Learning During the Covid-19 Pandemic and Cultural **Transformation in the Indonesian Education System**

Akmal Rijal1*, Asep Sukenda Egok2, Tio Gusti Satria3 🛄

1,2,3,4 Teacher Education Schools PGSD, STKIP PGRI Lubuklinggau, Lubuklinggau, Indonesia

ARTICLE INFO

ABSTRAK

Article history: Received June 08, 2021 Revised June 11, 2021 Accepted May 30, 2022 Available online June 25, 2022

Kata Kunci: Pembelajaran, Covid-19, Budaya Baru, Pendidikan

Keywords: Learning, Covid-19, A New Culture, Education



This is an open access article under the <u>CC BY-</u> SA license.

Copyright ©2022 by Author. Published by Universitas Pendidikan Ganesha.

ABSTRACT

Penelitian ini dilatarbelakangi oleh upaya untuk memberikan rekomendasi dan menemukan cara belajar sistem pembelajaran dalam adaptasi dengan kebiasaan baru. Penelitian ini menggunakan metode penelitian kualitatif dengan pendekatan fenomenologis dengan teknik pengumpulan data melalui observasi terlibat atau observasi partisipatif. teknik wawancara mendalam, dan analisis dokumen. Subjek penelitian adalah kepala sekolah, guru, siswa, dan orang tua siswa kelas I sampai dengan VI SD sebanyak 200 orang dengan sampel 28 orang. Hasil penelitian menunjukkan bahwa proses pembelajaran pada masa pandemi adalah online dan tatap muka di kelas dengan protokol kesehatan, siswa kesulitan mengerjakan tugas yang diberikan oleh guru, gangguan jaringan internet, tidak dapat berkonsentrasi, kebanyakan bermain, sulit disiplin dalam protokol kesehatan., dan guru membuat teknik pembelajaran online yang menyenangkan agar siswa tidak mengalami kebosanan dalam membaca di rumah dengan media video. Penelitian ini menyimpulkan bahwa kebiasaan baru dalam pembelajaran guru harus kreatif dalam mengajar dengan menggunakan teknologi yang dipersonalisasi sesuai kebutuhan, sosialisasi kesadaran protokol kesehatan, pemerintah, orang tua, dan masyarakat selalu disiplin dan mengontrol protokol kesehatan, serta mendukung dan mengembangkan fasilitas dan infrastruktur.

This research is motivated by efforts to provide recommendations and find ways to learn learning systems in adaptation to new habits. This study uses a qualitative research method with a phenomenological approach with data collection techniques through involved observation or participatory observation, in-depth interview techniques, and document analysis. The research subjects were the principals, teachers, students, and parents of students in grades 1 to 6 as many as 200 people with a sample of 28 people. The results showed that the learning process during the pandemic is online and face-to-face in class with health protocols, students have difficulty doing assignments given by the teacher, internet network disturbances, cannot concentrate, mostly play, difficult to discipline in health protocols, and teachers make fun online learning techniques so that students do now not experience bored in reading at home with video media. This study concludes is that new habits in teacher learning must be creative in teaching by using personalized technology according to needs, disseminating awareness of health protocols, the government, parents, and the community are always disciplined and control health protocols, and support and develop facilities and infrastructure.

1. INTRODUCTION

Since the implementation of the policy of learning from home, distance learning (online), as well as several schools that have implemented limited face-to-face learning during the covid-19 pandemic by the Indonesian government for more than a year, which is still ongoing, initially many problems have arisen (Barrot et al., 2021; Elzainy et al., 2020). Faced through teachers, mother, and father, and college students consisting of mastery of technology, centers and infrastructure, net network, costs, and occasional attention accompanied through interest. In addition to the many problems that emerged during the covid-19 pandemic, other impacts can also change the world of education in Indonesia, namely regarding the mindset of those involved in education, namely teachers, students, parents, and the government in the learning

process (Beilstein et al., 2021; Mehrsafar et al., 2021). The Indonesian government's discourse on adapting new habits in the field of education, wherein July 2021 limited face-to-face learning will be carried out is still in doubt because there are still some parents who do not agree with face-to-face learning. Learning in Indonesia as well so one of the areas affected by the presence of the pandemic covid-19. With the presence of the restriction of the interaction, the Ministry of Learning in Indonesia also produces the policy is to close the school as well as changing the process of Teaching and Learning Activities (KBM) using a system in the network (online). By using the education system online this, sometimes arise various problems experienced by the students as well as teachers, a kind of module the lesson is not over yet informed by the teacher after the teacher change with other duties (Chick et al., 2020; Huber & Helm, 2020; Nasri et al., 2020). The subject of the complaint to the students for the task given by the teacher more (UNICEF, 2020).

Pandemic covid-19 is already affecting learning at all levels with a variety of methods (Carrilo, 2020). The sample of training that every one that is tried via way of means of the instructor and the player college students face-to-face withinside the study room is obliged modified and changed with techniques to fulfill really withinside the network (online) (Bao, 2020; Burki, 2020; Crawford et al., 2020). In which these conditions share the impact on the quality of education (Dhawan, 2020; Liguori, E., & Winkler, 2020). The motivation to learn on the participant students are exploring the educational shrinking on when this pandemic (Cahyani A & Listiana ID, 2020; Murphy, 2020). The pattern of education changing from face-to-face to learning from home based on simulations can cause learning losses due to a decrease in student skills due to too many school holidays (Beatty, A, Pradhan M, Suryadarma D, Tresnatri FA, 2020). Not only that, for (Engzell et al., 2021) the gap in teaching and learning caused by the comparison of access and quality of distance learning can lead to the learning of students from the middle economy (Cao, W., Z. Fang, G. Hou, M. Han, X. Xinrong, J. Dong, 2020; Morrison, 2020). During the pandemic, covid-19 are students who show little or no progress when studying remotely where learning abilities are greatly decreased in the conditions of less fortunate students (Mahyoob, 2020; Quezada et al., 2020).

Researchers try to provide recommendations by exploring the learning process that occurred during the covid-19 pandemic and looking for ways to think about learning systems in adopting new habits. Learning needs, including different learning styles, can be the performance of the learning effect (Chen, N. S., & Lin, 2002; Rachmadtullah & Samsudin, 2020). The unexpected arrival of a pandemic make us adapt and innovative by teachers and education systems around the world (Carrilo, C, 2020; Flores, M. A., 2020; Irene van der Spoel, Omid Noroozi, 2020; Scull, J., M. Phillips, U. Sharma, 2020; Yildiz, E. P., Cengel, M. & Alkan, 2020). These changes were made very quickly as the prevailing situation demands (König et al., 2020). Almost overnight, many of the schools and the education system started to develop (Kamanetz, 2020). Educators proactively answer and show great support for the shift in the lesson posts (Hyler, 2020). So, it is apparent and generally agreed that this crisis has fostered innovation in the education sector. Pandemic covid-19 is the potential for a once-in-a-generation opportunity to change for some reasons (Viner, R. M., S. J. Russell, H. Croker, J. Packer, J. Ward, C. Stansfield, O. Mytton, C. Bonell, 2020; Zhang, W., Y. Wang, L. Yang, 2020). To begin with, the pandemic is widespread and has affected practically all schools. As a result, it provides an opportunity for educators and children to collaborate to rethink the type of education that we require, rather than the idealized model that we tend to adhere to (Logan et al., 2021; Mahdum et al., 2019). Second, instructors around the sector show that they can be together changed masse. The outbreak pressured the closure of the faculty, leaving the lecturers, college students, and adults are left to carry out training in a warfare-like putting. The government, schooling gadgets, and the school covered farflung coaching and studying without a whole lot of instruction, making plans, and in a few cases, digital experience (Chen, N. S., & Lin, 2002; Kamanetz, 2020). Third, most of the usual norms and exams that the school governor also appointed or minimized when the school closed. Education is allowed the leeway to quickly adjust to changing circumstances (Mitchell, 2000).

The results of research that has been carried out regarding learning during covid-19 that the impact of the covid-19 pandemic changes student curricular activities because schools are required to create a positive learning climate creatively in dealing with the covid-19 pandemic and the need for internet connections (Maatuk et al., 2021; Zhao Yong & Watterston, 2021). Online learning will become a regular part of the daily routine in schools because education with technology is a very good thing (Ferreira et al., 2018; Mishra et al., 2020). After all, it is an innovative solution to close the digital divide and make education more accessible. More than 80% of students actively participated in carrying out the adaptation period to new study habits in Kepahiang with the most widely used learning method being the mixed method developed by the teacher himself through the selection of media/methods appropriate learning, cooperation with parents, and careful and effective study planning (Alperi et al., 2021). Finally, the results found that lecturers continued to carry out habituation movements to foster student character values in online learning through habituation by lecturers using backgrounds while studying with character identities that could be inserted values in each lecture (Parmin et al., 2020). Therefore, this study aims to explain the learning process, constraints, and solutions in the attempt to collect critically, identify, investigate and find a solution for best practice in education in Indonesia to deal with the adaptation of a new habit. Through this research is expected to provide insight into us in thought or framing the way in providing alternative education options in the future. Through the ease with new skills and new ways to think as well as how academic support as well as change the practice, structure, and even the culture in the school.

2. METHOD

The author uses gualitative research methods in this study with a phenomenological approach was carried out for 6 months with the location being in Elementary School Negeri (SD Negeri) 22 Kota Lubuklinggau (Creswell, 2016). The subject of this research is the head of the school. teachers, students, and parents grade 1 up to grade 6 as many as 200 people with a sample of 28 people through purposive sampling technique with the consideration of the whole subject of the implementation process of learning from home during the pandemic of covid-19 on learning odd semester of the academic year 2020/2021. The technique of data collection is done through observation involved or participative observation, the technique of indepth interviews, and document analysis. The primary data obtained from the results of observations by the researchers directly involved in the process of learning by students and teachers at SD Negeri 22 Lubuklinggau, in-depth interviews carried out at the head of the school, teachers, students and parents during the learning process, and through the analysis of documents obtained photos, videos, and documents relating to the learning data. Test the validity of data in this research is done by way of extension of the observations, increased diligence in research, triangulation, discussions with colleagues, and the analysis of the case of negative (Sugiyono, 2017). Data analysis in this research is done by analyzing the contents and interactive analysis of data about the process of learning from home during the pandemic of covid-19 and then concluded a new understanding based on the findings in the field about the process, barriers, and solutions that will be done in carrying out the learning process in the adaptation of the new habit after the pandemic covid-19.

3. RESULT AND DISCUSSION

Result

The process of student learning from home in SD Negeri 22 Lubuklinggau during the pandemic covid-19 is the teacher and the students carry out the learning process through the online learning system by using the app group Whatsapp, the teacher gives the task, the implementation of such learning right school, the teacher asked the students to pray first, giving motivation to the students, ask the students to easily check attendance, the teacher also gives the material first to be noted by the student, then the teacher gives the task to the students to do, like subject 2 with initials AS the learning process is through online, child supervisor presence first, then make a note of the subject matter has been given by the teacher, but the child is not working on the task with timely, the child also does not work on the easier questions first will but work on the problems in sequence, the child also did not ask the teacher if you didn't understand the material, the child finishes the job is not the right time.

During the learning process of the students, assisted by her parents, but students can not complete the task on time, because there are some difficulties experienced by students during the learning process of the house, such as subject 13 MI when working on a task, not with the parents, they can't complete the task on time, on the subject of 4 AFF child tasks is not timely, the child also did not ask if you do not understand the material for the other, so that the child can't solve the given problem. Then the subject of the 5 AM the following online learning, supervisor of attendance, but the child did not make a note of the subject matter is given, when the task is not with the parents, not doing the task with timely, the child also did not ask if do not understand the material given by the teacher, the task was not completed on time, and therefore the learning process the child is less than satisfactory. We must acknowledge that each student learns differently and has distinct ambitions and accessibility requirements. Learning personalization may free an individual to be their best, allowing them to combine their passion, energy, abilities, interests, and special needs to create a learning path that is unique to them and not limited by the constraints of a class schedule and curriculum.

On learning this online the teacher can not directly face to face with the students due to the state of the pandemic at the moment, so the teachers have to be creative in teaching, teachers are in the school and the students are at home, at a time when schools teachers explain the material by that day, at the time of explaining teacher video-recorded, then the video is sent through group the Whatsapp which is already there, the teacher also sends other videos, such as video animation that fits the material, for example,

multiplication material then the teacher sends a video about multiplication to better facilitate students to understand. The teacher asks the students to see and understand the explanation of the material given by the teacher, and the student is asked to take note of it. Then the teacher gives the task to the students to be done by the students, for the students who have worked on the task of photo and then sent to the Whatsapp private teachers to be assessed.

Constraints faced by the students during the learning process of the house is that some students have difficulties in writing, arithmetic such as multiplication, there is also a difficulty in the tasks given by the teacher, such as subject 1 RACE having trouble counting, and can not be concentration while learning because learning while watching television, such as the subject of 4 AMA can't concentrate while studying at home due to a lot of distractions from other people as his older brother, sister, and others. Students are also not enthusiastic about learning at home due to no friends when learning, and the subject 10 DA can't count due at the time of the learning process the student is not accompanied by a parent or other family, the possibility of his parents busy with work, lack of attention from parents. Then another difficulty is also for students who always assisted by parents that will make students not be independent due to the abundance of the role of parents or family that helps in learning in the home, the other difficulty that is the limited internet network that makes students and teachers are difficult to communicate, and the presence of parents who do not have means of communication (cell phone) so that his son can not follow the learning process through online, it will certainly make the students difficult to accept the subject matter of the teacher. The data obtained from observations and interviews with school principals, teachers, students, and parents in SD Negeri 22 Lubuklinggau presented in Table 1.

No.	Name	Process Of Learning	Difficulties	Solution
1.	SB,	The learning process is	For students	If the child does not follow the
	S.Pd.SD	learning from home with	plagued with	online learning so that students
		the system learning	communication	can come to school face-to-face
		online, if you are not able	tools (phone), for	with teachers directly 1 student
		to follow online learning	the teacher, which is	for each class while running the
		can be done learning face-	the network the	protocol of health that has been
		to-face, each day is 1	internet is	set (using the mask, wash your
		person for each class.	interrupted.	hands, and keep a distance from
				the teacher).

Table 1. The Results of the Interview with the Head of the School SD Negeri 22 Lubuklinggau

Then, the data obtained from observations and interviews with teachers, students, and parents in SD Negeri 22 Lubuklinggau are presented in Table 2.

No.	Name	Process of Learning	Difficulties	Solution
1.	AA, S.Pd.SD	Using system learning online	cannot understand the students one by one, the delivery of material is less satisfactory, and constraints of the internet.	Giving quite a long time, and access to the internet is sufficient.
2.	H, S.Pd.	Through online learning, which does not use the means of communication, his parents come to school to ask the task the class teacher	can see the development of the child directly, the number of the role of parents or family to help in writing and complete the task.	•

Table 2. The Results of Interviews with Teachers Grade of SD Negeri 2.	22 Lubuklinggau
--	-----------------

Furthermore, the data obtained from observations and interviews with parents in SD Negeri 22 Lubuklinggau presented in table 3. As for the data obtained from the excerpts of the interview with the students in SD Negeri 22 Lubuklinggau as follows subject 1 had difficulty in counting, the child can not count when studying at home, the child also did not understand the material being taught by the teacher, the child can not free his time in learning because when the children's learning while watching television, and no one to assist children in learning. Subject 2 children experiencing difficulties in numeracy, the children also did

not understand the material being taught by the teacher through online learning. Subject 3 children there are obstacles in the learning at home can't concentrate due to interference from other people who were in his house as a distraction from her brother, the child also has difficulty in math, the kids were not excited when learning at home due to no friends her age as at school. Subject 4 child can't concentrate while studying at home, the child also has difficulty with writing, counting, and work on the task, and the child can not understand the material given by the teacher.

No.	Parent s are	Children follow the online learning	Concentrate	Difficulties experienced by the children's	Responses to online learning
1.	Parents 1	Follow the Online learning	Can't concentrate due to the interference of her brother's	The child is difficult to count, and difficulty in the network the internet when the lights off	Less petrified caused more of the role of parents in learning, students are also not excited due to not having a friend at home
2.	Parents 2	Follow the online learning	A child can concentrate on learning from home	the Child's home is not yet able to understand the material given by the teachers, so assisted by his parents, and constrained on the internet network	When the child does not learn in school, the learning system of the house can help children keep learning.

Table 3. The Results of Interviews with Parents of Students SD Negeri 22 Lubuklinggau

Subject 5 children cannot be stimulating to learn at home because of the disruption of his sister, the child is also difficulty in arithmetic such as multiplication, the child also can not understand the material. Subject 6 kids can't count and don't understand the material of the lesson, children also don't like online learning because at home the child feels lonely no friends to play with, it makes the child is not excited about learning from home. Subject 7 children experiencing difficulties in multiplication, the child is just a little bit to understand the material given by the teacher. The subject of 8 of the child can not concentrate in learning because the child while playing with his sister when learning at home, children are also difficulties in numeracy, and can not understand the material given by the teacher. Subject 9 children experience difficulty when writing when learning at home, and can not understand the material given. Subject 10 the child is not happy to learn from home due to no friend to play just like in school, children are also not able to concentrate on while studying, the children also don't want to write if the task given by the teacher a lot, the child only understand a little of the material.

The subject of the 11 children's difficulties in math when learning Mathematics at home, the child also did not understand the material given. The subject of the 12 children has difficulty is not able to count, the child also can not concentrate at the time of study due to a large number of annoying sounds, and the child also can not understands the material. Subject 13 children have trouble counting, and just a little kid understands the material. The subject of 14 children has difficulty when writing. The subject of the 15 children have difficulty when writing and arithmetic, children are also not able to concentrate due to the interference of her brother, and the child does not understand the material from the teacher. The subject of the 16 children's difficulties in work on the problems, difficulties also in writing, can not understand the Mathematics that is taught. The subject of the 17 children of difficulty while working on the problem given by the teacher, and the child does not understand Mathematics. Subject 18 the child can not concentrate on studying because of the child while playing, kids are also difficulties in numeracy, and the child can not understand the material given.

Subject 19 children are experiencing difficulty in math when learning at home, the child is also not accompanied by a parent while studying so causes children difficulty on the material count. The subject of the 20 children experiencing difficulties while answering the question given by the teacher. The subject of the 21 children can not concentrate at the time the study, children are also difficulties in numeracy and the presence of disorder, the child also when learning is not accompanied by a parent, and the child can not understand the material given. The subject of the 22 children experience difficulties that could not answer the questions of the teacher, the child will also not be able to concentrate while studying and Mathematics cannot be understood. Subject 23 children do not like learning from home due to no friends, children also have difficulty at the time to count and memorize when learning Mathematics to make the child can not

understand the material given by the teacher. The subject of the 24 children of the difficulties in counting, the child is also little understanding of the material taught by the teacher.

Discussion

Based on the results of interviews with teachers that the online learning process has not been able to run well, there are still obstacles and difficulties faced by students and teachers, in one class some students do not have communication tools to take part in online learning, the teacher also cannot assess the development of children one by one because not face to face with students, teachers can only judge from the assignments submitted to the teacher, cannot yet assess affective and psychomotor aspects, students at home are also helped a lot by parents or other families in writing and doing an assignment, students' independence in studying at home Not even at home, students also have difficulty understanding the material given by the teacher because it is only through Whatsapp groups (video, voice notes, and chat). This is by the research and categorized from Scopus data between January and August 2020, namely student problems in the field of technology, namely lack ICT knowledge, motivation, internet connectivity, difficulty in recognizing guidelines, and regulatory problems (Aini et al., 2020). In addition, the ability of teachers to innovate and be creative is very important for their success in motivating students to stay enthusiastic in learning and then try all stakeholders, government, schools, teachers, parents, and the community, to also supervise students in the adaptation of new habits (Byrka, 2017; Mpungose, 2021; Rahayu & Wirza, 2020; Stover et al., 2016).

An interesting finding from this research is that the learning process in online learning is an increase in learning time so that students can better understand the material provided, students also get more time to study at home and can do assignments correctly. Internet access, namely, both at school and at each student's home as an internet package aid for parents to help the learning process run smoothly, for those who do not have means of communication, the school asks students to come to school 1 day 1 child per day (Azizah et al., 2017; Dedyerianto, 2020; Soucy et al., 2016). In the classroom teachers can provide direct learning to students who do not follow the online learning process by implementing new habits by health protocols, namely using masks/face shields, using hand sanitizers, washing hands, and keeping a distance between teachers and other people (Lee, 2020; Rajab et al., 2020).

Teachers can also make videos while teaching by using learning media while providing material to students according to the subjects being studied at that time, students do not have communication tools, teachers can make videos while teaching by using learning media while providing material to students according to their subjects (Khairani et al., 2019; Sumarni et al., 2020; Van Alten et al., 2020). The lesson being studied at that time, for students who do not have communication tools, teachers can make videos while teaching by using learning media while providing material to students according to the subjects being studied at that time, for students who do not have communication tools, teachers can make videos while teaching by using learning media. The distance learning process carried out during the pandemic also shows that the school ecosystem is ready to carry out face-to-face meetings through adapting new habits while maintaining health. New behaviors for a healthier life need to continue practiced in society so that it becomes a new social norm and human standard in lifestyle, the application of these behaviors must still be socialized in all of our lives (Karcher et al., 2022; Mulyaningsih, S., Amalia, L., Hernawan, H., Taofik, D. B., & Hernawati, 2020; Pendy et al., 2022). Including in the educational environment at SMPN 1 Banyuresmi Garut.

Another finding is where the government also supports and facilitates the implementation of online learning is extensive, working communications and the provider of telecommunications services, with things that teachers and students can access a variety of content distance learning through a variety of platforms such as a house of learning, a class of smart, quipper school, a teacher, zoom, Microsoft teams, and other applications that can be used (Moorhouse, 2020; Swennen, 2020; Wesley O'Brien et al., 2020). The presence of the applications offered will make teachers and students more aware of and also assist in technological development by learning from home using the application so that teachers and students do not only use the Whatsapp group application which makes students feel bored. Through varied learning, methods will make students more enthusiastic and students feel happy when studying even at home, for example with the Zoom application or Microsoft Team, where teachers can see activities that students can do while studying, students can also see the activities of their friends who. The power of community centers is growing where useful collaborations must be formed so that they can provide a way for all of us to rise after the covid-19 pandemic by helping students develop various subjects both at home and abroad outside the classroom (Van Lancker, W., 2020; Wei et al., 2021; Winthrop, 2020)

Schools will promote technology that allows community collaboration to be used to strengthen learning experiences both inside and outside classrooms so that individuals can survive through the management of the covid-19 pandemic (Grifa et al., 2021; Omland, 2021; Yatsenko & Hritonenko, 2020). As

well as in the field of education through school management in the face of new habits, teachers are required to be creative in teaching by utilizing technology. Learning is developed as needed online or face-to-face, must continue to socialize protocol awareness health, and stakeholders in the field of education are always disciplined and carry out health control, and continue to support and develop technological facilities and infrastructure to support online learning that has been implemented done so far (Fauzi, 2019; Wambugu & Changeiywo, 2008).

The limitations of this study are that it is difficult to meet students at their respective homes and some of the students' answers are not quite right. Therefore, the results of this study are expected to has implications as a guide for the government, schools, teachers, students, parents, and the community in preparing themselves to face the adaptation of new habits later in schools, especially elementary schools so that children do not lose their golden age and ability to develop attitudes, knowledge, and skills. Expected so that further research can research by finding strategies through adopting technology in learning, especially in disadvantaged areas to improve learning create appropriate learning to continue to provide maximum learning outcomes after the impact of the covid-19 pandemic.

4. CONCLUSION

From the findings obtained in the face of new habits in learning is the first in learning teachers must be creative in teaching by using technology and personalized learning methods according to the need for online or face-to-face. Both teachers must continue to familiarize awareness with health protocols together with students. The three stakeholders, be it the government, parents, and the community are always disciplined and exercise control over health. The four schools, the government, and the community continue to support and develop technological facilities and infrastructure to support online learning that has been carried out so far.

5. REFERENCES

- Aini, Q., Budiarto, M., Putra, P. O. H., & Rahardja, U. (2020). Exploring E-learning Challenges During the Global COVID-19 Pandemic: A Review. Jurnal Sistem Informasi, 16(2), 57–65. https://doi.org/10.21609/jsi.v16i2.1011.
- Alperi, M., Riyanto, R., Sapri, J., Alexon, A., & Handayani, D. (2021). Analysis of the Implementation of Distance Learning in the COVID-19 Pandemic New Normal Era. *International Journal of Asian Education*, 2(2), 120–128. https://doi.org/10.46966/ijae.v2i2.172.
- Azizah, S., Khuzaemah, E., & Rosdiana, I. (2017). Penggunaan Media Internet eXe-Learning Berbasis Masalah pada Materi Perubahan Lingkungan untuk Meningkatkan Hasil Belajar Siswa dalam kehidupan sehari-harinya dan juga psikomotor (keterampilan) siswa. Proses belajar dapat materi dan bahan belajar yang. Scientiae Educatia: Jurnal Pendidikan Sains, 2005, 197–213. https://doi.org/10.24235/sc.educatia.v6i2.1957.
- Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Hum Behav & Emerg Tech*, *2*(2). https://doi.org/10.1002/hbe2.191.
- Barrot, J. S., Llenares, I. I., & Del Rosario, L. S. (2021). Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Education and Information Technologies*, 1–18. https://doi.org/10.1007/s10639-021-10589-x.
- Beatty, A, Pradhan M, Suryadarma D, Tresnatri FA, D. G. (2020). *Memulihkan penurunan kemampuan siswa saat sekolah di Indonesia dibuka kembali: pedoman bagi pembuat kebijakan Policy Brief, Program RISE di Indonesia*. Rise.Smeru.
- Beilstein, C. M., Lehmann, L. E., Braun, M., Urman, R. D., Luedi, M. M., & Stüber, F. (2021). Leadership in a time of crisis: Lessons learned from a pandemic. *Best Practice & Research Clinical Anaesthesiology*, 35(3), 405–414. https://doi.org/10.1016/j.bpa.2020.11.011.
- Burki, T. K. (2020). COVID-19: Consequences for Higher Education. *The Lancet Oncology*, 21(6), 758. https://doi.org/10.1016/S1470-2045(20)30287.
- Byrka, M. F. (2017). Blended Learning Strategy in Teacher Training Programs. *Information Technologies and Learning Tools*, *62*(6), 216. https://doi.org/10.33407/itlt.v62i6.1802.
- Cahyani A, Listiana ID, L. S. (2020). Motivasi Belajar Siswa SMA pada Pembelajaran Daring di Masa Pandemi. *Journal Pendidikan Islam, 3*(1), 123–140. https://doi.org/10.37542/iq.v3i01.57.
- Cao, W., Z. Fang, G. Hou, M. Han, X. Xinrong, J. Dong, and J. Z. (2020). The Psychological Impact of the COVID-19 Epidemic on College Students in China. *Psychiatry Research*, 287(112934), 1–5. https://doi.org/10.1016/j.psychres.2020.112934.

- Carrilo, C, dan F. M. (2020). COVID-19 and teacher education: a literature review of online teaching and learning practices. *European Journal of Teacher Education*, 43(4), 466–487. https://doi.org/10.1080/02619768.2020.1821184.
- Chen, N. S., & Lin, K. M. (2002). Factors affecting e-learning for achievement. *IEEE International Conference* on Advanced Learning Technologies.
- Chick, R. C., G. T. Clifton, K. M. Peace, B. W. Propper, D. F. Hale, A. A. Alseidi, and T. J. V. (2020). Using Technology to Maintain the Education of Residents during the COVID-19 Pandemic. *Journal of Surgical Education*, 77(4), 729–732. https://doi.org/10.37074/jalt.2020.3.1.7.
- Crawford, J., K. Butler-Henderson, J. Rudolph, B. Malkawi, M. Glowatz, R. Burton, P. Magni, and S. L. (2020). COVID-19: 20 Countries' Higher Education Intra-Period Digital Pedagogy Responses. *Journal of Applied Learning & Teaching*, 3(1), 1–20. https://doi.org/10.37074/jalt.2020.3.1.7.
- Creswell, J. W. (2016). Research Design Pendekatan Kualitatif, Kuantitatif, dan Mixed. Pustaka Pelajar.
- Dedyerianto. (2020). Pengaruh Internet dan Media Sosial terhadap Kemandirian Belajar dan Hasil Belajar Siswa. *Al-TA'DIB*, *12*(2), 208. https://doi.org/10.31332/atdbwv12i2.1206.
- Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. https://doi.org/10.1177/0047239520934018.
- Elzainy, A., El Sadik, A., & Al Abdulmonem, W. (2020). Experience of e-learning and online assessment during the COVID-19 pandemic at the College of Medicine, Qassim University. *Journal of Taibah University Medical Sciences*, *15*(6), 456–462. https://doi.org/10.1016/j.jtumed.2020.09.005.
- Engzell P, Frey A, dan Verhagen, M. (2021). Learning loss due to school closures during the COVID-19 pandemic. *PNAS*, *118*(17). https://doi.org/10.1073/pnas.2022376118.
- Fauzi, A. (2019). Pengaruh Game Online (Player Unknown's Battle Ground) Terhadap Prestasi Belajar Peserta Didik (The Effect of Online Games (Player Unknown's Battle Ground) on Students' Learning Achievements). ScienceEdu, 2(1), 61. https://doi.org/10.19184/se.v2i1.11793.
- Ferreira, J., Behrens, M., Torres, P., & Marriott, R. (2018). The necessary knowledge for online education: Teaching and learning to produce knowledge. *Eurasia Journal of Mathematics, Science and Technology Education*, 14(6). https://doi.org/10.29333/ejmste/86463.
- Flores, M. A., and M. G. (2020). Teacher Education in Times of COVID-19 Pandemic in Portugal: National, Institutional and Pedagogical Responses. *Journal of Education for Teaching*, 46(4), 507–516. https://doi.org/10.1080/02607476.2020.1799709.
- Grifa, C., Germinario, C., Mercurio, M., Izzo, F., Pepe, F., & Bareschino, P. (2021). Technology, exploitation and consumption of natural resources of traditional brick productions in Madagascar. *Construction and Building Materials*, *308*. https://doi.org/10.1016/j.conbuildmat.2021.125022.
- Huber, S. G., & Helm, C. (2020). COVID-19 and schooling: evaluation, assessment and accountability in times of crises—reacting quickly to explore key issues for policy, practice and research with the school barometer. *Educational Assessment, Evaluation and Accountability*, 32(2), 237–270. https://doi.org/10.1007/s11092-020-09322-y.
- Hyler, L. D.-H. & M. E. (2020). Preparing educators for the time of COVID ... and beyond. *European Journal of Teacher Education*, 43(4), 457–465. https://doi.org/10.1080/02619768.2020.1816961.
- Irene van der Spoel, Omid Noroozi, E. S. & S. van G. (2020). Teachers' online teaching expectations and experiences during the Covid19-pandemic in the Netherlands. *European Journal of Teacher Education*, 43(4), 623–638. https://doi.org/10.1080/02619768.2020.1821185.
- Kamanetz, A. (2020). Panicgogy': Teaching Online Classes During The Coronavirus Pandemic. NPR.
- Karcher, E. L., Koltes, D., Wenner, B., & Wells, J. (2022). Sparking curiosity and engagement through online curriculum. *Poultry Science*, 101(2). https://doi.org/10.1016/j.psj.2021.101577.
- Khairani, M., Sutisna, S., & Suyanto, S. (2019). Meta-analysis study of the effect of learning videos on student learning outcomes. *Journal of Biological Education and Research*, 2(1), 158. https://doi.org/10.23960/jpp.v11.i2.202113.
- König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education*, 43(4), 608–622. https://doi.org/10.1080/02619768.2020.1809650.
- Lee, J. (2020). Mental Health Effects of School Closures during COVID-19. *Lancet Child Adolesc Health*, 4(6), 421. https://doi.org/10.1016/s2352-4642(20)30109-7.
- Liguori, E., & Winkler, C. (2020). From Offline to Online: Challenges and Opportunities for Entrepreneurship Education Following the COVID-19 Pandemic. *Entrepreneurship Education and Pedagogy*, *3*(4), 346–351. https://doi.org/10.1177/2515127420916738.

- Logan, R. M., Johnson, C. E., & Worsham, J. W. (2021). Development of an E-learning Module to Facilitate Student Learning and Outcomes. *Teaching and Learning in Nursing*, *16*(2), 139–142. https://doi.org/10.1016/j.teln.2020.10.007.
- Maatuk, A. M., Elberkawi, E. K., Aljawarneh, S., Rashaideh, H., & Alharbi, H. (2021). The COVID-19 Pandemic and E-learning: Challenges and Opportunities from the Perspective of Students and Instructors. *Journal of Computing in Higher Education*, 1–18. https://doi.org/10.1007/s12528-021-09274-2.
- Mahdum, M., Hadriana, H., & Safriyanti, M. (2019). Exploring teacher perceptions and motivations to ICT use in learning activities in Indonesia. *Journal of Information Technology Education: Research, 18*, 293–317. https://doi.org/10.28945/4366.
- Mahyoob, M. (2020). Challenges of e-Learning during the COVID-19 Pandemic Experienced by EFL Learners. *Arab World English Journal*, *11*(4), 351–362. https://doi.org/10.24093/awej/vol11no4.23.
- Mehrsafar, A. H., Moghadam Zadeh, A., Jaenes Sánchez, J. C., & Gazerani, P. (2021). Competitive anxiety or Coronavirus anxiety? The psychophysiological responses of professional football players after returning to competition during the COVID-19 pandemic. *Psychoneuroendocrinology*, 129(January), 105269. https://doi.org/10.1016/j.psyneuen.2021.105269.
- Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, *1*, 100012. https://doi.org/10.1016/j.ijedro.2020.100012.
- Mitchell, J. L. (2000). The effect of matching teaching style with learning style on achievement and attitudes for women in web-based distance education course. IN: Indiana State University.
- Moorhouse, B. L. (2020). Adaptations to a Face-to-face Initial Teacher Education Course 'Forced' Online Due to the COVID-19 Pandemic. *Journal of Education for Teaching*, 46(4), 609–611. https://doi.org/10.1080/02607476.2020.1755205.
- Morrison, P. S.-E. & A. (2020). Online teaching placement during the COVID-19 pandemic in Chile: challenges and opportunities. *European Journal of Teacher Education*, 43(4), 587–607. https://doi.org/10.1080/02619768.2020.1820981.
- Mpungose, C. B. (2021). Lecturers' reflections on use of Zoom video conferencing technology for e-learning at a South African university in the context of coronavirus. *African Identities*. https://doi.org/10.1080/14725843.2021.1902268.
- Mulyaningsih, S., Amalia, L., Hernawan, H., Taofik, D. B., & Hernawati, D. (2020). Education On Adaptation Of New Habits In The Pandemic Time Of Covid-19. *Pekemas*, *3*(1), 1–4.
- Murphy, M. (2020). COVID-19 and Emergency eLearning: Consequences of the Securitization of Higher Education for Post-pandemic Pedagogy. *Contemporary Security Policy*, 41(3), 492–505. https://doi.org/10.1080/13523260.2020.1761749.
- Nasri, N. M., H. Husnin, S. N. D. Mahmud, and L. H. (2020). Mitigating the COVID-19 Pandemic: A Snapshot from Malaysia into the Coping Strategies for Pre-service Teachers Education. *Journal of Education* for Teaching, 46(4), 546–553. https://doi.org/10.1080/02607476.2020.1802582.
- Omland, M. (2021). Technology-aided meaning-making across participation structures: interruptions, interthinking and synthesising. *International Journal of Educational Research*, *109*(July 2020), 101842. https://doi.org/10.1016/j.ijer.2021.101842.
- Parmin, P., Junaedi, I., Purwantoyo, E., Mubarak, I., Toni, M., & Fitriani, F. (2020). Character Index of Mathematics and Science Student Teachers in Online Learning. *Jurnal Pendidikan Indonesia*, 9(3), 381–388. https://doi.org/10.23887/jpi-undiksha.v9i3.26418.
- Pendy, A., Suryani, L., & Mbagho, H. M. (2022). Analisis keefektifan pembelajaran online di masa pandemi Covid-19 pada mahasiswa pendidikan matematika. *Edukatif: Jurnal Ilmu Pendidikan*, 4(1), 19–27. https://doi.org/10.31004/edukatif.v4i1.1661.
- Quezada, R. L., Talbot, C., & Quezada-Parker, K. B. (2020). From bricks and mortar to remote teaching: A teacher education program's response to COVID-19. *Journal of Education for Teaching*, 46(4), 472– 483. https://doi.org/10.1080/02607476.2020.1801330.
- Rachmadtullah, R., & Samsudin, A. (2020). *The Perceptions of Primary School Teachers of Online Learning during the COVID-19 Pandemic Period: A Case Study in Indonesia*. https://doi.org/10.29333/ejecs/388.
- Rahayu, R. P., & Wirza, Y. (2020). Teachers' Perception of Online Learning during Pandemic Covid-19. *Jurnal Penelitian Pendidikan*, 20(3), 392–406. https://doi.org/10.17509/jpp.v20i3.29226.
- Rajab, M. H., Gazal, A. M., & Alkattan, K. (2020). Challenges to Online Medical Education During the COVID-19 Pandemic. *Cureus*, *12*(7), e8966. https://doi.org/10.7759/cureus.8966.
- Scull, J., M. Phillips, U. Sharma, and K. G. (2020). Innovations in Teacher Education at the Time of COVID19: An Australian Perspective. *Journal of Education for Teaching*, 46(4), 497–506. https://doi.org/10.1080/02607476.2020.1802701.

- Soucy, J. N., Owens, V. A. M., Hadjistavropoulos, H. D., Dirkse, D. A., & Dear, B. F. (2016). Educating patients about Internet-delivered cognitive behaviour therapy: Perceptions among treatment seekers and non-treatment seekers before and after viewing an educational video. *Internet Interventions*, *6*, 57–63. https://doi.org/10.1016/j.invent.2016.09.003.
- Stover, K., Yearta, L., & Harris, C. (2016). Experiential Learning for Preservice Teachers: Digital Book Clubs With Third Graders. *Journal of Digital Learning in Teacher Education*, 32(1), 5–12. https://doi.org/10.1080/21532974.2015.1055013.
- Sugiyono. (2017). Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D. Bandung: Alfabeta.
- Sumarni, R. A., Bhakti, Y. B., Astuti, I. A. D., Sulisworo, D., & Toifur, M. (2020). The development of animation videos based flipped classroom learning on heat and temperature topics. *Indonesian Journal of Science and Mathematics Education*, *3*(3), 304–315. https://doi.org/10.24042/ijsme.v3i3.7017.
- Swennen, M. A. F. & A. (2020). The COVID-19 pandemic and its effects on teacher education. *European Journal of Teacher Education*, 43(4), 453–456. https://doi.org/10.1080/02619768.2020.1824253.
- Van Alten, D. C., Phielix, C., Janssen, J., & Kester, L. (2020). Self-regulated learning support in flipped learning videos enhances learning outcomes. *Computers & Education*, 158. https://doi.org/10.1016/j.compedu.2020.104000.
- Van Lancker, W., and Z. P. (2020). COVID-19, School Closures, and Child Poverty: A Social Crisis in the Making. *Lancet Public Health*, 5(5), e243–e244. https://doi.org/10.1016/s2468-2667(20)30084-0.
- Viner, R. M., S. J. Russell, H. Croker, J. Packer, J. Ward, C. Stansfield, O. Mytton, C. Bonell, and R. B. (2020). School Closure and Management Practices during Coronavirus Outbreaks Including COVID-19: A Rapid Systematic Review. *The Lancet Child and Adolescent Health*, 4(5), 397–404. https://doi.org/10.1016/S2352-4642(20)30095-X.
- Wambugu, P. W., & Changeiywo, J. M. (2008). Effects of mastery learning approach on secondary school students' physics achievement. *Eurasia Journal of Mathematics, Science and Technology Education*, 4(3), 293–302. https://doi.org/10.12973/ejmste/75352.
- Wei, Y., Ye, Z., Cui, M., & Wei, X. (2021). COVID-19 prevention and control in China: grid governance. *Journal* of Public Health, 43(1), 76–81. https://doi.org/10.1093/pubmed/fdaa175.
- Wesley O'Brien, Manolis Adamakis, Niamh O' Brien, Marcos Onofre, J., & Martins, Aspasia Dania, Kyriaki Makopoulou, Frank Herold, K. N. & J. C. (2020). Implications for European Physical Education Teacher Education during the COVID-19 pandemic: a cross-institutional SWOT analysis. *European Journal of Teacher Education*, 43(4), 503–522. https://doi.org/10.1080/02619768.2020.1823963.
- Winthrop, E. V. and R. (2020). Beyond reopening schools: How education can emerge stronger than before *COVID-19*.
- Yatsenko, Y., & Hritonenko, N. (2020). Optimal asset replacement: Profit maximization under varying technology. *International Journal of Production Economics*, 228. https://doi.org/10.1016/j.ijpe.2020.107670.
- Yildiz, E. P., Cengel, M. & Alkan, A. (2020). Current trends in education technologies research worldwide: Meta analysis of studies between 2015-2020. World Journal on Educational Technology: Current Issues, 12(3), 192–206. https://doi.org/10.18844/wjet.v%vi%i.5000.
- Zhang, W., Y. Wang, L. Yang, and C. W. (2020). Suspending Classes without Stopping Learning: China's Education Emergency Management Policy in the COVID-19 Outbreak. *Journal of Risk and Financial Management*, 13(3), 55. https://doi.org/10.3390/jrfm13030055.
- Zhao Yong, & Watterston, J. (2021). The changes we need: Education post COVID-19. *Journal of Educational Change*, *22*(1), 3–12. https://doi.org/10.1007/s10833-021-09417-3.