student has a different motivation in learning the material. So, the teachers should keep on the student's motivation in learning. Because the student's parents also have an important role during learning from home, the teachers should also have a good relationship with the student's parents. Sometimes the students' parents can understand the situation right now and can control their children in learning, but some of the others are difficult for it. The teachers should motivate the parents to always guide their children in learning.

Although teaching using the application for online learning is the best choice for this situation, the teacher should rearrange the new learning schedule and method to teach their students in an online classroom. Not all of the teachers can cover their online teaching through the application. Teachers should think about how to prepare themselves for finding their students in the online classroom. Because the teacher cannot control the students directly, it is hard for them to make sure how far their understanding of the material. Some of the students are easy to learn when they are guided by their teacher during online learning, but some of the others need more attention. The strategies and material which are designed by teachers have an impact on the online learning process.

Some challenges above, we know that the teachers are pushed to find their best strategies to apply their online classroom during the pandemic. Some strategies such as watching some video tutorial about teaching using an application on YouTube, it can help the teachers to learn how to operate the application, and choose the appropriate one to apply in their classroom. The teachers should choose a suitable application for their teaching material because each application has a different role. During online learning, the teacher also should rearrange the new schedule for their class. The schedule aims to help the teachers to control the students during learning from home. The teacher can work with parents to help the students to manage their time to learn from home. The impact of online teaching, the teachers cannot control their students directly. Therefore, the teachers should design the material and task to the simple one. It means the students can easier to understand the material by themselves. There are some strategies chosen by the teachers when getting problems in online teaching. Each teacher has different problems in applying online teaching, so it depends on the teachers. Designing the simple material and tasks hopefully helps the students in learning individually at home.

CONCLUSION

Using the application in an online teaching classroom is the best choice in this pandemic situation because the normal classroom cannot be carried out. Each teacher should redesign their strategies and methods for teaching their students in the online classroom. The result of the research shows that some of the teachers are familiar with the application for teaching, but some of the others do not. They still need a guide to learn the application. The strategies used by the teachers to solve their problems in using the application for online teaching classrooms such as watch the video tutorial and discuss their problems with their friends especially for how to apply the application in their online classroom. The applications are usually used by the teachers in online teachings such as WhatsApp, Instagram, Google classroom, Quizzes, Aegisub, Zoom, Webex, and others. The impact of this situation, the teachers should improve themselves to learn more about the technology and find their teaching solution itself. The teachers should rearrange the new schedule, and it can help them to teach effectively. Teaching and learning in this situation have challenges for the teachers, but when the teachers want to open themselves for learning the technology; of course, they can develop themselves and create their online classroom well. The teachers have an important role in their class and students. Learning with other people is also the best way to find out the answer to our question during getting the problem. The teachers should change their way of teaching and provide more interesting learning for their students. With new strategies, hopefully, can help the teacher and students to run their duty.

REFERENCES

- Albrahim, Fatimah A. 2020. "Online Teaching Skills and Competencies." *The Turkish Online Journal of Educational Technology* 19 (1): 12.
- Ali, Wahab. 2020. "Online and Remote Learning in Higher Education Institutes: A Necessity in Light of COVID-19 Pandemic." *Higher Education Studies* 10 (3): 16. https://doi.org/10.5539/hes.v10n3p16.
- Al-Takhyneh, Bahjat. 2018. "Attitudes towards Using Mobile Applications in Teaching Mathematics in Open Learning Systems." *International Journal of E-Learning & Distance Education* 33: 16.
- Atmojo, Arief Eko Priyo, and Arif Nugroho. 2020. "EFL Classes Must Go Online! Teaching Activities and Challenges during COVID-19 Pandemic in Indonesia." *Register Journal* 13 (1): 49–76. https://doi.org/10.18326/rgt.v13i1.49-76.

- Berry, Sharla. 2019. "Teaching to Connect: Community-Building Strategies for the Virtual Classroom." *Online Learning* 23 (1). https://doi.org/10.24059/olj.v23i1.1425.
- Bhamani, Shelina, Areeba Zainab Makhdoom, Vardah Bharuchi, Nasreen Ali, Sidra Kaleem, and Dawood Ahmed. 2020. "Home Learning in Times of COVID: Experiences of Parents." *Journal of Education and Educational Development* 7 (1): 9. https://doi.org/10.22555/joeed.v7i1.3260.
- Byrne, Virginia L, and Alice E Donlan. 2020. "Presenting a Validated Mid-Semester Evaluation of College Teaching to Improve Online Teaching." *Online Learning* 24 (2). https://doi.org/10.24059/olj.v24i2.2126.
- Canals, Laia, and Jackie Robbins. 2017. "An Exploratory Study of Feedback Practices for Written and Oral Tasks in an Online English Course." Edited by Kate Borthwick, Linda Bradley, and Sylvie Thouësny. *CALL in a Climate of Change: Adapting to Turbulent Global Conditions Short Papers from EUROCALL* 2017, December, 62–66. https://doi.org/10.14705/rpnet.2017.eurocall2017.690.
- Cheng, Xiaoqiao. 2020. "Challenges of 'School's Out, But Class's On' to School Education: Practical Exploration of Chinese Schools during the COVID-19 Pandemic." Science Insights Education Frontiers 5 (2): 501–16. https://doi.org/10.15354/sief.20.ar043.
- CiĞerci, Fatih Mehmet. 2020. "Slowmation Experiences of Pre-Service Teachers Via Distance Education During the COVID-19 Pandemic Disease." *International Online Journal of Primary Education* 9 (1): 17.
- Cross, Ted, and Laura Polk. 2018. "Burn Bright, Not Out: Tips for Managing Online Teaching." *Journal of Educators Online* 15 (3). https://doi.org/10.9743/jeo.2018.15.3.1.
- Ergunay, Onur, and Oktay Cem Adiguzel. 2019. "The First Year in Teaching: Changes in Beginning Teachers' Visions and Their Challenges." *Qualitative Research in Education* 8 (3): 276. https://doi.org/10.17583/qre.2019.4016.
- Fernando Batista, Alex, Marcello Thiry, Rafael Queiroz Gonçalves, and Anita Fernandes. 2020. "Using Technologies as Virtual Environments for Computer Teaching: A Systematic Review." *Informatics in Education*, June, 201–21. https://doi.org/10.15388/infedu.2020.10.
- Gültekin, Okan, Sabriye Erkaplan, Hatice Uzun, and Esra Güney. 2020. "Investigation of Academic Staff's Self-Efficacy Using the Educational Internet." *Higher Education Studies* 10 (3): 26. https://doi.org/10.5539/hes.v10n3p26.
- Haverback, Heather Rogers. 2020. "Middle Level Teachers Quarantine, Teach, and Increase Self-Efficacy Beliefs: Using Theory to Build Practice During COVID-19." Middle Grades Review 6 (2): 7.

- Ibrahim, Aisha Abdullahi, and Goodluck Chinenye Kadiri. 2018. "Integrating Mobile Phones in Teaching Auditory and Visual Learners in an English Classroom." *English Language Teaching* 11 (12): 1. https://doi.org/10.5539/elt.v11n12p1.
- Johnson, Nicole, George Veletsianos, and Jeff Seaman. 2020. "U.S. Faculty and Administrators' Experiences and Approaches in the Early Weeks of the COVID-19 Pandemic." *Online Learning Journal* 24 (2). https://doi.org/10.24059/olj.v24i2.2285.
- Martin, Jeffrey. 2019. "Building Relationships and Increasing Engagement in the Virtual Classroom: Pratical Tools for the Online Instruction." JOURNAL OF EDUCATORS ONLINE 16: 8.
- Nasr, Nancy. 2020. "Teachers as Students: Adapting to Online Methods of Instruction and Assessment in the Age of COVID-19." ELECTRONIC JOURNAL FOR RESEARCH IN SCIENCE & MATHEMATICS EDUCATION, 4.
- Niess, Margaret L, and Jeremy Roschelle. 2018. "Transforming Teacher's Knowledge for Teaching Mathematics with Technologies through Online Knowledge-Building Communities." *Journal of Asynchronous Learning Networks*, 19.
- Rasmitadila, Rasmitadila, Rusi Rusmiati Aliyyah, Reza Rachmadtullah, Achmad Samsudin, Ernawulan Syaodih, Muhammad Nurtanto, and Anna Riana Suryanti Tambunan. 2020. "The Perceptions of Primary School Teachers of Online Learning during the COVID-19 Pandemic Period: A Case Study in Indonesia." *Journal of Ethnic and Cultural Studies* 7 (2): 90. https://doi.org/10.29333/ejecs/388.
- Robinson, Heather A., Whitney Kilgore, and Scott J. Warren. 2017. "Care, Communication, Support: Core for Designing Meaningful Online Collaborative Learning." *Online Learning* 21 (4). https://doi.org/10.24059/olj.v21i4.1240.
- S. Lockman, Alison, and Barbara R. Schirmer. 2020. "Online Instruction in Higher Education: Promising, Research-Based, and Evidence-Based Practices." *Journal of Education and E-Learning Research* 7 (2): 130–52. https://doi.org/10.20448/journal.509.2020.72.130.152.
- Samsudin, Mat Redhuan, Tan Tse Guan, Anuar Mohd, and Mohd Firdaus Che Yaacob. 2017. "A Review of Mobile Application Characteristics Based on Teaching and Learning Theory for Mute and Deaf Students." International Journal of Technology in Education and Science (IJTES) 1 (1): 6.
- Silalahi, Tiodora Fermiska, and Ahmad Fakhri Hutauruk. 2020. "The Application of Cooperative Learning Model during Online Learning in the Pandemic Period" 3: 9. Budapest International Research and Critics Institute-Journal (BIRCI-Journal). https://doi.org/10.33258/birci.v3i3.1100.

- Song, Liyan. 2016. "What Online Success Means to Online Instructors: A Grounded Theory Investigation." *International Journal of Technology in Teaching and Learning*, 10.
- Steele, John, and Rick Holbeck. 2018. "Five Elements That Impact Quality Feedback in the Online Asynchronous Classroom." *Journal of Educators Online* 15 (3). https://doi.org/10.9743/jeo.2018.15.3.10.
- Tanis, Cynthia Janet. 2020. "The Seven Principles of Online Learning: Feedback from Faculty and Alumni on Its Importance for Teaching and Learning." Research in Learning Technology 28 (0). https://doi.org/10.25304/rlt.v28.2319.
- Topacio, Katrina Ninfa M. 2018. "Exploring the Use of Online Educational Platform in Teaching Writing among ESL Students,". CALL in a Climate of Change: Adapting to Turbulent Global Conditions short papers from EUROCALL 2017.16.
- Tracey Hodges, Cailin Kerch, Melisa Fowler. 2020. "Teacher Education in the Time of COVID-19: Creating Digital Networks as University-School-Family Partnerships". *Middle Grades Review*. 6 (2).
- Welch, Anita G, Don Orso, Joan Doolittle, and Shaljan Areepattamannil. 2015. "Matching Student Expectations with Instructors' Dispositions: Insight into Quality of Online Teaching." *The Jurnal of Effective Teaching* 15: 15.
- Wilson, Stefanie D. 2018. "Leading Edge Online Classroom Education: Incorporating Best Practices Beyond Technology." *American Journal of Business Education* (*AJBE*) 11 (3): 41–48. https://doi.org/10.19030/ajbe.v11i3.10187.
- Yao, Jijun, Jialong Rao, and Changqian Xiong. 2020. "What Role Should Teachers Play in Online Teaching during the COVID-19 Pandemic? Evidence from China." *Science Insights Education Frontiers* 5 (2): 517–24. https://doi.org/10.15354/sief.20.ar035.
- Zaheer, Shazia, Saad Masood Butt, Gnevasheva Vera Anatolyevna, and Hosna Salmani. 2018. "Do Mobile Technology in the Classroom Really Improve Learning Outcomes?" *International Journal of Evaluation and Research in Education* (*IJERE*) 7 (3): 188. https://doi.org/10.11591/ijere.v7i3.13426.
- Zhao, Nan, Xinyi Zhou, and Wei Liu. 2020. "Guiding Teaching Strategies with the Education Platform during the COVID-19 Epidemic: Taking Guiyang No. 1 Middle School Teaching Practice as an Example." *Science Insights Education Frontiers* 5 (2): 531–39. https://doi.org/10.15354/sief.20.rp005.