

PAPER NAME

**Prosiding Children Resilience.pdf**

---

WORD COUNT

**6486 Words**

CHARACTER COUNT

**38875 Characters**

PAGE COUNT

**12 Pages**

FILE SIZE

**520.7KB**

SUBMISSION DATE

**Jul 18, 2023 9:27 AM GMT+7**

REPORT DATE

**Jul 18, 2023 9:27 AM GMT+7**

---

**● 13% Overall Similarity**

The combined total of all matches, including overlapping sources, for each database.

- 8% Internet database
- Crossref database
- 9% Submitted Works database
- 4% Publications database
- Crossref Posted Content database

**● Excluded from Similarity Report**

- Bibliographic material
- Cited material
- Manually excluded sources
- Quoted material
- Small Matches (Less than 8 words)
- Manually excluded text blocks

# Teacher Resilience Facing Technostress in the Implementation of Synchronous Hybrid Learning in Elementary School

Yunita Sri Handayani<sup>1\*</sup>, Augustina Sulastr<sup>2</sup>

<sup>1</sup> Faculty of Psychology, Soegijapranata Catholic University, Semarang, Indonesia

<sup>2</sup> Faculty of Psychology, Soegijapranata Catholic University, Semarang, Indonesia

\*Corresponding author. Email: [yunita.handayani.victory@gmail.com](mailto:yunita.handayani.victory@gmail.com)

## ABSTRACT

Pertemuan Tatap Muka (PTM) Terbatas or limited face-to-face learning, which has been implemented in several regions of Indonesia, has brought new challenges to the world of education in Indonesia. Limited face-to-face learning requires certain schools to start face-to-face learning in schools with a maximum attendance of 50% of the total students in each class while at the same time continuing to provide online learning for students at home. The synchronous hybrid learning model is considered an effective solution when limited face-to-face learning is implemented. This learning model allows some students at home to take online lessons with some other students present at school. However, synchronous hybrid learning brings challenges for teachers. These challenges are especially in technology management, which causes technostress on teachers. This research aims to discuss solutions to the problem of technostress for teachers during the implementation of synchronous hybrid learning at the elementary school level. This research used a systematic literature review of 18 articles. The study results found that technology training, the provision of adequate facilities, and a support system for teachers, both from the principal's optimistic leadership style and parental assistance, can be supporting factors to increase teacher resilience when facing technostress during the implementation of synchronous hybrid learning. Finally, the results of this study are expected to be a guide for schools to formulate policies that help anticipate the occurrence of technostress in teachers so that they can increase teacher resilience in the implementation of synchronous hybrid learning at the elementary school level.

**Keywords:** teacher resilience, technostress, synchronous hybrid learning.

## 1. INTRODUCTION

Synchronous hybrid learning is a teaching model that has been introduced in the world of education for quite a long time. However, the study of this teaching model was first published in 2003 and was a qualitative case study aimed at observing the quantity and quality of human interaction between the instructor, the on-site students, and the distant students in a blended learning course [1]. This teaching model was originally introduced at the higher education level to reduce the high cost of education and provide opportunities for students who live far away to study without being burdened with the cost of living [2].

Synchronous hybrid learning has been widely used during the pandemic. Unesco has proposed this learning model since December 2020 because several countries have been implementing partial lockdowns

and reopening schools since mid-2020 [3]. The reopening of schools since mid-2020 is based on the different urgency in each country. Unesco data (2020) states that the reopening of schools in several countries such as the UK, Denmark, and Norway is especially prioritized for elementary school students because their parents need to return to work in essential sectors. Meanwhile, in countries such as Estonia and Israel, the reopening of schools is prioritized for students with special needs and at-risk groups of students living in at-risk environments.

The use of synchronous hybrid learning in several foreign schools that have been reopening their schools during pandemic covid-19 encounters several challenges. Several teachers in Connecticut, United States, commented that this hybrid learning model brought additional workloads for teachers [4]. While some teachers in Kansas, United States, argued that

hybrid learning is not at all better than virtual learning because teachers feel the workload is excessive in the hybrid learning model [5]. Most teachers feel the workload is excessive because they have to prepare different assessments for students who are present at school and study at home even though the process of delivering material is carried out simultaneously. This situation is also coupled with the use of technology applications that are more complicated than when learning full online learning. Learning difficulties during hybrid learning were primarily due to poor audio and video quality so that students who study from home cannot follow lessons appropriately, while students who study at school are often disturbed because lessons will often be interrupted by teachers who must fix these technological glitches [6].

The reopening of schools in Indonesia, termed PTM *terbatas*, began at the end of September 2020 when the number of Covid cases began to decline after the hit of the second wave of virus spread induced by the Delta variant. The policy of starting limited PTM in Indonesia left to the authority of each Regional Head adjusted to the partial lockdown level, termed as PPKM level, of each region. However, the Ministry of Education and Culture gave a national directive that limited PTM could be carried out with 50% student attendance at school while still implementing health protocols. [7].

The opening of this limited PTM was then followed by the use of the asynchronous hybrid learning model in several schools because this method was considered to be the most suitable for classroom conditions. For example, SD Negeri Pawasahan, Purwakarta, has implemented a hybrid learning model since early September 2021 [8]. The head of SD Muhammadiyah 1, Gresik, also revealed that this hybrid learning method was considered to be the most suitable to facilitate some students attending school and some students who were still at home even though worries still accompanied them due to limited technical facilities and internet provisions [9].

Although, at the beginning, the implementation of PTM was limited in Indonesia, the synchronous hybrid learning model was perceived by the school as the most effective solution. However, the experiences of several teachers from other countries who had already applied such a teaching model could become a valuable discourse. Educational institutions in Indonesia should consider the adverse impacts such as frustrations and difficulties encountered by teachers from other countries when applying synchronous

hybrid learning in their classes, termed technostress. Considering the plausible negative effects, particularly the incidence of technostress of this teaching strategy, it is necessary to make a study to help increase teacher resilience in dealing with the problems when applying synchronous hybrid learning in this end-uncertainty pandemic era.

The current systematic literature review research aims to identify problems in the implementation of synchronous hybrid learning, particularly at the elementary school levels. From the results of the identification of this problem, a further literature review will be conducted to formulate steps that can be taken by teachers and school institutions as an action to anticipate problems that arise in the implementation of synchronous hybrid learning. Anticipation of this problem will be proposed with a focus on increasing teacher resilience in dealing with the synchronous hybrid learning model at the elementary school level.

This study focuses on elementary school teachers because elementary education teachers face higher levels of technostress since elementary school students still need intensive guidance in the use of technology [10]. In addition, their short concentration span and rapid emotional changes are challenges for teachers in implementing synchronous hybrid learning [11].

## 2. METHOD

This study used a systematic literature review research method. A systematic literature review can be defined as a systematic method for collecting and synthesizing the results of previous research that can serve as a basis for knowledge development, create guidelines for policy and practice, provide evidence of effects, and if done well, can generate new ideas and directions for specific fields [12]. The use of this method was chosen to collect research results from abroad that have been carrying out synchronous hybrid learning both before the pandemic and during the pandemic. The results of this research from abroad will also be synthesized together with the research results on the implementation of online learning in Indonesia since the pandemic's beginning. The purpose of this literature review is to provide a reference as anticipation in dealing with technostress during the implementation of synchronous hybrid learning in Indonesia.

This study began with the author's direct observation as an educator in the school environment during the implementation of synchronous hybrid

learning. The author sees that so many teachers experience stress in the process of adapting the implementation of synchronous hybrid learning because of the use of technology and the context of the classroom situation, which is more complicated than in full face-to-face or fully online learning. This direct observation is strengthened by exploring the problems of implementing synchronous hybrid learning both at personal experience and studies conducted in other countries. News searches related to the implementation of synchronous hybrid learning were obtained from open access sources.

The data collection of the results of previous research was collected by Google Scholar searching. The search was attained using the keywords "synchronous hybrid learning," "hybrid learning," "teacher resilience," "technostress". Considering

synchronous hybrid learning is part of online learning, the researcher expanded the search for research with the keyword "online learning" as well. The aim of "online learning" keyword searching is to know the dynamics of teachers when encountering technostress since the beginning of the pandemic when they started getting acquainted with the online learning model.

This study limits the scientific journals and articles from 2011 to 2021. According to the research topic, articles and scientific journals from the search results are reduced to 18 scientific journals. The journals consist of 13 journals from foreign authors and five journals from Indonesian authors. Scientific journals used in this research come from quantitative research, qualitative research, and literature review. The summary of the articles that have been reviewed in this research is shown in Table 1.

**Table 1.** Articles Summary

Author(s)	Years	Country	Method	Topic
Beltman, et. al	2011	Australia	Literature review	Teacher resilience
Buckingham	2016	United Kingdom	Commentary	Digital literacy
Bilow, et. al	2021	Denmark	Systematic literature review	The challenge and opportunities of synchronous hybrid learning
<sup>11</sup> Cui, et. al	2021	China	Empirical research	Experiences and attitudes of elementary school students and their parents toward online learning
Ebie Trudel, et. al	2021	Canada	Literature review	Adaptive regulation to promote teacher resilience
Estrada, et. al	2020	Chile	Empirical research	<sup>31</sup> Teacher technostress in the Chilean school system
Fadli & Rukiyati	2020	Indonesia	Literature review	Techno - resilience for teachers: concepts and action

Instefjord	2016	Norway	Qualitative research	Appropriation of digital competence in teacher education
Jena Mahananti	& 2014	India	Empirical research	Technostress among Indian academicians
Lockee	2021	United States	Literature review	7 (Re)considering teacher professional development for online and blended learning in the COVID-19 era
Meydanlioglu & Arikan	2014	Turkey	Literature review	Effect of hybrid learning in higher education
Muhayimana	2020	United States	Literature review	Teacher professional learning during the global pandemic
Novianti Garzia	& 2020	Indonesia	Empirical research	21 Parental engagement in children's online Learning during COVID-19 pandemic
Raes, et. al	2019	Belgium	20 Systematic literature review	A systematic literature review on synchronous hybrid learning
Rasmitadilla, dkk	2020	Indonesia	Qualitative research: a case study	19 The perceptions of primary school teachers of online learning during the pandemic
Rasyid, dkk	2021	Indonesia	Empirical research	39 Teacher's academic optimism in facing online learning.
12 Sokal, et. al	2020	Canada	Empirical research	Canadian teachers' attitudes toward change, efficacy, and burnout during the COVID-19 pandemic
Susanti Perdana	& 2020	Indonesia	Qualitative method: a case study	24 Digital literacy of teachers in online learning at elementary school

### 3. THEORETICAL OVERVIEW

This theoretical overview begins with an explanation of the definitional limitations by comparing the terms of blended learning, flipped learning, and synchronous hybrid learning. Furthermore, it is followed by explaining the difference between asynchronous hybrid learning and synchronous hybrid learning. Subsequently, the theoretical definitions of teacher resilience, technostress, and the characteristics of elementary students are explained.

#### 3.1. The Differences between Hybrid Learning, Blended Learning, and Flipped learning

Hybrid learning, blended learning, and flipped learning are various learning models that are often used in online-based learning. All three often

Blended Learning	Flipped Learning	Hybrid Learning
<p>Blended learning is a method that combines face-to-face tutorials, the use of social media, online games for problem-solving, video conferencing, virtual learning, interactive online quizzes, along with various online learning stimuli [14]</p> <p>In this learning model, students are in the same place, either at home or at school.</p>	<p>The flipped classroom is a learning technique that consists of two parts: interactive group learning in the classroom, and individual, computer-based direct instruction outside the classroom [15].</p> <p>In this learning model, some learning activities are carried out at school and some at home. Pupils are in school together receiving instruction and interactive learning,</p>	<p>Hybrid learning is a learning process in which students are in two different locations, some in school and some online from different places, both participating in the same learning [16]</p> <p>In this learning model, some students are in different places.</p>

Figure 1. The Differences in Blended Learning, Flipped Learning, and Hybrid Learning

#### 3.2. The Differences between Synchronous Hybrid Learning and Asynchronous Hybrid Learning

Based on the distinguished approaches in delivering materials, instructions, and giving assessments, hybrid learning can be divided into synchronous hybrid learning and asynchronous hybrid learning. In synchronous hybrid learning, teachers run face-to-face classes for some students while others take online classes via video conferencing applications. At the same time, asynchronous hybrid learning is a combination of flipped learning where students are given instructions, exercises, and feedback while at school and then given assignments

experience ambiguous meaning because they share the same three important components, namely expectations of learning outcomes, use of class time, and the role of technology [13]. The main similarity of the three learning models is the dependence on technology as a medium of learning and communication between teachers and students. However, all three have differences in time management and place of learning. For more details, the differences between hybrid learning, blended learning, and flipped learning are explained in Figure 1.

The key to understanding hybrid learning is by being careful in integrating face-to-face meetings and using technology, rethinking lesson delivery to attract student participation, restructuring traditional classroom contacts, and optimizing existing technology [17].

to do at home, which will be discussed again when the children are at home [3].

In several research journals and articles, the use of the term hybrid learning is associated with synchronous hybrid learning. This study focused on using the term synchronous hybrid learning to define a learning model in which some students participate in face-to-face learning in class and others participate in online learning from home. The two groups of students took the same lessons, received the same instructions, and did the same assessments from the teacher at the same time.

The focusing on synchronous hybrid learning term in this research because this learning model is the most

widely used after limited face-to-face learning was held. This learning model also poses the most challenges for teachers in terms of mastering technology and mastering class dynamics.

### 3.3. The Definition of Teacher Resilience

Beltman, Mansfield, and Price describe teacher resilience as a dynamic process or outcome resulting from the interaction between individual risk and environmental protective factors [18]. The Covid-19 pandemic has forced teachers to make so many changes in teaching methods. In connection with the intensity of this change, during a pandemic, teacher resilience can be interpreted as the ability of teachers to adapt to the risk of a problem, both in the academic environment and the external environment by using existing resources to find solutions [19].

Teacher resilience that is not built can make teachers experience prolonged fatigue and burnout. This can lead to poor teacher performance and then even leave the profession [20]. So every educational institution must prepare a conducive environment for teacher resilience because teachers are an important component of the course of an educational process.

Resilience is an individual response resulting from the interaction of risk factors and protective factors both from within and outside the individual facing a crisis. The crisis in this study focuses on teachers' difficulties adapting to the use of new technologies in synchronous hybrid learning. The crisis condition in facing this new technology is defined as technostress.

### 3.4. The Definition of Technostress

Technostress is understood as a condition that individuals produce due to the inability of individuals to healthily adapt to the use of new technologies, which ultimately affects their mental health and performance [21].

The use of technology in the synchronous hybrid learning model is undoubtedly more complicated than ordinary online learning. In the synchronous hybrid learning model, several technologies are used simultaneously to facilitate students attending school and at home simultaneously. At the synchronous hybrid learning meeting, teachers are required to use several technology tools and several applications simultaneously. The demand for continuous use of technology simultaneously at several levels to facilitate and coordinate with students can cause mental fatigue for teachers [16].

Jena & Mahanti explain five components that cause technostress [22]:

1. Techno-overload: a situation where technology forces people to work more and faster.
2. Techno-invasion: a situation that is always exposed by technology, people feel always want to be connected with technology anywhere and anytime.
3. Techno-complexity: a situation where complex technology forces people to use resources to learn and understand new applications.
4. Techno-insecurity: a situation where people feel insecure about comparing work to others who are better equipped with new tools and technologies.
5. Techno-uncertainty: a situation in which technology users feel uncertain and uneasy because technology constantly changes and needs improvement.

The five components of technostress can occur in teachers implementing synchronous hybrid learning. Teachers can experience techno-overload because they are forced to work more and access learning faster. In fact, during the synchronous hybrid learning process, the teacher must also regulate the attention between students who are present in class and students who take online learning. Techno-invasion on teachers occurs because of the dependence on technology formed in the implementation of learning. Techno-complexity in teachers occurs when teachers are forced to use resources in learning and understanding the use of new applications when using new technology-based learning models. Techno-insecurity occurs in teachers with low technological mastery and are not equipped with adequate technological facilities. Meanwhile, techno-uncertainty is the anxiety teachers feel because of uncertain technological changes and the demands of changing learning models.

### 3.5. The Characteristic of Elementary School Students

This study focuses on elementary school education because the special characteristics of elementary school students can affect the dynamics of implementing synchronous hybrid learning. The short attention span of elementary school students makes implementing synchronous hybrid learning a challenge for teachers because teachers must maintain class dynamics, both online classes and classes at school, so students can stay focused on lessons.

Teaching in elementary schools is essential for children to understand because it is the basis for

constructing their knowledge at the next level of education. So the teacher has a tough task so that the subject matter can be conveyed and understood by elementary school students optimally to have sufficient knowledge construction when continuing their education at the secondary school level.

In elementary school, children also occur certain emotional developments that need to be considered by the teacher. Children's emotions during elementary school are usually relatively strong and intense. In addition, elementary school children's emotions are volatile [11]. This characteristic of the emotional development of elementary school children will affect the dynamics of learning when implementing synchronous hybrid learning. Elementary school teachers have their burdens in dealing with children's strong and volatile emotions in the implementation of synchronous hybrid learning.

In addition, lower elementary school children, namely grades one to three, usually really need parental assistance in using technology. So for elementary school children, the role of parents in synchronous hybrid learning is an important support system for teachers.

This study focuses on elementary school children because the special characteristics at this stage of development, in particular, can be a trigger factor for more severe technostress for teachers.

## 4. RESULT AND FINDINGS

The discussion of the findings and results in this chapter begins with identifying problems that are risk factors for technostress. Subsequently, it is responded with the findings from the synthesis of literature studies on protective factors that can lead to teacher resilience in dealing with technostress, termed techno resilience. This section will be ended with an overview of the potential of synchronous hybrid learning as an alternative learning model in the future.

### 4.1. Problems in the Implementation of Synchronous Hybrid Learning in Elementary Schools

The systematic literature review research found several problems that became risk factors in the resilience of teachers to face technostress. These problems are technology facilities, digital literacy and digital competence, technology training for teachers, and support system for teachers.

#### 4.1.1. Availability of Technology Facilities

Teachers who are not equipped with adequate technological facilities will be more susceptible to technostress. In contrast, Sokal, Trudel, and Babb's empirical study of teachers in Canada shows that teachers who know that adequate resources are available to cope with the demands of their work are better able to face challenges and develop resilience [23].

Technological facilities in the implementation of synchronous hybrid learning require the good synergy of hardware, software, and brainware. The three components are inseparable to support the effective implementation of synchronous hybrid learning.

Effective implementation of synchronous hybrid learning requires a special classroom that is equipped with several technological facilities simultaneously. Schools need to facilitate the hardware needed to implement synchronous hybrid learning consisting of microphones, wide-angle cameras, and adequate internet connections [16]. In addition, the class design must also be considered. The placement of each piece of equipment must be taken into account so that every student both at home and at school can receive adequate visual and audio captures in receiving lessons.

Competent and up-to-date software will become a medium for delivering learning materials effectively. The development of learning software that teachers can use during this pandemic is experiencing rapid development. Teachers can freely choose the software that is most competent and appropriate to the context of the student.

Mastery of hardware and software can be used optimally if the teacher, as Brainware, has digital literacy and adequate digital competence.

#### 4.1.2. Digital Literacy and Digital Competence

Digital literacy is the functional ability to use computers and conduct online searches and the knowledge to evaluate and critically use information when using it as a source of knowledge [24]. Similar to this definition, the term digital competence is also known. Digital competence is the knowledge, skills, and attitudes needed to use technology critically and reflectively in building new knowledge [25].

Susanti, Rachmaniar, and Perdana, in a qualitative case study research conducted on elementary school teachers in Bandung City, found that the teachers at the beginning of the implementation of online learning were lack of digital literacy [26]. Meanwhile, Jena & Mahanti, in their empirical study in India, found that there was a statistically significant relationship



between technology awareness among academics and the emergence of technostress [22]. It was found that academics who have better technological knowledge will experience less technostress than academics who have less experience in using technology.

Digital literacy and adequate competence enable teachers to adapt rapidly to technological changes. In addition, teachers have the expertise to choose the right software to deliver teaching materials and communicate with students. Teachers can adjust the use of technology as needed according to the load and content of the material being taught. Teachers are also able to choose the right technology according to the context of the students, both at their age level and socio-economic conditions.

Digital literacy and digital competence of teachers can be obtained by teachers with technology training programs that must be followed by teachers.

#### *4.1.3. Technology Training for Teachers*

The rapidly changing conditions during this pandemic require teachers to adapt quickly to technology. Technological innovation continues to be carried out to create new technologies that are suitable for changing teaching situations. Teachers who are not able to master the basics of technology will find it increasingly difficult to adapt to new technologies. The demand for teachers to adapt so quickly to changes in learning models can have an impact on teachers' emotions and motivation. Teacher professionalism development strategies and programs are needed to support teachers in this time of crisis [27].

The success of implementing synchronous hybrid learning lies in the willingness of school leaders to provide IT training for educators [28]. Before any technology is implemented in schools, every teacher must receive training on the use of the technology. Teachers should also receive updates about the latest learning software developments. Teachers' cognitive abilities in digital literacy and competence can be stimulated by inviting discussion activities to choose the best learning software for their students.

Simple technology training that can be given to teachers can be started by getting used to the use of technology in all school activities.

#### *4.1.4. Support System for Teachers*

Research by Rasmitadila, et al., using survey methods and semi-structured interviews with 67 elementary school class teachers in several regions in Indonesia, found that support from colleagues, parents, principals, and schools is very important for

the implementation of online learning, including the synchronous method hybrid learning [29].

Rasyid, Rahmah, and Permatasari research on several teachers in Samarinda found a significant relationship between teacher academic optimism and perceptions of the leader's leadership style during the online learning period [30]. This means that the principal plays an important role as a support system to shape teacher optimism. The principal must explain clearly how the school's vision is implemented during the implementation of synchronous hybrid learning. Principals must motivate teachers to adapt to new technologies. In addition, the principal's support for teachers must be shown in real terms by providing adequate technological facilities for teachers and providing intensive technology training programs for teachers.

Novianti and Garzia's research on 148 samples of parents of grade 1 and 2 elementary school students in Riau shows that most parents are involved in children's online learning activities, although there are still some who have obstacles and difficulties in dividing time, paying attention, and explaining learning material to children [10]. Meanwhile, Cui, et al, research in China on parents of elementary school students showed that at the beginning of the study, parents' enthusiasm to accompany their children was relatively high but then decreased in the second session of the study [31]. This can be due to elementary school assignments that exceed the abilities of both students and parents, causing pressure on parents.

Synchronous hybrid learning is a solution of a learning model to reduce the pressure that parents feel during online learning. However, this does not mean that parents can completely release their child's assistance to the teacher. Teachers still need parental support in the form of providing adequate technological facilities. Learning assistance for children still needs to be done because children will spend some of their time studying at home online. Although in the implementation of synchronous hybrid learning, the teacher will try that every child at home receives the same delivery of materials and instructions as children who attend school, parental involvement is still needed in reminding the learning schedule or the schedule for collecting assignments.

## **4.2. Technology Resilience in Anticipating Technostress**

Resilience is formed from the interaction of protective factors that overcome an individual's risk factors facing a crisis. In this study, the crisis faced by teachers was identified as technostress in the face of synchronous hybrid learning. Teacher resilience is

formed when teacher risk factors can be overcome with protective factors. Both risk factors and protective factors are formed.

The teacher's internal risk factor in dealing with technostress during synchronous hybrid learning is the teacher's pessimism in adapting to the new learning model. Teachers also feel unable to deliver lessons optimally due to technological limitations, so they are not sure they can improve student learning outcomes [30]. These internal risk factors are strongly influenced by external risk factors experienced by teachers. The external risk factors identified in the literature review in this study consisted of:

1. lack of adequate technological facilities for teachers
2. lack of technology training resulting in a lack of digital literacy and digital competence of teachers
3. the lack of a support system from the principal, namely a leadership style that builds teacher optimism
4. the lack of a support system from parents in the form of a lack of parental support in providing technology facilities and learning assistance

The teacher's internal protective factor in dealing with technostress during the implementation of synchronous hybrid learning is optimism. The teacher's internal protective factor is also strongly influenced by the teacher's external protective factor.

The external protective factors identified in the literature review in this study consisted of:

1. provision of adequate technological facilities
2. teacher technology training that improves teacher literacy and digital competence
3. the support system from the principal with a leadership style that can provide motivation and an attitude of optimism for teachers
4. the support system from parents in the form of support in providing technology and learning assistance

Teachers who can overcome risk factors with protective factors in dealing with technostress will form a technological resilience in the implementation of synchronous hybrid learning. Technological resilience is a positive response in adapting to new technology, having calm when experiencing obstacles with new technology, controlling reactions when encountering problems, being optimistic about new systems and technologies, developing empathy when students or colleagues experience technological difficulties, having confidence that this technology will be mastered and make it better [19].

The relationship between the factors that shape resilience in the face of a technostress crisis in the implementation of synchronous hybrid learning can be described in Figure 2.

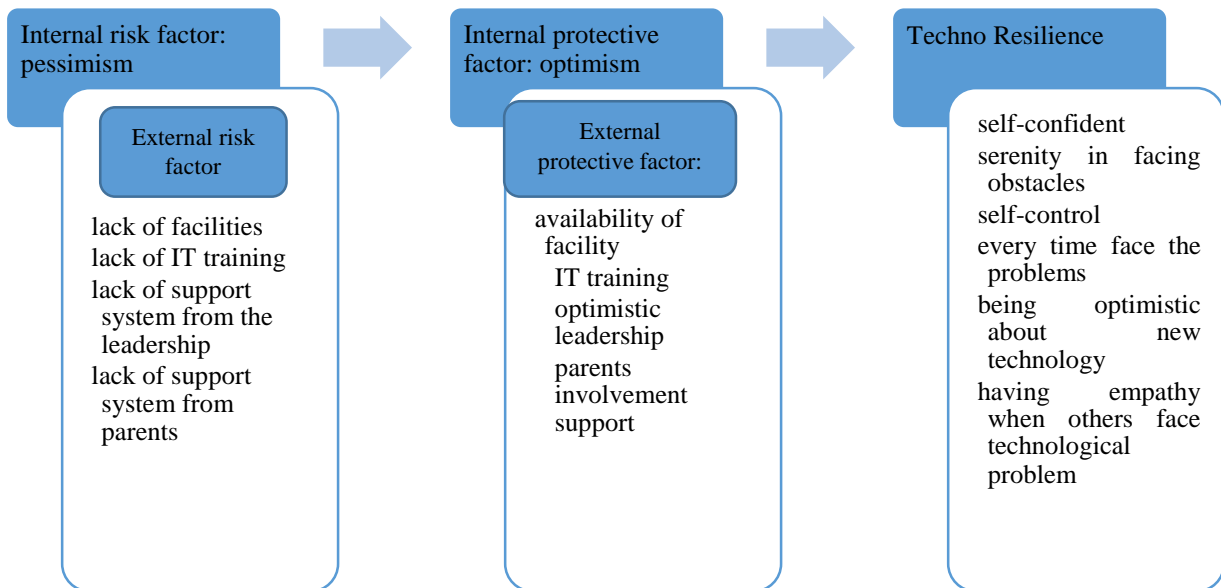


Figure 2. The Process of Formation of Technological Resilience

### 4.3. The Potential of Synchronous Hybrid Learning as an Alternative Learning Model in the Future

The implementation of synchronous hybrid learning in education can trigger technostress for teachers. However, according to the research results that technostress can be overcome by developing protective factors that can shape technological resilience in teachers. Raes, Detienne, Windey, Depaepé in their systematic literature review research also suggest the cautious optimism about synchronous hybrid learning which creates a more flexible, engaging learning environment compared to fully online or fully on-site instruction [1].

The technological resilience that is formed in overcoming this technostress allows the synchronous hybrid learning model to have wider opportunities to be used in the future. Synchronous hybrid learning can answer problems when students or teachers are unable to attend the classroom due to an urgent situation. Every student who has limited attendance in the classroom gets the same learning rights. This model can overcome the learning gap for students who have to stay at home due to certain conditions.

## 5. CONCLUSION

Synchronous hybrid learning is the preferred learning model solution that is considered the most effective during the transition from the pandemic to the new normal. However, the implementation of this learning model brings challenges for teachers. Teachers who are not ready to adapt to technological changes will experience technostress.

This technostress can be overcome by forming technological resilience in teachers. Technological resilience is the ability of teachers to overcome risk factors and protective factors. Based on the results of the systematic literature review that has been carried out, it is found that the protective factors that shape the resilience of teachers to face technostress are the Availability of technology facilities, IT training, and a support system in the form of principals' leadership that raises optimism and parental support who provides learning facilities and assistance for children.

The implementation of the results of this study provides several references for educational institutions to pay more attention to teachers' mental health when implementing synchronous hybrid learning. Schools must provide adequate technological facilities with appropriate classroom designs. Schools must also develop and implement periodic IT training programs to develop teachers' support systems' literacy skills and digital competencies. Schools must also build

teachers' support systems by encouraging optimistic principals' leadership and encouraging parental involvement in children's learning assistance.

This study only focuses on the formation of teacher resilience to the technostress crisis in the implementation of synchronous hybrid learning. Further research is open by examining other variables in responding to technostress, such as coping with stress that teachers can do. This research also only focuses on the adaptation of teacher technology during the implementation of synchronous hybrid learning. It is also important to conduct further research on the ability of teachers to adapt the elementary school curriculum to the implementation of synchronous hybrid learning.

## REFERENCES

- [1] Raes, A., Detienne, L., Windey, I., & Depaepé, F., A systematic literature review on synchronous hybrid learning: Gaps identified. *Learning Environments Research*, 2020, 23(3), pp. 269-290. DOI: <https://doi.org/10.1007/s10984-019-09303-z>
- [2] Bowen, W. G., Chingos, M. M., Lack, K. A., & Nygren, T. I., Online learning in higher education: Randomized trial compares hybrid learning to a traditional course, *Education next*, 2013, 13(2), pp. 58-65.
- [3] Unesco, COVID -19 response – hybrid learning, Unesco, 2020.
- [4] Johnson, Kirsten, Hybrid Learning Poses New & Old Challenges for Teachers, 2020. Retrieved from: <https://www.nbcconnecticut.com/news/local/hybrid-learning-poses-new-old-challenges-for-teachers/2323290/>
- [5] Bisaha, Stepan, Kansas Teachers Say Hybrid Learning Is Not Better Than All Virtual Classes, 2021. Retrieved from: <https://www.kmuw.org/education/2021-01-21/kansas-teachers-say-hybrid-learning-is-no-better-than-all-virtual-classes>
- [6] Clark, Paul, *Overcoming the challenges of hybrid learning*, 2020. Retrieved from: <https://edtechnology.co.uk/comments/overcoming-the-challenges-of-hybrid-learning>
- [7] Departemen Pendidikan dan Kebudayaan, *Buku Saku Panduan Penyelenggaraan Pembelajaran di Masa Pandemi Covid-19*, Departemen Pendidikan dan Kebudayaan, 2021.
- [8] Nurhasanudin, Dede, *Pembelajaran di SDN Pasawahan Purwakarta Terapkan Metode Hybrid*

- Learning, 2021. Retrieved from : <https://purwakarta.ayoindonesia.com/berita-purwakarta/pr-321130054/pembelajaran-di-sdn-pasawahan-purwakarta-terapkan-metode-hybrid-learning>
- [9] Salvado, Cegah Cluster Covid-19 SD Mugeb Terapkan Hybrid Learning, 2021. Retrieved from: <https://investigasi.today/cegah-cluster-covid-19-sd-mugeb-dengan-terapkan-hybrid-learning/>
- [10] Novianti, R., & Garzia, M, Parental engagement in children's online learning during a covid-19 pandemic, *Journal of Teaching and Learning in Elementary Education (Jtlee)*, 2020, 3(2), pp. 117-131. DOI: <http://dx.doi.org/10.33578/jtlee.v3i2.7845>
- [11] Dewi, M. P., Neviyarni, S., & Irdamurni, I., Perkembangan Bahasa, Emosi, Dan Sosial Anak Usia Sekolah Dasar. *Jurnal Ilmiah Pendidikan Dasar*, 2020, 7(1), pp. 1-11. DOI: <http://dx.doi.org/10.30659/pendas.7.1.1-11>
- [12] Snyder, H., Literature review as a research methodology: An overview and guidelines. *Journal of business research*, 2019, 104, pp. 333-339. DOI: <https://doi.org/10.1016/j.jbusres.2019.07.039>
- [13] Saichaie, K., Blended, Flipped, and Hybrid Learning: Definitions, Developments, and Directions. *New Directions for Teaching and Learning*, 2020 (164), pp. 95-104. DOI: <https://doi.org/10.1002/tl.20428>
- [14] Bouilheres, F., Le. L. T. V. H, Mc Donald, S., Nkhoma, C., Jandug-Montera, L., Defining Student Learning Experience Through Blended Learning, *Education and Information Technology*, 2020. DOI: <https://doi.org/10.1007/s10639-020-10100-y>
- [15] Bishop, J., & Verleger, M. A., The flipped classroom: A survey of the research, In 2013 ASEE Annual Conference & Exposition, 2013, pp. 23-1200. DOI: 10.18260/1-2--22585
- [16] Bülow, M. W., *Designing synchronous hybrid learning spaces: Challenges and opportunities*, Hybrid Learning Spaces, Springer, 2021.
- [17] Meydanlioglu, A., & Arikan, F., Effect of hybrid learning in higher education. *International Journal of Information and Communication Engineering*, 2014, 8(5), pp. 1292-1295. DOI: <https://doi.org/10.5281/zenodo.1092346>
- [18] Beltman, Susan., Mansfield, Caroline., Price, Anne., *Thriving not just surviving: A review of research on teacher resilience*, Educational Research Review, 2011, 6(3), pp. 185-207. DOI: <https://doi.org/10.1016/j.edurev.2011.09.001>
- [19] Fadli, F., & Rukiyati, R., Techno-Resilience for Teachers: Concepts and Action, *TEM Journal*, 2020, 9(2), pp. 820. DOI: 10.18421/TEM92-53
- [20] Eblie Trudel, L. G., Sokal, L. J., & Babb, J. C., *Planning for Teacher Recovery from the COVID-19 Pandemic: Adaptive Regulation to Promote resilience*, 2021.
- [21] Estrada-Muñoz, C., Castillo, D., Vega-Muñoz, A., & Boada-Grau, J., Teacher technostress in the Chilean school system, *International Journal of Environmental Research and Public Health*, 2020, 17(15), pp. 5280. DOI: <https://doi.org/10.3390/ijerph17155280>
- [22] Jena, R. K., & Mahanti, P. K., An empirical study of Technostress among Indian academicians, *International Journal of Education and Learning*, 2014, 3(2), pp. 1-10. DOI: 10.14257/ijel.2014.3.2.01
- [23] Sokal, L., Trudel, L. E., & Babb, J., Canadian teachers' attitudes toward change, efficacy, and burnout during the COVID-19 pandemic. *International Journal of Educational Research Open*, 2020, 1, 100016. DOI: <https://doi.org/10.1016/j.ijedro.2020.100016>
- [24] Buckingham, D., *Defining digital literacy*. *Nordic journal of digital literacy*, 2016, pp. 21-34.
- [25] Instefjord, E., *Appropriation of digital competence in teacher education*, *Nordic Journal of Digital Literacy*, 2016, pp. 155-171.
- [26] Susanti, S., & Perdana, F., *Digital Literacy of Teachers In Online Learning At Elementary School In Bandung City*, *European Journal of Molecular & Clinical Medicine*, 2020, 7(1), pp. 3784-3793.
- [27] Lockee, B. B., *Shifting digital, shifting context:(re) considering teacher professional development for online and blended learning in the COVID-19 era.*, *Educational Technology Research and Development*, 2021, 69(1), pp. 17-20. DOI: <https://doi.org/10.1007/s11423-020-09836-8>
- [28] Muhayimana, T., *Teacher Professional Learning during the Global Pandemic: Five Critical Areas to Address*, *Journal of School Administration Research and Development*, 2020, 5(S2), pp. 66-79. DOI: <https://doi.org/10.32674/jsard.v5iS2.2840>

- [29] Rasmitadilla, Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S., 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*, 2020, 7(2), pp. 90-109. DOI: 10.29333/ejecs/388
- [30] Rasyid, M., Rahmah, D. D. N., & Permatasari, R. F., Teacher's Academic Optimism dalam Menghadapi Proses Belajar Mengajar Daring Selama Masa Pandemi Covid-19, *Psikostudia: Jurnal Psikologi*, 2021, 10(1), pp. 90-97. DOI: 10.30872/psikostudia
- [31] Cui, S., Zhang, C., Wang, S., Zhang, X., Wang, L., Zhang, L., ... & Zhou, X., Experiences and Attitudes of Elementary School Students and Their Parents Toward Online Learning in China During the COVID-19 Pandemic: Questionnaire Study, *Journal of medical Internet research*, 2021, 23(5), e24496. DOI: 10.2196/24496

## ● 13% Overall Similarity

Top sources found in the following databases:

- 8% Internet database
- Crossref database
- 9% Submitted Works database
- 4% Publications database
- Crossref Posted Content database

### TOP SOURCES

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	<b>researchgate.net</b> Internet	3%
2	<b>American College of Education on 2022-10-10</b> Submitted works	<1%
3	<b>Moore, Lisa LaMonica. "Teacher Perception of Synchronous Hybrid Le..."</b> Publication	<1%
4	<b>Central University of Bihar on 2015-01-20</b> Submitted works	<1%
5	<b>coursehero.com</b> Internet	<1%
6	<b>Philippine Normal University on 2022-04-01</b> Submitted works	<1%
7	<b>mdpi.com</b> Internet	<1%
8	<b>Manukau Institute of Technology on 2022-06-19</b> Submitted works	<1%

9	<b>Sheffield Hallam University on 2021-04-29</b> Submitted works	<1%
10	<b>University of Brighton on 2021-06-15</b> Submitted works	<1%
11	<b>American College of Education on 2021-11-19</b> Submitted works	<1%
12	<b>Intercollege on 2021-03-12</b> Submitted works	<1%
13	<b>Universiti Teknologi MARA on 2016-01-11</b> Submitted works	<1%
14	<b>University of Nottingham on 2021-06-03</b> Submitted works	<1%
15	<b>eprints.uny.ac.id</b> Internet	<1%
16	<b>American College of Education on 2023-02-17</b> Submitted works	<1%
17	<b>ijiet.org</b> Internet	<1%
18	<b>Universiti Sains Malaysia on 2018-04-16</b> Submitted works	<1%
19	<b>University of Derby on 2021-03-25</b> Submitted works	<1%
20	<b>biblio.ugent.be</b> Internet	<1%

21	<b>journal.ubb.ac.id</b>	Internet	<1%
22	<b>IAIN Metro Lampung on 2022-10-17</b>	Submitted works	<1%
23	<b>University of Sheffield on 2022-08-25</b>	Submitted works	<1%
24	<b>davidpublisher.com</b>	Internet	<1%
25	<b>"Technology-Enhanced Learning for a Free, Safe, and Sustainable Worl...</b>	Crossref	<1%
26	<b>Catanduanes State University on 2023-03-08</b>	Submitted works	<1%
27	<b>The Manchester College on 2021-04-19</b>	Submitted works	<1%
28	<b>University of Sheffield on 2023-04-25</b>	Submitted works	<1%
29	<b>Anh Thi Van Pham, Thien Huu Tran. "Teachers' Perceptions of Synchro...</b>	Crossref	<1%
30	<b>Dian Anggraini Kusumajati, Rina Patriana Chairiyani, Fransiska Astri Ku...</b>	Crossref	<1%
31	<b>Intercollege on 2021-03-04</b>	Submitted works	<1%
32	<b>Intercollege on 2023-07-14</b>	Submitted works	<1%



33	<b>Johns Hopkins University on 2017-05-10</b>	<1%
	Submitted works	
34	<b>Middlesex University on 2022-04-18</b>	<1%
	Submitted works	
35	<b>Middlesex University on 2022-09-13</b>	<1%
	Submitted works	
36	<b>Point Loma Nazarene University on 2021-12-31</b>	<1%
	Submitted works	
37	<b>University of Melbourne on 2022-10-30</b>	<1%
	Submitted works	
38	<b>Vrije Universiteit Brussel on 2022-08-16</b>	<1%
	Submitted works	
39	<b>e-journals.unmul.ac.id</b>	<1%
	Internet	
40	<b>ebin.pub</b>	<1%
	Internet	
41	<b>ejournal.iai-tribakti.ac.id</b>	<1%
	Internet	

## ● Excluded from Similarity Report

- Bibliographic material
- Cited material
- Manually excluded sources
- Quoted material
- Small Matches (Less than 8 words)
- Manually excluded text blocks

---

### EXCLUDED SOURCES

**atlantis-press.com**

Internet

**75%**

**download.atlantis-press.com**

Internet

**75%**

### EXCLUDED TEXT BLOCKS

**Advances in Social Science, Education and Humanities Research, volume**

University of Derby on 2023-03-31

**Proceedings of the Interdisciplinary Conference of Psychology, Health, and Social ...**

library.dctabudhabi.ae

**Teacher Resilience Facing Technostress in theImplementation of Synchronous Hy...**

www.proceedings.com

**1 Faculty**

www.coursehero.com

**Copyright © 2022 The Authors. Published by Atlantis Press SARL.This is an open a...**

repository.ubaya.ac.id

**170**

University of Lancaster on 2022-11-18