



JUARA: Jurnal Olahraga

E-ISSN 2655-1896 ISSN 2443-1117

<https://doi.org/10.33222/juara.v6i1.1054>



Literature review: Physical education in the covid-19 pandemic

Mujiono¹, Novri Gazali²

^{1,2}Departement Physichal Education, Universitas Islam Riau, Street Kaharuddin Nasution No. 113. Pekanbaru, Riau, 28125, Indonesia

email: mujiono@student.uir.ac.id¹, novri.gazali@edu.uir.ac.id²

Article Info

Article History:

Received 08 August 2020

Approved 07 December 2020

Published 25 December 2020

Keywords:

*Physical Education,
Pandemic, Covid-19*

Abstract

Currently, teachers and students face problems regarding the learning media used during online learning for physical education. Meanwhile, most students stated that online learning for physical education during this pandemic was not yet fully effective. The purpose of this literature study was to provide a review of the latest research related to physical education learning during the Covid-19 pandemic. The research method is literature study or literature review. Data collection for literature studies was carried out using a database search tool, a phase of searching for literature sources from journals starting from 2017 to 2018. This data collection uses the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) method. The research was carried out by analyzing journals and then making a summary related to the study's questions and objectives. The procedure for searching journals to become material in this study is to have criteria according to the PICOT procedure. Based on the articles that have been found and analyzed, the online learning model can be applied in physical education with the Schoology portal method and vlogs and can also use the distance learning model with a collaborative approach.

© 2021 Mujiono, Novri Gazali
Under the license CC BY-SA 4.0

✉ Address Corresponden: Street Kaharuddin Nasution No. 113. Pekanbaru

E-mail : novri.gazali@edu.uir.ac.id

INTRODUCTION

At the end of 2019, to be precise on December 31, 2019, WHO, the World Health Organization, announced the emergence of a case of pneumonia with an unknown etiology detected in the city of Wuhan, China (Lee, 2020) and rapidly spreading throughout China

trying to describe the clinical characteristics of this case (Guan et al., 2020). The World Health Organization says that the new coronavirus, which has so far spread from China to 26 countries worldwide, does not appear to be like other deadly viruses, including SARS and MERS (Mahase, 2020). To date, many patients infected with SARS-

CoV-2 have mild symptoms such as fever, sore throat, and mild cough. Many cases have been resolved quickly. However, some cases have developed into a fatal complication leading to organ failure, septic shock, pulmonary edema, severe pneumonia, and acute respiratory distress syndrome (ARDS) (Sohrabi et al., 2020).

Centers for disease prevention and control have recommended avoiding meetings with more than ten people in recent years (Chick et al., 2020). Medical care is a crucial way to prevent infectious diseases today (Garzotto et al., 2020). In this situation, a person is prevented from entering the location infected by the disease to prevent it from spreading. In the same vein, the people at that location were prevented from getting out of it, whether the person is infected or not. However, quarantine is considered in contemporary times as a mechanism to prevent humans from spreading infectious diseases, and the reason is that quarantine is used to control and control the risk of outbreaks (Goje, 2017). The pandemic (COVID-19) is causing substantial morbidity and mortality, tiring health care systems, shutting down economies, and closing school districts. This closure of schools can exacerbate the obesity epidemic in childhood and increase the gap in the risk of obesity (Rundle, Park, Herbstman, Kinsey, & Wang, 2020). Physical activity is a body movement performed by skeletal muscles that require expenditure. However, the COVID-19 pandemic has limited physical activity in people of all ages. In many countries, indoor

and outdoor sports and recreational facilities, such as gyms, swimming pools, and playgrounds, are closed (Shahidi, Stewart Williams, & Hassani, 2020).

The spread of Covid-19 has had a profound effect on the economy, which is starting to diminish, but currently, the result is being felt in education. The decision was made in many countries, including Indonesia, by stopping all educational activities and activities created by related institutions. The government has to present and make alternative education for students and students who cannot carry out educational institutions (Hidaayatullaah, Simamora, Fehabutar, & Menengah, 2020). Indonesia and the rest of the world are faced with the challenges of changing work environments and increasingly disruptive ways of working in the era of the industrial revolution 4.0 (Verawardina & Jama, 2019). This has led to testing distance education on an unprecedented scale (Sun, Tang, & Zuo, 2020). The Chengdu Sports University took advantage of carefully compiling a guidebook for home exercise to prevent this epidemic for people to read for free. This book guides the general public from a professional perspective on fitness activities in the environment (Kan & Zhou, 2020). Throughout the Covid-19 pandemic, there has been a growing dependence on technology to learn, live, and stay connected. This group will further explore how technology becomes essential during isolation and social distance and is used to improve and maintain well-being for children (Goldschmidt & Msn,

2020). In situations where students are not allowed to go to school, the alternative is to switch from traditional to online education. In this case, an important part is the reach of the internet, the availability of a computer or smartphone (Basilaia & Kvavadze, 2020).

The Coronavirus outbreak has significantly accelerated the development of online education (Zhu & Liu, 2020). Social enforcement against Covid-19 encourages learning activities to be carried out online (Gunawan, Suranti, & Fathoroni, 2020). At this time, many new applications have emerged that are specifically used as tools and media in carrying out education or distance learning, including using Whatsapp Group and Face-to-Face Learning Webinar Zoom Meeting (Firman et al., 2020). Blended learning is also a learning model that can be offered to improve the quality of education. This learning model combines face-to-face learning and online learning (Banggur, Situmorang, & Rusmono, 2018). Students provide feedback to the teacher and ask questions related to teaching materials and assignments. Students also learn from other students' questions when they participate in this meeting (Choi, Ho, & Smith, 2020).

But for now, the problem is being faced by teachers and students where physical education teachers always experience obstacles regarding the learning media used during online learning (Komarudin & Prabowo, 2020). Meanwhile, most students stated that online learning for physical education during this pandemic was not yet

fully effective (Nopiyanto, Raibowo, Suryatama, & Ibrahim, 2020).

In physical education, several aspects must be carried out like this, namely cognitive, affective, and psychomotor aspects how teachers' role is required to remain creative even during this current pandemic. Teachers must follow every government policy and find ways so that learning can take place even when studying at home. Online learning is a learning model that uses and utilizes multimedia technology such as virtual classes, animated online texts, voice messages, e-mails, videos, streaming videos, conference calls, and various other media. Learning can be carried out massively, and the number of participants is not limited and can be carried out for free or paid (Jayul & Irwanto, 2020). Learning in PJOK subjects under challenging times like this still has the potential and opportunities to continue to be implemented, even though schools, teachers, and students have limitations in internet accessibility, lack of facilities and infrastructure, lack of support for android-based technology devices (cellphones) (Herlina & Suherman, 2020).

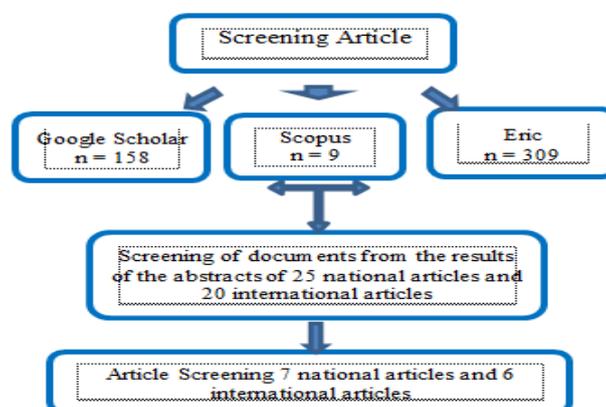
Based on this description, an article review was carried out with the aim of research to determine the effectiveness of physical education learning during the Covid 19 pandemic. This is very necessary to decide on the implementation and impact of physical education learning during the Covid-19 pandemic, with the hope of providing information.

METHODS

The method used is literature study or literature review. A literature study is a research design used in collecting data sources related to a topic. The literature study aims to describe the main content based on collecting information obtained (Herliandry, Nurhasanah, Suban, & Kuswanto, 2020). The strategies used in the literature search were obtained through national and international journal provider databases. National and international journal providers can be accessed through several websites. Access used in the search for reviewed articles used a search database from Google Scholar, Eric, and Scopus, which then used the search term "physical education during the Covid-19 pandemic". The period of the articles is from 2017 to 2020. This study uses the inclusion criteria of 15 bibliographies. The stage of identifying items first with the findings of 158 articles on Google Scholar, 309 articles on Eric, and 9 article findings on Scopus. Furthermore, these articles were screened into 25 national articles and 20 international articles. The appropriate screening results and what is needed are 7

National Journal articles and 6 International Journal articles.

Data collection for literature studies was carried out using a database search tool to search for literature sources. This data collection uses the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) method. The research was carried out by analyzing journals and then making a summary related to the study's questions and objectives. The procedure for searching journals to become material in this study is to have criteria following the PICOT procedure. The questions used to review the journal have been adjusted to the PICOT method; each question has P = problem/population. In this study, researchers used learning as a problem. I / E = implementation/intervention/exposure, researchers examined what happened to physical education learning during the Covid-19 pandemic. C = control/comparison intervention, the researcher did not use comparison or control intervention in the study. T = time, researchers conducted journal review research during the Covid-19 pandemic to determine what learning activities were like during the Covid-19 pandemic.



FINDINGS AND DISCUSSION

Findings

No	Author, Years	Methods	Research Findings
1	Jayul & Irwanto, 2020	Descriptive	The online learning model makes physical education learning easier to keep going physical and theoretical activities by utilizing existing platforms.
2	Kan & Zhou, 2020	Survey	Exercise manuals can provide solutions and convenience in physical learning; in addition to getting theory, you can also do physical movements by following the manual.
3	Andrew G. Rundle, Yoosun Park, Julie B. Herbstman, Eliza W. Kinsey, And Y. Claire Wang, 2020	Analysis	Online streaming classes provide theory and giving forms of motion training by practicing them to students so that physical education learning continues.
4	Herlina & Maman Suherman, 2020	Qualitative	Physical education learning can still be implemented with a collaborative approach model in which teachers and parents work together to provide information about children's development during this distance learning. Teachers provide learning through online learning both in theory and practice; parents supervise whether their children make assignments that the teacher has given.
5	Peijie Chen, Lijuan Mao, George P. Nassis, Peter Harmer, Barbara E. Ainsworth A, Fuzhong Li, 2020	Analysis	Physical education learning can continue even in times like this, with small groups' formation to carry out physical education activities by maintaining distance and complying with existing health protocols.
6	Valeria Varea & Gustavo González-Calvo, 2020	Survey	Physical education learning is currently experiencing changes to make teachers experience more pressure and emotions, where teachers are required to continue to make physical education learning both theoretically and physically using online media.
7	Edson Silva-Filho, Andrei Luiz Sales Teixeira, Jairo Roberto Da Silva Xavier, Donato Da Silva Braz Júnior, Rogério Andrade Barbosa, Jéssica Andrade De Albuquerque, 2020.	Analysis	Physical education teachers are considered essential health professionals during this pandemic period because they can guide and stimulate individuals to undertake regular physical exercise to maintain and improve their health and provide theoretical learning.
8	Zhongping Xie, 2020	Survey	Home sports dominated the COVID-19 (coronavirus 2019) period, with only 56.69% of students achieving optimal immune status standards.
9	Muhammad Nurrohman Jauhari, Sambira, Zykra Zakiah, 2020.	Quantitative	Adaptive physical education teachers in carrying out learning to children with special needs experience obstacles in the implementation of adaptive physical education program practices and inadequate infrastructure so that teachers must be able to provide a way out for physical education

10	Setiyawan, Pandu Kresnapati, Danang Aji Setiyawan, 2020	Quantitative descriptive	learning to be carried out according to the objectives of adaptive physical education teaching itself. The current form of physical education learning is carried out by providing theory and practice by utilizing the digital platform provided so that physical and theoretical activities can be carried out in biological knowledge.
11	Dyah Purnama Sari, Panggung Sutapa, 2020	Survey	Online physical education learning is currently very effective. With a system of assigning and utilizing digital platforms properly to continue learning theoretically and physically. So that the learning objectives are still being achieved.
12	Muhammad Fachrurrozi Bafadal, Andika Triansyah	Survey	Teachers and lecturers of physical education currently use e-learning a lot as their teaching material so that the theoretical and practical learning that you want to aim at is achieved following the learning objectives itself.
13	Agus Purwanto, 2020	Exploration Case Study	WFH (Work from Home) is currently carried out in physical education learning to prevent viruses from occurring. Learning is carried out from home by utilizing the teacher's teaching, both theoretically and practically. So that even if only at home, they are still productive and active.

Discussion

In the discussion, it was found that articles were the source of the data for this study. One of the reviews stated that the online learning model could be applied in physical education using the portal Schoology method and vlog. In other words, the technique has a video application, which can be used to demonstrate movements in the psychomotor domain (practicum) (Jayul & Irwanto, 2020). So in this study, I think that during the current pandemic, many learning innovations are offered to facilitate the learning process, especially for physical education learning, one of which is the Schoology portal; this portal is one of the outlets that can be used to carry out physical education learning activities where this portal able to provide and present the

same learning as in class. Schoology can help in understanding because it functions to share ideas, files, activity agendas, and assignments that can create teacher and student interactions (Azizah, Suyatna, & Wahyudi, 2017), as well as open up vast communication opportunities so that it is easier to take part in discussions and teamwork (Purnomo, Mansir, Tumin, & Suliswiyadi, 2020). This portal is also equipped with various media that can help, such as audio, video, and images. Physical education learning with the e-learning model using Schoology provides an exciting experience in physical education learning because the method has a video application, which can be used to demonstrate movements in the psychomotor realm (Hasibuan &

Damanik, 2020). Students also get feedback in the form of activity comments about the educator's lack of explanation so that students get information from the educator directly. Physical education can also be done using video vlogs, where students can see many vlog videos about physical activities currently available on the video provider platform. Educators can also provide practical assignments with students making vlog videos of physical activities according to their interests and learning material to be discussed, then sent back to the educators. Apart from Schoology and vlogs, there are many more platforms that can be used for physical education learning so that learning objectives are achieved. In my opinion, the teaching carried out using this method is still in line with the concept of PJOK learning because students are yet required to be active in education.

A study stated that Chengdu Sports University took advantage of the sports medicine discipline by compiling a Guide to Exercise at Home (Kan & Zhou, 2020). Making books is done to encourage students to keep moving at home and continue learning with existing manuals. Students are carried out physical education learning looking at the current guidelines, then doing the movements according to the guidebook. Buka is an essential source of physical education learning to add insight for every reader. Physical education is indeed famous for physical movement, but books that support physical education make them have broad insights,

useful in physical exercise and good in theory. So that in addition to getting physical health from their activities, they also get a lot of unknown knowledge and ideas. Learning that is carried out using manual books is still in line with physical education learning. However, not all students can understand the manual, so they need other help.

One study also stated that the 2019 pandemic virus disease (COVID-19) exacerbated the obesity epidemic in childhood and increased the gap in the risk of obesity due to school closures and physical education learning activities (Rundle et al., 2020). Physical education is education that uses much physical activity and is accompanied by its theory. Physical education, which is the source of learning for children's movements, is currently hindered by the virus that continues to spread. Many children make physical education their weekly physical activity and exercise. The source of their physical activity and sports cannot be done as usual. Physical education helps children lose weight and maintain their health so that when things change like this, they are more silent. Teachers must be able to make how physical education learning can continue to run to reduce the risk of obesity in children. Here the teacher must play an active role in making physical education learning continue even during a pandemic like now so that learning physical education is achieved.

In the third article, it was stated that physical education learning is identical to physical activity. Physical activity is defined

as body movements performed by skeletal muscles that require expenditure. However, the COVID-19 pandemic has limited physical activity in people of all ages. In many countries, indoor and outdoor sports and recreational facilities, such as gyms, swimming pools, and playgrounds, are closed. Online communication for work, leisure, and shopping is now part of the daily family routine, and children use the Internet for school work and social interactions (Shahidi et al., 2020). Physical education is currently very disturbed by the Covid-19 epidemic; all physical education activities that are carried out cannot be carried out as usual. Physical education cannot do sports, both outdoor and indoor. So that all the lesson plans that are made fall apart. Physical education is synonymous with physical movement and the field, while physical contacts make physical education impossible to do directly. Physical education online is the way out nowadays by utilizing existing platforms to achieve physical education learning goals. Physical education online is the best way to achieve the desired learning goals achieved because online learning makes it easy for teachers and students.

Subsequent research states that current physical education must foster a festive spirit and focus on virtual learning environments so that it can continue to move, at least for now (Heidorn, 2020). Current physical education using the internet makes it easy for teachers and students. Physical education can continue by keeping students moving. Physical

education learning virtually makes students easy to see movements, and they can repeat and look back continuously as they need by recording them (Heidorn, 2020). Physical education teachers need to foster a festive spirit and focus on students so that physical education achieves its goals.

In the following research, it is stated that the learning potential for the subjects of Physical Education, Health, and Sports during the Covid-19 pandemic is very open, even though the school area or environment is not equipped with infrastructure to support online learning. Learning can be done using a distance learning model and making a collaborative approach with students' parents using a monitoring sheet for student learning activities. The distance learning model for PJOK subjects with a collaborative approach with parents of students is a solution and potential for learning in schools and regions that cannot implement online learning, which is constrained by the internet network, supporting facilities and infrastructure as well as the lack of teacher and student mastery of online learning (Herlina & Suherman, 2020). Learning models like this are beneficial for those in difficult areas to reach the internet but can still carry out learning activities well to achieve the desired learning objectives.

Apply physical education or physical activity classes with time tables set incrementally to avoid overcrowding (Chen et al., 2020). In times like this, physical education is not possible with many students. This makes the teacher have to create a

schedule and time for students by dividing it. So that there is no density when doing physical activities when learning physical education, at present, physical education cannot be done face-to-face, with this virus has the opportunity to create new clusters if students continue to attend school, but for areas that are still safe from Covid 19, it can be done.

During the lockdown period, the emotional level of students changed how their emotions during physical education learning had changed significantly from before during the Covid-19 pandemic. Pandemic made students have an unstable emotional level in carrying out physical education learning. This is because Physical education is not carried out as usual and requires them to face new things that they have not met before, such as physical education learning, which is carried out online. Physical education teachers must create an atmosphere that makes students stable and not disturbed by their emotional level if the teacher's knowledge does not reassure students so that students do not feel too burdened even though the learning is not as usual.

Physical education teachers must be considered essential health experts during this pandemic period because they can guide and stimulate individuals to regularly practice physical exercise to maintain and improve their health (Filho et al., 2020). Here, the physical education teacher must guide students to continue practicing physical activity regularly to support student health during a pandemic. Therefore the role of physical

education teachers is vital to keep students moving in times like this. Things like this are essential and in line with physical education learning.

Physical education is part of the curriculum; at this time, physical education has an irreplaceable role (Xie, 2020). Physical education is a critical education, especially today, which makes physical education play its role as education that functions to maintain student health. So that his health is maintained in times like this; therefore, physical education must keep students moving in learning as it is today. The teacher must emphasize students' learning that is continually moving but still in a happy atmosphere so that students are not bored with the teaching being carried out.

Physical education teachers in inclusive schools assign assignments to children with special needs to practice sports every morning. The teacher coordinates with parents to make videos of sports activities carried out by children with special needs (Jauhari, Sambira, & Zakiah, 2020). Physical education learning has also changed in the education of children with special needs. Where teachers are currently also changing the learning methods, they do in physical education learning. Physical education, which is supposed to make the development of children with special needs better, currently can only be done at home and through online learning that has been made. The best thing is online education for all students, even though this is not good for students with special needs.

The Covid-19 pandemic has forced the learning system on campus to change drastically from face-to-face meetings to online learning, especially in learning physical education (Setiawan, Kresnapati, & Setiawan, 2020). Physical education learning is also influential in campus learning during the current pandemic. Currently, physical education learning can only be done with an online system. To make drastic changes in the existing physical education learning system. The teaching they do online depends on their instructors to shape the learning as to what they must get and the real purpose of physical education learning.

The implementation of online PJOK learning needs to be known for its effectiveness so that it is evaluated to find exact remedial steps so that they are ready to face the new average era (Sari & Sutapa, 2020). Physical education learning is currently carried out online; this makes many question its effectiveness. Therefore, this learning needs to be evaluated and continuously improved in terms of quality and effectiveness. Of course, teachers are required to be creative in learning physical education online. Teachers must continue developing in terms of their mindset and creativity to continue to present the best physical education learning innovations for their learning, to get the physical education learning objectives.

Google form can be used as an online assessment application for physical education learning for students and lecturers because the application display is easy to understand and

how to operate. It is quite simple, and the link is easily accessible (Bafadal, 2020). Physical education learning is currently done online, making assessments also done online. This is very effective for students and lecturers alike. The use of google form in physical education learning makes one a very effective alternative because it is straightforward to understand and operate.

Work From Home can effectively be done in physical education if both teachers and schools live it responsibly (Purwanto, 2020). Of course, physical education learning currently being carried out is not a desire that all educational people want, especially physical education. This is a challenge for physical education teachers to be able to make the current learning effective. The teacher must be responsible for the knowledge carried out; this is very good for students to build their sense of responsibility for what has been ordered by the teacher and vice versa. The teacher must be responsible for continuing to provide cooperative learning but still have to see the physical education learning area's goals to achieve the desired thing.

Physical education can continue like this by utilizing a distance learning model with a collaborative approach. This is done because not all places have regular internet coverage, so this model is very suitable for the physical education learning process. Physical education learning can still run with printed modules, printed teaching materials, published study guides, and SMS. Printed teaching materials or books can be a handy guide for students. In

addition to students getting the correct practice guide, they are also given knowledge of the theory. Students can also use television as a learning medium. Because at one of the national television stations, namely TVRI, they make home study programs, including physical education learning. Parental participation and intervention are very influential in this learning model; parents must work with educators to provide information about their child's learning development. This learning model is beneficial for remote areas and makes physical education learning continue as desired. In this case, the government has taken excellent action to make it easier for students to provide information to students, especially physical knowledge itself.

CONCLUSION

Online learning provides convenience and effectiveness for physical education learning, which can provide knowledge from a distance by utilizing other supporting platforms and applications, and online learning can still perform physical activities even though online. However, this needs to be adjusted to local conditions, have different internet reach, and the ability of each parent to facilitate this online learning. The key is to maximize the ability of students to learn in a pandemic like this.

ACKNOWLEDGMENTS

The author would like to thank several parties who have supported in completing this research, namely: (1) Dean of the Faculty of Teacher Training and Education at the Islamic University of Riau, (2) Chairman and Secretary of the Health and Recreation Study Program of the Riau Islamic University, (3)

Especially to the Rector of Riau Islamic University who has issued a policy and allowed me to write this article as the output of my final project.

REFERENCES

- Azizah, S. R., Suyatna, A., & Wahyudi, I. (2017). Pengaruh Penggunaan E-Learning Dengan Schoology Terhadap Hasil Belajar Siswa. *Jurnal Pembelajaran Fisika*, 5(2), 127–138.
- Banggur, M. D. V., Situmorang, R., & Rusmono. (2018). Pengembangan Pembelajaran Berbasis Blended Learning pada Mata Pelajaran Etimologi Multimedia. *JTP - Jurnal Teknologi Pendidikan*, 20(2), 152–165. <https://doi.org/10.21009/JTP2002.5>
- Basilaia, G., & Kvavadze, D. (2020). Transition to Online Education in Schools during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic in Georgia. *Pedagogical Research*, 5(4). <https://doi.org/10.29333/pr/7937>
- Chen, P., Mao, L., Nassis, G. P., Harmer, P., Ainsworth, B. E., & Li, F. (2020). Returning Chinese school-aged children and adolescents to physical activity in the wake of COVID-19: Actions and precautions. *Journal of Sport and Health Science*, 00, 4–6. <https://doi.org/10.1016/j.jshs.2020.04.003>
- Chick, R. C., Clifton, G. T., Peace, K. M., Propper, B. W., Hale, D. F., Alseidi, A. A., & Vreeland, T. J. (2020). Using Technology to Maintain the Education of Residents During the COVID-19 Pandemic. *Journal of Surgical Education*. <https://doi.org/10.1016/j.jsurg.2020.03.018>
- Choi, E. P. H., Ho, M., & Smith, R. (2020). What can we do for part-time nursing students during the COVID-19 pandemic? *Medical Education*, 54(7),

- 667–668.
<https://doi.org/10.1111/medu.14196>
- Firman, Rahayu, S., Aji, W., Dewi, F., Kristen, U., Wacana, S., ... Anhusadar, L. O. (2020). Platform Whatsapp Group Dan Webinar Zoom Dalam Pembelajaran Jarak Jauh Pada Masa Pandemi Covid 19. *Jurnal Ilmiah Pendidikan Matematika Volume*, 5(1), 81–89. <https://doi.org/http://dx.doi.org/10.24014/kjiece.v3i1.9609>
- Garzotto, F., Irene, R., Ostermann, M., Nalesso, F., Gregori, D., Giuseppina, M., ... Meneghesso, G. (2020). Preventing infectious diseases in Intensive Care Unit by medical devices remote control: Lessons from COVID-19. *Journal of Critical Care*, 61, 119–124. <https://doi.org/https://doi.org/10.1016/j.jc rc.2020.10.014>
- Goje, K. (2017). Preventative Prophetic Guidance in Infection and Quarantine. *Journal of Usuluddin*, 45(2), 155–170. <https://doi.org/10.22452/usuluddin.vol45 no2.7>
- Goldschmidt, K., & Msn, P. D. (2020). The COVID-19 Pandemic: Technology use to Support the Wellbeing of Children Karen. *Journal Of Pediatric Nursing* 53, 88–90, (January). <https://doi.org/https://doi.org/10.1016/j.p edn.2020.04.013>
- Guan, W., Ni, Z., Hu, Y., Liang, W., Ou, C., He, J., ... Zhong, N. (2020). Clinical characteristics of coronavirus disease 2019 in China. *New England Journal of Medicine*, 382(18), 1708–1720. <https://doi.org/10.1056/NEJMoa2002032>
- Gunawan, Suranti, N. M. Y., & Fathoroni. (2020). Variations of Models and Learning Platforms for Prospective Teachers During the COVID-19 Pandemic Period. *Indonesian Journal of Teacher Education*, 1(2), 61–70.
- Hasibuan, S. A., & Damanik, L. A. (2020). Metode Pembelajaran Interaktif yang Diselenggarakan Secara Daring Akibat Mewabahnya Covid-19. In *Prosiding Seminar Hasil Penelitian 2019* (pp. 182–188). Medan: Universitas Muslim Nusantara.
- Heidorn, B. (2020). Provide and Protect the Essential Components. *Journal of Physical Education, Recreation and Dance*, 91(5), 3–5. <https://doi.org/10.1080/07303084.2020.1748482>
- Herliandry, L. D., Nurhasanah, N., Suban, M. E., & Kuswanto, H. (2020). Pembelajaran Pada Masa Pandemi Covid-19. *JTP - Jurnal Teknologi Pendidikan*, 22(1), 65–70. <https://doi.org/10.21009/jtp.v22i1.15286>
- Herlina, H., & Suherman, M. (2020). Potensi Pembelajaran Pendidikan Jasmani Olahraga Dan Kesehatan (Pjok) Di Tengah Pandemi Corona Virus Disease (Covid)-19 Di Sekolah Dasar. *Tadulako Journal Sport Sciences And Physical Education*, 8(1), 1–7.
- Hidaayatullaah, H. N., Simamora, R. M., Fehabutar, D., & Menengah, L. M. S. (2020). Dampak Covid-19 terhadap Pendidikan Indonesia dan Kaitannya dengan Filsafat “ Merdeka Belajar .” *Studi Dalam Filsafat Ilmu Dan Pendidikan (SiPoSE)*, 1(1), 38–49.
- Jauhari, M. N., Sambira, & Zakiah, Z. (2020). Dampak Pandemi Covid-19 Terhadap Pelaksanaan Pembelajaran Penjas Adaptif Di Sekolah Luar Biasa. *Journal STAND: Sports and Development*, 1(1), 63–70.
- Jayul, A., & Irwanto, E. (2020). Model Pembelajaran Daring Sebagai Alternatif Proses Kegiatan Belajar Pendidikan Jasmani di Tengah Pandemi Covid-19 Achmad. *Jurnal Pendidikan Kesehatan Rekreasi*, 6(2), 190–199. <https://doi.org/DOI:10.5281/zenodo.3892262>

- Kan, M., & Zhou, J. (2020). How Do Colleges and Universities Respond to Covid-19: The Experience of Chengdu Sport University. *Asia-Pacific Journal of Public Health*, (2), 2–3. <https://doi.org/10.1177/1010539520931358>
- Komarudin, & Prabowo, M. (2020). Persepsi Siswa Terhadap Pembelajaran Daring Mata Pelajaran Pendidikan Jasmani Olahraga dan Kesehatan Pada Masa Pandemi Covid-19. *Majalah Ilmiah Dinamika*, 26(2), 56–66.
- Lee, A. (2020). Wuhan novel coronavirus (COVID-19): why global control is challenging? On. *Public Health* 179, 1–2(January), 19–21. <https://doi.org/https://doi.org/10.1016/j.puhe.2020.02.001>
- Mahase, E. (2020). Coronavirus covid-19 has killed more people than SARS and MERS combined, despite lower case fatality rate. *BMJ (Clinical Research Ed.)*, 368(February), m641. <https://doi.org/10.1136/bmj.m641>
- Muhammad Fachrurrozi Bafadal, A. T. (2020). Formulir Google: Penilaian Alternatif Pendidikan Fisik Sebagai Covid-19. *SCIENCE TECH: Jurnal Ilmu Pengetahuan Dan Teknologi*, 6286(2), 48–57.
- Nopiyanto, Y. E., Raibowo, S., Suryatama, R. Y., & Ibrahim. (2020). Hambatan Guru Pendidikan Jasmani Generasi 80-An Dalam Pembelajaran Daring di Tengah Pandemi Covid-19. *Jurnal Sporta Sainika*, 5(2), 139–148.
- Purnomo, H., Mansir, F., Tumin, T., & Suliswiyadi, S. (2020). Pendidikan Karakter Islami Pada Online Class Management di SMA Muhammadiyah 7 Yogyakarta Selama Pandemi Covid-19. *Jurnal Tarbiyatuna*, 11(1), 91–100. <https://doi.org/10.31603/tarbiyatuna.v1i1.1.3456>
- Purwanto, A. (2020). Studi Eksplorasi Dampak Work From Home (WFH) Terhadap Kinerja Guru Selama Pandemi Covid-19. *EduPsyCounsJournal, Journal of Education, Psychology and Counseling*, 2, 92–100.
- Rundle, A. G., Park, Y., Herbstman, J. B., Kinsey, E. W., & Wang, Y. C. (2020). COVID-19–Related School Closings and Risk of Weight Gain Among Children. *Obesity*, 28(6), 1008–1009. <https://doi.org/10.1002/oby.22813>
- Sari, D. P., & Sutapa, P. (2020). Efektivitas Pembelajaran Jarak Jauh Dengan Daring Selama Pandemi Covid-19 Mata Pelajaran Pendidikan Jasmani Olahraga dan Kesehatan (PJK). In *Seminar Nasional Olahraga* (Vol. 2, pp. 19–29).
- Setiawan, Kresnapati, P., & Setiawan, D. A. (2020). Analisis perkuliahan daring mahasiswa PJKR Universitas PGRI Semarang sebagai dampak pandemi covid 19. *Edu Sportivo: Indonesian Journal of Physical Education*, 1(1), 25–32. [https://doi.org/https://doi.org/10.25299/es:ijope.2020.vol1\(1\).5148](https://doi.org/https://doi.org/10.25299/es:ijope.2020.vol1(1).5148) How
- Shahidi, S. H., Stewart Williams, J., & Hassani, F. (2020). Physical activity during COVID-19 quarantine. *Acta Paediatrica*, 0–1. <https://doi.org/10.1111/apa.15420>
- Silva-Filho, E., Teixeira, A. L. S., Xavier, J. R. da S., Braz Júnior, D. da S., Barbosa, R. A., & Albuquerque, J. A. de. (2020). Physical education role during coronavirus disease 2019 (COVID-19) pandemic Physical education and COVID-19. *Motriz: Revista de Educação Física*, 26(2), 2019–2020. <https://doi.org/10.1590/s1980-6574202000020086>
- Sohrabi, C., Alsafi, Z., O’Neill, N., Khan, M., Kerwan, A., Al-Jabir, A., ... Agha, R. (2020). World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19).

- International Journal of Surgery*, 76, 71–76.
<https://doi.org/10.1016/j.ijssu.2020.02.034>
- Sun, L., Tang, Y., & Zuo, W. (2020). Coronavirus pushes education online. *Nature Materials*, 19(6), 687.
<https://doi.org/10.1038/s41563-020-0678-8>
- Verawardina, U., & Jama, J. (2019). Philosophy Tvet Di Era Derupsi Revolusi Industri 4.0 Di Indonesia. *Jurnal Filsafat Indonesia*, 1(3), 104.
<https://doi.org/10.23887/jfi.v1i3.17156>
- Xie, Z. (2020). Study on Physical Activity of College Students in China Against the Background of Coronavirus Disease 2019. *457(Icsspeh)*, 88–92.
- Zhu, X., & Liu, J. (2020). Education in and After Covid-19: Immediate Responses and Long-Term Visions. *Postdigital Science and Education*.
<https://doi.org/10.1007/s42438-020-00126-3>