# TEACHERS' CHALLENGES AND PERCEPTIONS TOWARDS THE IMPLIMENTATION OF EMERGENCY REMOTE TEACHING DURING PANDEMIC COVID-19

## YONG KEOW LEE

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School of Education
Faculty of Social Sciences and Humanities
Universiti Teknologi Malaysia

# **DEDICATION**

To my beloved father and mother, my husband and son.

And to all educators and learners who are fighting hard out there. Stay strong and keep inspiring.

## **ACKNOWLEDGEMENT**

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## **ABSTRACT**

The coronavirus (Covid-19) which raging around the world in 2019 has claimed the lives of nearly 400,000 people in the world and has brought tremendous changes to mankind in this century, including education sector. In order to stop the spread of the epidemic, all schools and institutions must be closed, both students and teachers had to adopt remote teaching methods they have never used to ensure the continuity of education and learning. In a state of emergency where most educators have never received any training, they faced numerous obstacles. This study was conducted to identify the challenges teachers faced when conducting emergency remote teaching, to investigate teachers' perceptions towards the implementation of emergency remote teaching as well as to identify the interrelationship between teachers' challenges and teaching implications. This research adopted qualitative research design using a case study method. A purposive sampling method was employed to sample 10 Malaysian public elementary school teachers, a semistructured interviews were conducted to gain the insight of teachers' challenges and perceptions. After an analysis of using thematic analysis, and a facilitation of Nvivo 12 programme, six main themes emerged on teachers' challenges, namely directing gateway, lack of skill and knowledge, unable to meet all needs, unable to engage students, lack of support from parents, and having no proper guideline. For teachers' perception, six main themes were emerged which are, new opportunity, negative influence on students, leadership is the key, motivation and enthusiasm, effectiveness, and family background. Research indicated teachers' challenges faced affected teacher's self-efficacy and influenced teaching implications during and after pandemic. It is fairly crucial to listen to teachers' voices, so we could gain information about how teachers can be supported to benefit learners and the communities. The integrating of flexibility, resilience effective collaboration and communication from all stakeholders regarding future plans and compile thinking to support the most vulnerable learners is important.

## **ABSTRAK**

Coronavirus (Covid-19) yang berkecamuk di seluruh dunia pada tahun 2019 telah meragut nyawa hampir 400,000 orang di dunia. Coronavirus telah membawa perubahan besar bagi manusia pada abad ini, termasuk sektor pendidikan. Untuk menghentikan penyebaran wabak ini, semua sekolah dan institusi mesti ditutup, kedua-dua pelajar dan guru harus menggunakan kaedah pengajaran jarak jauh yang tidak pernah mereka gunakan untuk memastikan kesinambungan pendidikan dan pembelajaran. Dalam keadaan darurat di mana mereka tidak pernah mendapat latihan, guru menghadapi banyak rintangan. Kajian ini dilakukan untuk mengenal pasti cabaran yang mereka hadapi ketika melakukan pengajaran jarak jauh kecemasan, untuk menyelidiki persepsi guru terhadap pelaksanaan pengajaran jarak jauh kecemasan serta untuk mengenal pasti hubungan antara cabaran guru dan implikasi pengajaran. Penyelidikan ini menggunakan reka bentuk kajian kualitatif dengan menggunakan kaedah kajian kes. Kaedah pensampelan bertujuan digunakan untuk mengambil sampel 10 guru sekolah rendah awam Malaysia, wawancara separa berstruktur dilakukan untuk mendapatkan gambaran mengenai cabaran dan persepsi guru. Setelah analisis menggunakan analisis tematik, dan fasilitasi program Nvivo 12, terdapat enam tema utama yang muncul mengenai cabaran guru, iaitu mengarahkan pintu masuk, kekurangan kemahiran dan pengetahuan, tidak dapat memenuhi semua keperluan, tidak dapat melibatkan pelajar, kekurangan sokongan daripada ibu bapa, dan tidak mempunyai garis panduan yang betul. Untuk persepsi guru, enam tema utama muncul yaitu, peluang baru, pengaruh negatif pada siswa, kepemimpinan adalah kunci, motivasi dan semangat, keberkesanan, dan latar belakang keluarga. Penyelidikan menunjukkan bahawa cabaran guru yang dihadapi mempengaruhi keberkesanan diri guru dan mempengaruhi implikasi pengajaran semasa dan selepas wabak. Dengan mendengar suara guru, kita dapat memperoleh maklumat tentang bagaimana guru dapat disokong untuk memberi manfaat kepada pelajar dan masyarakat. Penggabungan fleksibiliti, ketahanan kolaborasi dan komunikasi yang berkesan dari semua pihak berkepentingan mengenai rancangan masa depan dan menyusun pemikiran untuk menyokong pelajar yang paling rentan adalah penting.

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# LIST OF ABBREVIATIONS

ERT - Emergency remote teaching

Covid-19 - The coronavirus

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## **CHAPTER 1**

## INTRODUCTION

## 1.1 Introduction

This research intends to assess the challenges and perception of teachers towards the implementation of emergency remote teaching during pandemic Covid-19 in elementary school in Johor. Besides the background and statement of the problem, this chapter also includes the objectives and the importance of the study. The scopes, limitations and operational definitions had been discussed in detail as well.

Pandemic of Covid-19 which struck the world in 2019 has dreadfully forced a global shut down of educational activities. This has caused a frightful crisis-response where universities, secondary schools as well as primary schools prompted online learning to serve as the alternative educational platform. In April 2020, Malaysia Ministry of Education had sent forth an initiatory emergency policy - Suspending Classes without Stopping Learning, which meant sustaining teaching activities when all the schools in the country were closed to stop the spread of the virus. All teachers and students under the Ministry of Education Malaysia were entitled to a registered email account and free access to use any Google applications to continue teaching and learning activities. Teachers were encouraged to implement Google Classroom as a platform to share contents and materials. Some teachers use WhatsApp to deliver tutoring sessions and assessments via voice note. A compulsory modification in education administrators, instructors and learners has resulted in the migration of traditional brick and mortar classroom teaching to online teaching.

## 1.2 Background of Study

According to Quick Facts Malaysia Education Statistics, nearly 50% of elementary school teachers in Malaysia are digital immigrants who were born before the year of 1980. As (Schmidt et al., 2009) mentioned,

"Teachers often have inadequate (or inappropriate) experience with using digital technologies for teaching and learning. Many teachers earned degrees at a time when educational technology was at a very different stage of development than it is today. It is, thus, not surprising that they do not appreciate its value or relevance to teaching and learning."

(Schmidt et al., 2009)

In line with Schmidt's argument, (Prensky, 2009; Schmidt et al., 2009) also stated that "not only do these identified teachers think differently, but they may also process information, not through a technologically wired system, but a foundational locus based on more traditional, linear reading and writing literacy patterns, which may lead to many challenges faced in the classroom".

As schools were closed due to pandemic Covid-19, these primary school teachers were urged to shift from face-to-face teaching to online teaching when students were not able to go to school. Since they have a little or no training in conducting online teaching, and yet online teaching is totally different from what they were trained for. The migration from a face-to-face teaching system into an online system that had never been implemented or trained before tended to lead to a tremendous problem.

The researcher conducted a preliminary survey among public elementary school teachers. The result shows that some teachers experienced difficulties in preparing digital content before conducting online teaching. They also encountered frustration when dealing with parents and students who have low or no digital literacy. During the time these teachers conducted online teaching, they were educators as well

as technicians who supported all technical problems which were faced by students and parents. Some of them even revealed that they were actually performing two tasks on the same screen, one window is for teaching, the other window is Google or YouTube video showing the steps of presenting the digital content. All the awkward moments caused unpleasant teaching and learning experiences for both teachers and students.

It is thus this research aimed to assess the challenges of elementary educators in Johor when conducting emergency remote teaching during pandemic Covid-19. The researcher offers a small sample of what kinds of challenges were encountered by these educators and how they perceived the implementation of emergency remote teaching during pandemic Covid-19.

#### 1.3 Statement of Problem

Instead of saying that as an ad hoc transformation to online learning, there is a more appropriate term to address this situation – emergency remote teaching, which represents "a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances" (Ferri, Grifoni, & Guzzo, 2020a). As (Charles Hodges, 2020) mentioned in his research, emergency remote teaching is totally different from online learning. The in-depth study of the implementation of emergency remote teaching among these elementary school teachers could give us an insight of challenges that teachers faced and their perception, their readiness towards online learning in the future.

Although we address this implementation as emergency online teaching, however, we do not know when this emergency crisis would fade. It is possible that even with an effective vaccine, there will be a prolonged post-pandemic recovery of another two to three years. We eagerly need a voice from our education front-liner to develop an appropriate teaching framework to ensure the continuity, integrity and quality of nation education.

As this emergency remote learning became a catalyst to educational technology, this study aimed to explore teachers' challenges and perception of implementing emergency remote teaching during pandemic in order to gain valuable insights about the challenges they had faced and their implementation of teaching online. This is also important in future as other researchers could use it further to develop a more appropriate model or pedagogy to suit the needs of elementary students and teachers.

## 1.4 Research Objective

The objectives of this study are as follow:

- I. To identify challenges faced by elementary teachers in conducting emergency remote teaching during pandemic Covid-19
- II. To investigate teachers' perception on implementation of emergency remote teaching during pandemic Covid-19.
- III. To identify interrelationship between teachers' challenges and teaching implications

## 1.5 Research Questions

The purpose of this study was to understand the perception and challenges faced by elementary teachers who had conducted emergency remote teaching during pandemic Covid-19. There were two research questions in this study. The research questions were stated as follows:

- I. What are teachers' challenges in conducting emergency remote teaching during pandemic Covid-19?
- II. What are teachers' perceptions towards the implementation of emergency remote teaching during pandemic Covid-19?
- III. What is the interrelationship between teachers' challenges and teaching implication?

# 1.6 Conceptual Framework

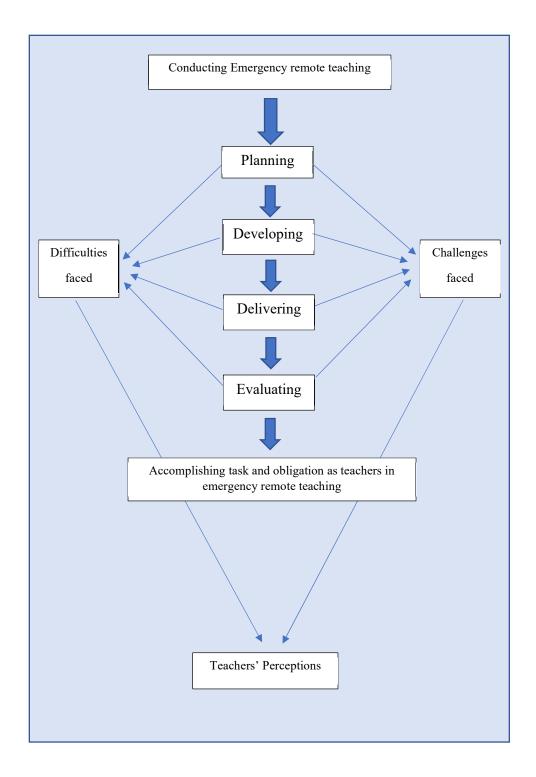


Figure 1.1 Conceptual framework of the study

The researcher explores public elementary school teachers' perceptions and challenges faced in conducting emergency remote teaching during pandemic Covid-19 using a distinct conceptual framework.

As these elementary school teachers received their training during the time when Covid-19 did not exist. They were trained to conduct instructional activities in face-to-face format. Before the pandemic, these teachers carried their duty based on the contents and materials which were designed to be taught in face-to-face format to achieve the learning goals which were set to best suit the face-to-face learning environment. In the context of pandemic Covid-19, all schools were closed and these teachers had to change their teaching mode from face-to-face into online teaching as an emergency mechanism which they have had no experience with before.

Teachers experienced great changes in their working environment as well as format. In terms of planning, teachers had to embrace different instructional media, mediums and strategies for instruction; in terms of preparation, they had to develop digital-based materials to be delivered online; in terms of delivering, they had to adapt to online teaching which they had never undergone any professional training before. Besides assigning online assessment, they also had to evaluate students' performance to determine the effectiveness of the pedagogy as well as students' learning progress.

This process formed a distinct experience when teachers and all stakeholders were not ready or unprepared to take on the remote teaching and learning. By exploring the challenges they faced during the experience could help us explore the weakness and the strength of the implementation, and investigate the key factors that affect the implementation. As these teachers were the key players in future remote teaching programs, their sharing of experiences and perceptions were fairly important to the future implication.

Thus, the researcher adopted a qualitative case study design method to explore the challenges and the perceptions of public elementary school teachers towards the implementation of emergency remote teaching during pandemic Covid-19.

## 1.7 Research Rationale

The rationale of conducting this study was to explore the perceptions and challenges faced by Malaysian public elementary school teachers who had conducted emergency remote teaching during pandemic Covid-19. The study was a qualitative study gathering data from in-depth individual semi-structured interviews. A case study framework would be utilized to explore the challenges faced by elementary school teachers and how elementary teachers perceive the implementation of emergency remote teaching during pandemic Covid-19.

## 1.8 Research Importance

There is a need to have more in-depth research on teachers' challenges and perception in conducting emergency remote teaching during pandemic Covid-19 as this can contribute to the adoption of educational technology in the future. The collaboration of teachers' perceptions and experience can help clarify what stakeholders could do in order to support teachers in accomplishing tasks. This not only would benefit teachers, but also the learners as well as the community. Last but not least, the current study is considered the first and foremost step for the future solution and adoption to develop a better remote learning framework for educational ecology.

## 1.9 Research Scope and Limitation

This section discussed about the scope and the limitation of the study. Scope and limitation of the study is essential as it was set as the boundary as well as to steer the study into the right direction.

## 1.9.1 Research Scope

The purpose of this study was to explore the essence of challenges and perceptions among public elementary teachers who have adopted emergency remote teaching during pandemic Covid-19. In this case study, the researcher explored teachers' perceptions and challenges faced in implementation of emergency remote teaching. The participants of this study included teachers who teach Bahasa Malaysia and English subjects in public elementary schools in Johor.

## 1.9.2 Limitation

There are few limitations in this study. First, this study is aimed to explore teachers' perception and challenges faced in emergency remote teaching. As this study only focused on a small sample of teachers who teach language subjects, hence the result and findings could not generalize to all teachers. The other limitation of this research is that this study only includes Johor public elementary school teachers who have at least five years of teaching experience in public elementary schools with good internet connection. This study excludes all teachers who faced poor infrastructure or facilities problems like internet connection. The rationale of excluding these teachers is because we can't do much improvement in developing national infrastructure and facilities although it is the most common challenge faced by educators from all over the world.

## 1.10 Operational Definitions

This section discussed about the operational definition in this research. The operational definition is important as it clarified the terms used in the study as well as to standardize data.

## 1.10.1 Challenges

Challenges were characterised as a difficulty, a barrier or a problem which arises in a confronted situation. In order to overcome this difficulty, barrier or problem, the person had to make a special effort mentally, physically or financially to get things done. (Sedrakyan, Marandzhyan, Aismontas, & Tyulikova, 2018) Simply put, challenges were difficulties or problem faced which requires great efforts, perseverance, and determination to deal with a set of situations to overcome (Adedokun-Shittu & Shittu, 2015; Maboe, 2019; Schnackenberg, 2021; Vaidya & Ali, 2021; Wang, 2011). In this study, the researcher studies the teachers' challenges and difficulties they have had in the process of conducting emergency remote teaching during pandemic Covid-19.

## 1.10.2 Perceptions

As (Efron, 1969) stated "perception is man's primary form of cognitive contact with the world around him." "Perception is not something that happens to us or in us. It is something we do. It is the process of attaining awareness or understanding of sensory information (Noë & Noë, 2004)." The word "perception" which was 'perceptio' in Latin means "receiving, collecting, action of taking possession, and apprehension with the mind or senses." The perception process consists of three stages: selection, organization, and interpretation (Qiong, 2017). In this study, perception is how a perceiver perceives what he or she did in the past.

Here, the researcher aimed to explore teachers' perception on the implementation of emergency remote teaching.

# 1.10.3 Teaching

As (Brophy, 1999) mentioned in a book of 'Teaching', to support an effective instruction, there are twelve principles which cover all aspects from curriculum, instruction, assessment, classroom organization and management practices. The twelve principles included supportive classrooms which offered opportunity to learn, aligned curricula which contained coherent content and thoughtful disclosure, learning orientation which established functional practice and applications activities, engaged learners with scaffolding task and strategy teaching, expected learners' achievement with goal-orientated assessment(Brophy, 1999). The teaching variables mentioned here "is the process of attending to people's needs, experiences and feelings, and intervening so that the students learn particular things, and go beyond the given." It this study, teaching is the process of how the public elementary school teachers carry out their instructional duty in school closure during pandemic Covid-19.

## 1.10.4 Covid-19

Covid-19 is a short form of Coronavirus Disease. Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Covid-19 was declared a pandemic by the World Health Organisation (WHO) in 2019. People infected with the coronavirus will experience mild to moderate respiratory diseases. The patient can heal on his own without receiving special treatment. Generally, elderly, people with cardiovascular or chronic diseases or cancer patients are prone to severe illness and death. The common way to prevent the transmission of the virus is to practise social distancing and hygienic etiquette, like washing hands and wearing masks. As the disease spreads rapidly over the world, in consideration of safety, many schools and institutions have been closed to stop the spread of the virus.

However, to ensure the continuity of education, policy makers have urged educators to shift educational activities online. Although there is not any effective vaccine for this highly contagious disease, and it is still going widely and deeply at the second when this research is conducted, the Covid-19 period in this research refers to a time from Mar to December 2020.

## 1.10.5 Emergency Remote Teaching

Malaysia government has closed all schools including higher education in Mar of 2020 in order to stop the spread of coronavirus. Meanwhile the Minister of Education has ordered all teachers and educators to work from home and continue teaching activities. In July 2020, all teachers and students are allowed to go back to school. However, this did not last long. In November 2020, Malaysia government closed all schools again to the last day of the 2020 academic calendar year. The emergency remote teaching mentioned in this research referred to these two periods, which are from Mar to July 2020, and from November to December 2020

## 1.10.6 Elementary School

Pre-School, Primary School, Secondary School, Pre-Graduate and Higher Education formed the five stages of formal education in Malaysia. There are two categories in public primary school in Malaysia in which *Sekolah Rendah Jenis Kebangsaan (SJK)* and *Sekolah Rendah Kebangsaan (SK)*. The difference between SJK and SK was the instructional medium language where SJK used either Chinese or Tamil and SK used Malays as medium language. All the children in Malaysia are required to receive six years of primary education and begin primary education at the age of 7. This research focused on the emergency remote teaching which was conducted in public elementary schools.

# 1.11 Summary

This chapter presented an introduction containing background of study information that is related to the emergency remote teaching conducted by elementary school teachers in Johor. The objective of the study is to explore the challenges faced by public elementary school teachers in emergency remote teaching, and their perception towards implementation of emergency remote teaching. The chapter also described the statement of problem, the purpose of the study, research question, the conceptual framework of the study, significance of the study, the limitation of the study and all the key variables.

#### **BIBLIOGRAPHY**

- Adarkwah, M. A. (2021). "I'm not against online teaching, but what about us?": ICT in Ghana post Covid-19. *Education and Information Technologies*, 26(2), 1665-1685.
- Adedokun-Shittu, N. A., & Shittu, A. J. K. (2015). ICT Impact Assessment in Education. In *Encyclopedia of Information Science and Technology, Third Edition* (pp. 2506-2515): IGI Global.
- Alemany-Arrebola, I., Rojas-Ruiz, G., Granda-Vera, J., & Mingorance-Estrada, A. C. (2020). Influence of COVID-19 on the Perception of Academic Self-Efficacy, State Anxiety, and Trait Anxiety in College Students. Front Psychol, 11, 570017. doi:10.3389/fpsyg.2020.570017
- Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (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), 90-109.
- Ando, S. (2020). University teaching and learning in a time of social distancing: A sociocultural perspective. *Journal of Human Behavior in the Social Environment*, 1-14. doi:10.1080/10911359.2020.1814928
- Bada, S. O., & Olusegun, S. (2015). Constructivism learning theory: A paradigm for teaching and learning. *Journal of Research & Method in Education*, 5(6), 66-70.
- Bartley, S. J. (2004). Evaluating the Cost Effectiveness of Online and Face-to-Face Instruction. *Educational Technology & Society*,.
- Brophy, J. (1999). Teaching. INTERNATIONAL ACADEMY OF EDUCATION.
- Carliner, S. (2004). An overview of online learning.
- Charles Hodges, S. M., Barb Lockee, Torrey Trust and Aaron Bon. (2020). The Difference Between Emergency Remote Teaching and Online Learning.

- Retrieved from <a href="https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-andonline-learning">https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-andonline-learning</a>
- Cheok, M. L., Wong, S. L., Ayub, A. F., & Mahmud, R. (2017). Teachers' perceptions of e-learning in Malaysian Secondary Schools. *Malaysian Online Journal of Educational Technology*, 5(2), 20-33.
- Creswell, J. W. (2009). Mapping the field of mixed methods research. In: SAGE publications Sage CA: Los Angeles, CA.
- Dreyfus, S., Hood, S., & Stenglin, M. (2011). Semiotic margins: Meaning in multimodalities: A&C Black.
- Efron, R. (1969). What is Perception? In R. S. Cohen & M. W. Wartofsky (Eds.), Proceedings of the Boston Colloquium for the Philosophy of Science 1966/1968 (pp. 137-173). Dordrecht: Springer Netherlands.
- Englund, C., Olofsson, A. D., & Price, L. (2017). Teaching with technology in higher education: understanding conceptual change and development in practice.

  Higher Education Research & Development, 36(1), 73-87.
- Ertmer, P. A., & Newby, T. J. (1993). Behaviorism, cognitivism, constructivism:

  Comparing critical features from an instructional design perspective.

  Performance improvement quarterly, 6(4), 50-72.
- Ferri, F., Grifoni, P., & Guzzo, T. (2020a). Online Learning and Emergency Remote Teaching: Opportunities and Challenges in Emergency Situations. *Societies*, 10(4). doi:10.3390/soc10040086
- Ferri, F., Grifoni, P., & Guzzo, T. (2020b). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies*, 10(4), 86.
- Gillis, A., & Krull, L. M. (2020). COVID-19 Remote Learning Transition in Spring 2020: Class Structures, Student Perceptions, and Inequality in College Courses. *Teaching Sociology*, 48(4), 283-299. doi:10.1177/0092055x20954263
- Golafshani, N. (2003a). Understanding reliability and validity in qualitative research. *The qualitative report, 8*(4), 597-607.
- Golafshani, N. (2003b). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report Volume 8 Number 4*. doi:http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf

- Goldie, J. G. S. (2016). Connectivism: A knowledge learning theory for the digital age? *Medical teacher*, 38(10), 1064-1069.
- Guangul, F. M., Suhail, A. H., Khalit, M. I., & Khidhir, B. A. (2020). Challenges of remote assessment in higher education in the context of COVID-19: a case study of Middle East College. *Educ Assess Eval Account*, 1-17. doi:10.1007/s11092-020-09340-w
- Had, M. Z. C., & Rashid, R. A. (2019). A Review of Digital Skills of Malaysian English Language Teachers. *International Journal of Emerging Technologies* in Learning, 14(2).
- Haleemunnissa, S., Didel, S., Swami, M. K., Singh, K., & Vyas, V. (2021). Children and COVID19: Understanding impact on the growth trajectory of an evolving generation. *Child Youth Serv Rev, 120*, 105754. doi:10.1016/j.childyouth.2020.105754
- Hargreaves, A., & Goodson, I. (2006). Educational change over time? The sustainability and nonsustainability of three decades of secondary school change and continuity. *Educational administration quarterly*, 42(1), 3-41.
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause review*, 27, 1-12.
- Howard, S. K., Tondeur, J., Siddiq, F., & Scherer, R. (2020). Ready, set, go!

  Profiling teachers' readiness for online teaching in secondary education.

  Technology, Pedagogy and Education, 1-18.
- Hundley, E. R. v. T. a. V. (2001). The importance of pilot studies.
- Joshi, A., Vinay, M., & Bhaskar, P. (2020a). Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments. *Interactive Technology and Smart Education, ahead-of-print*(ahead-of-print). doi:10.1108/itse-06-2020-0087
- Joshi, A., Vinay, M., & Bhaskar, P. (2020b). Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments. *Interactive Technology and Smart Education*.
- Karakaya, F., Arik, S., ÇİMen, O., & Yilmaz, M. (2020). Investigation of the views of biology teachers on distance education: The case study of COVID-19 Pandemic. *Journal of Education in Science, Environment and Health*. doi:10.21891/jeseh.792984

- Khadija Alhumaid, S. A., Anbreen Waheed, Erum Zahid, Mohammed Habes. (2020). COVID-19 & Elearning: Perceptions & Attitudes Of Teachers Towards ELearning Acceptancein The Developing Countries. doi:10.5281/zenodo.4060121
- Kim, L. E., & Asbury, K. (2020). 'Like a rug had been pulled from under you': The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown. *British Journal of Educational Psychology*, 90(4), 1062-1083.
- Kima, K. A. L. E. (2020). "Lazy, lazy teachers": Teachers' perceptions of how their profession is valued by society, policymakers, and the media during COVID-19.
- Klapproth, F., Federkeil, L., Heinschke, F., & Jungmann, T. (2020a). Teachers experiences of stress and their coping strategies during COVID 19 induced distance teaching. *Journal of Pedagogical Research*, 4(4), 444-452. doi:10.33902/jpr.2020062805
- Klapproth, F., Federkeil, L., Heinschke, F., & Jungmann, T. (2020b). Teachers' experiences of stress and their coping strategies during COVID-19 induced distance teaching. *Journal of Pedagogical Research*, 4(4), 444-452.
- Korkmaz, G., & Toraman, Ç. (2020). Are we ready for the post-covid-19 educational practice? An investigation into what educators think as to online learning.

  International Journal of Technology in Education and Science, 4(4), 293-309.
- Lapada, A. A., Miguel, F. F., Robledo, D. A. R., & Alam, Z. F. (2020). Teachers' Covid-19 Awareness, Distance Learning Education Experiences and Perceptions towards Institutional Readiness and Challenges. *International Journal of Learning, Teaching and Educational Research*, 19(6), 127-144. doi:10.26803/ijlter.19.6.8
- Lim, M. T. C., Ramamurthy, M. B., Aishworiya, R., Rajgor, D. D., Tran, A. P., Hiriyur, P., . . . Goh, D. Y. T. (2020). School closure during the coronavirus disease 2019 (COVID-19) pandemic Impact on children's sleep. *Sleep Med*, 78, 108-114. doi:10.1016/j.sleep.2020.12.025
- Lincoln, Y. S., & Guba, E. G. (1985). Establishing trustworthiness. *Naturalistic inquiry*, 289(331), 289-327.

- Maboe, K. A. (2019). Students' Support in an ODeL Context: Students in ODeL. In Modern Technologies for Teaching and Learning in Socio-Humanitarian Disciplines (pp. 114-137): IGI Global.
- Malekolkalami, M. (2020). The Perception of Iranian Teachers on Online Teaching Using Digital Carrier During the COVID-19 Pandemic. *International Journal of Digital Content Management, 1*(1), 109-126.
- Malekolkalami□, M. (2020). The Perception of Iranian Teachers on Online Teaching Using Digital Carrier During the COVID-19 Pandemic. *International Journal of Digital Content Management*.
- MARAIS, C. N. E. (2020). Preservice teachers use of WhatsApp to explain subject content to school children during the COVID-19 pandemic.
- Maxwell, J. A. (2012). *Qualitative research design: An interactive approach* (Vol. 41): Sage publications.
- Merriam, S. B. (2002). Introduction to qualitative research. *Qualitative research in practice: Examples for discussion and analysis, 1*(1), 1-17.
- Metscher, S. E., Tramantano, J. S., & Wong, K. M. (2020). Digital instructional practices to promote pedagogical content knowledge during COVID-19. *Journal of Education for Teaching*, 1-4.
- Mohalik, D. R. (2020). E-Readiness and Perception of Student Teachers' Towards Online Learning in the Midst of COVID-19 Pandemic.
- Mohmmed, A. O., Khidhir, B. A., Nazeer, A., & Vijayan, V. J. (2020). Emergency remote teaching during Coronavirus pandemic: the current trend and future directive at Middle East College Oman. *Innovative Infrastructure Solutions*, 5(3), 1-11.
- Moralista, R. B., & F. Oducado, R. M. (2020). Faculty Perception toward Online Education in a State College in the Philippines during the Coronavirus Disease 19 (COVID-19) Pandemic. *Universal Journal of Educational Research*, 8(10), 4736-4742. doi:10.13189/ujer.2020.081044
- Nambiar, D. (2020). The impact of online learning during COVID-19: students' and teachers' perspective. doi:10.25215/0802.094
- Newcomer, K. E., Hatry, H. P., & Wholey, J. S. (2015). *Handbook of practical program evaluation*: John Wiley & Sons.
- Nguyen, T. (2015). The Effectiveness of Online Learning: Beyond No Significant

- Difference and Future Horizons. *MERLOT Journal of Online Learning and Teaching*.
- Noë, A., & Noë, A. (2004). Action in perception: MIT press.
- Ogurlu, U., Garbe, A., Logan, N., & Cook, P. (2020). Parents' Experiences with Remote Education during COVID-19 School Closures. *American Journal of Qualitative Research*, 4(3). doi:10.29333/ajqr/8471
- Ojima, T., Sugishita, Y., Kurita, J., Sugawara, T., & Ohkusa, Y. (2020). Effects of voluntary event cancellation and school closure as countermeasures against COVID-19 outbreak in Japan. *Plos One*, 15(12). doi:10.1371/journal.pone.0239455
- Oyedotun, T. D. (2020). Sudden change of pedagogy in education driven by COVID-19: Perspectives and evaluation from a developing country. *Research in Globalization*, 2. doi:10.1016/j.resglo.2020.100029
- Panisoara, I. O., Lazar, I., Panisoara, G., Chirca, R., & Ursu, A. S. (2020).

  Motivation and Continuance Intention towards Online Instruction among
  Teachers during the COVID-19 Pandemic: The Mediating Effect of Burnout
  and Technostress. *Int J Environ Res Public Health*, 17(21).
  doi:10.3390/ijerph17218002
- Panisoara, I. O., Lazar, I., Panisoara, G., Chirca, R., & Ursu, A. S. (2020).

  Motivation and continuance intention towards online instruction among teachers during the COVID-19 pandemic: The mediating effect of burnout and technostress. *International Journal of Environmental Research and Public Health*, 17(21), 8002.
- Polkinghorne, D. E. (2005). Language and meaning: Data collection in qualitative research. *Journal of counseling psychology*, 52(2), 137.
- Portillo, J., Garay, U., Tejada, E., & Bilbao, N. (2020a). Self-Perception of the Digital Competence of Educators during the COVID-19 Pandemic: A Cross-Analysis of Different Educational Stages. *Sustainability*, 12(23), 10128.
- Portillo, J., Garay, U., Tejada, E., & Bilbao, N. (2020b). Self-Perception of the Digital Competence of Educators during the COVID-19 Pandemic: A Cross-Analysis of Different Educational Stages. Sustainability, 12(23). doi:10.3390/su122310128
- Prensky, M. (2009). From Digital Immigrants and Digital Natives to Digital Wisdom.

- Putnam-Hornstein, E., Needell, B., King, B., & Johnson-Motoyama, M. (2013).

  Racial and ethnic disparities: a population-based examination of risk factors for involvement with child protective services. *Child Abuse Negl*, *37*(1), 33-46. doi:10.1016/j.chiabu.2012.08.005
- Putnam-Hornstein, E., Needell, B., King, B., & Johnson-Motoyama, M. (2013).

  Racial and ethnic disparities: A population-based examination of risk factors for involvement with child protective services. *Child abuse & neglect*, *37*(1), 33-46.
- Qiong, O. (2017). A brief introduction to perception. *Studies in Literature and Language*, 15(4), 18-28.
- Rajhans, V., Memon, U., Patil, V., & Goyal, A. (2020). Impact of COVID-19 on academic activities and way forward in Indian Optometry. *J Optom, 13*(4), 216-226. doi:10.1016/j.optom.2020.06.002
- Rasmitadila, R., Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (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). doi:10.29333/ejecs/388
- Reynolds, J. A., Cai, V., Choi, J., Faller, S., Hu, M., Kozhumam, A., . . . Vohra, A. (2020). Teaching during a pandemic: Using high-impact writing assignments to balance rigor, engagement, flexibility, and workload. *Ecology and evolution*, 10(22), 12573-12580.
- Sá, M. J., & Serpa, S. (2020). The COVID-19 pandemic as an opportunity to foster the sustainable development of teaching in higher education. *Sustainability*, 12(20), 8525.
- Sahoo, S. (2020). E-Readiness and Perception of Student Teachers' Towards Online Learning in the Midst of COVID-19 Pandemic. *Available at SSRN 3666914*.
- Sastra Khusuma, I. H., & Fauzi, I. (2020). Teachers' Elementary School in Online Learning of COVID-19 Pandemic Conditions. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 5(1), 58-70. doi:10.25217/ji.v5i1.914
- Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological Pedagogical Content Knowledge (TPACK). *Journal of Research on Technology in Education*, 42(2), 123-149. doi:10.1080/15391523.2009.10782544

- Schnackenberg, H. L. (2021). Motherscholar: MotherLeader and the Pandemic. In Women and Leadership in Higher Education During Global Crises (pp. 190-205): IGI Global.
- Sedrakyan, S., Marandzhyan, A., Aismontas, B., & Tyulikova, L. (2018).
  Professional Competence of Teachers and Administration of General
  Education Institutions for Teaching Student With Disability as a Technology.
  In Handbook of Research on Students' Research Competence in Modern
  Educational Contexts (pp. 454-472): IGI Global.
- Sewell, K., & Newman, S. (2014). What is education. *Education Studies: An Issue Based Approach*.
- Singhal, R., Kumar, A., Singh, H., Fuller, S., & Gill, S. S. (2020). Digital device-based active learning approach using virtual community classroom during the COVID-19 pandemic. *Computer Applications in Engineering Education*.
- Smith, J. A. (2003). *Qualitative psychology: A practical guide to research methods*: Sage Publications, Inc.
- Sokal, L., Trudel, L. E., & Babb, J. (2020). Canadian teachers' attitudes toward change, efficacy, and burnout during the COVID-19 pandemic. *International Journal of Educational Research Open, 1*, 100016.
- Tandon, U. (2020). Factors influencing adoption of online teaching by school teachers: A study during COVID-19 pandemic. *Journal of Public Affairs*, e2503.
- Tartavulea, C. V., Albu, C. N., Albu, N., Dieaconescu, R. I., & Petre, S. (2020).
  Online Teaching Practices and the Effectiveness of the Educational Process in the Wake of the COVID-19 Pandemic. *Amfiteatru Economic*, 22(55), 920-936.
- Tilea, M. (2020). A Romanian and Icelandic Language Student's

  Profile from the Perspective of Education for Democratic Citizenship.
- Tschannen-Moran, M., Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of educational research*, 68(2), 202-248.
- Vaidya, P., & Ali, P. N. (2021). Measures and Initiatives Adopted by Indian
  University Libraries During the COVID-19 Pandemic. In Handbook of
  Research on Library Response to the COVID-19 Pandemic (pp. 152-172):
  IGI Global.

- Van der Spoel, I., Noroozi, O., Schuurink, E., & van Ginkel, S. (2020). Teachers' online teaching expectations and experiences during the Covid19-pandemic in the Netherlands. *European Journal of Teacher Education*, 43(4), 623-638. doi:10.1080/02619768.2020.1821185
- Wang, V. X. (2011). Online Adult Education: Policy, Access, Completion and Equity. In *Encyclopedia of Information Communication Technologies and Adult Education Integration* (pp. 506-520): IGI Global.
- Whalen, J. (2020). Should teachers be trained in emergency remote teaching?

  Lessons learned from the COVID-19 pandemic. *Journal of Technology and Teacher Education*, 28(2), 189-199.
- Whittle, C., Tiwari, S., Yan, S., & Williams, J. (2020). Emergency remote teaching environment: a conceptual framework for responsive online teaching in crises. *Information and Learning Sciences*.
- Zarinpoush, M. E. F. (2006). Interviewing for research
- Zhang, T. (2020). Learning from the emergency remote teaching-learning in China when primary and secondary schools were disrupted by COVID-19 pandemic. *Research Square*.