



Use of the Internet as an Online Learning Media

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ABSTRACT

The use of online media is the easiest way to use nowadays, access is easy to reach wherever you are. Online media can be accessed by every group, especially in the world of education. In this increasingly hot era of globalization, educators are required to be more creative and innovative in using online media. Online media is media in which there are millions of pieces of knowledge which are very useful for educators and students in gaining knowledge. There are online media that can be accessed by educators and students, such as: goggle, e-book goggle scholar. The objectives of the research include 1) To make it easier for students to access the material 2) To find information about the material 3) To teach students about technological advances 4) To make students aware of world developments quickly. The method used in this research is a quantitative method which is carried out by means of an online-based survey. The results of this research are how the use of online media in the world of education can increase students' enthusiasm in gaining knowledge, make students not feel bored in the learning process, help educators in finding material to be taught to students. The researcher's conclusion about online media is that it is very helpful in finding the knowledge that educators and students need, making it easier to access learning. The limitation of this research is that the researcher does not know whether the educator participants are really using online media to find material only, the researcher hopes that future researchers will make further observations regarding online media.

Keywords: Educational Media, Internet Utilization, Online Learning

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INTRODUCTION

Technology is a body of knowledge that is then combined into a tool that can be used by humans (Bhimani et al., 2019; Oteros-Rozas et al., 2018; Patra et al., 2018). Of course, it has been a long process until it finally becomes an application that is very practical and simple to carry everywhere, every human being will not be separated from technological developments because every year this technology will definitely have developments, both those with positive impacts and those with negative impacts. (YA

Ahmed et al., 2019; Soda et al., 2019; Terns, 2018). By using technology nowadays, everything that can be accessed will be easy, different from the use of technology in the past which was still not developed (Hassan et al., 2018; Wang et al., 2020). With the emergence of scientists who create more modern technology, it has become easier to use technology now (Belkin et al., 2019; Khan et al., 2018). Because the times are increasingly developing day by day, many new ideas are emerging in creating technology that is simpler and cheaper to access.

Technological developments are increasingly developing day by day so that an internet medium is created that can be accessed without having to look for a place that has a high network scale (Hassan et al., 2018; Sisinni et al., 2018; Z. Zhang et al., 2019). The use of internet media is no longer foreign to any circle, because all these groups can indirectly use internet media, either directly or indirectly. (Chopra et al., 2019; Fabiano, 2017). With the internet media, everything will be easy to reach, both far and near, because with the internet media it is possible to bring people who are far away and closer to people who are close. Basically, this internet media aims to make it easier to carry out activities, and make activities easy to reach. (Ben-Daya et al., 2019; Hassan et al., 2018; Soda et al., 2019) This is why technology is developing and one of them is creating internet media to make it easier to access and find out the latest information at this time, because with this internet media all information in parts of the world will be known quickly in a relatively short period of time.

This internet media also plays an important role in the world of education, because the existence of this internet media will help educators in providing material to students. (YA Ahmed et al., 2019; Al-Mohaithef & Padhi, 2020; Geldsetzer, 2020). Education is something that is common in nature because all people know what education is. Education is a place which has the aim of providing knowledge and character education to many people, especially at the age of 7 because at that age children have a high understanding and thinking power. who are still innocent, so they need education to become useful for their family, community, country and the world (Al-Mohaithef & Padhi, 2020; Oztemel & Gursev, 2020; Tangcharoensathien et al., 2020). With internet-based learning media, it will be easier for educators to find learning materials that will be given to their students (Tangcharoensathien et al., 2020; Wang et al., 2020) So that an educator no longer needs to go far to look for books or resources needed to provide teaching to their students, because with this internet-based learning media, educators will find it easier to find knowledge by just sitting comfortably in a chair. millions of knowledge.

then the learning process will no longer be difficult. Then, when students ask questions, the teacher will be quicker in responding to the student's questions because the teacher already has a lot of knowledge. (Xu et al., 2020; C. Zhang et al., 2018). In the development of online learning media technology, educators can develop their skills using online learning media so that they can be applied and become learning material that will be given to their students. (Oteros-Rozas et al., 2018; C. Zhang et al., 2018). With this learning media, students will not feel bored with learning because educators will alternate

learning using learning media with regular learning, so that students will easily remember, understand and become familiar with the ongoing learning material.

Online-based learning media usually requires media such as computers and smartphones as important support tools when using online-based learning media (Apuke & Omar, 2021; Radianti et al., 2020; C. Zhang et al., 2018). However, what students often use is smartphones because their small size is easy to carry and doesn't require a lot of space, so students use smartphones as the main medium in the learning process using online media, compared to computers which require a large space and difficult to carry around (W. Ahmed et al., 2020; Tsao et al., 2021a). With the existence of online-based learning media, which can be reached by students because students generally have smartphones in their daily activities, so it is not difficult for educators to carry out learning using online-based media, at a distance between educators and students. you can still learn.

learning process using this online media, there are many supporting applications that can be used during this learning process (Sokolova & Kefi, 2020). The applications that can be used during the learning process using this online media are: Zoom, Goggle classroom, Goggle meet, Whattshapp. Also supporting media in searching for material for the learning process, such as: Goggle, Google (Alanzi, 2021; Sadiq et al., 2021). We can access all of these applications on one smartphone at a cost that is relatively easy for students to reach, so that now it is very easy for us to find material sources for us to study and can practice them properly and correctly. In this way, students will not incur huge costs to buy books first to get information and learning materials.

The use of online media during learning has two equally large impacts, namely negative impacts and positive impacts. The positive impact is that it is easy to access the network quickly to find information and can also develop skills in creating work that can be useful for yourself and others. (Mamun et al., 2021; Tangcharoensathien et al., 2020). The negative impact is network constraints, not being able to access the application due to errors, making students bored and losing focus due to the many distractions from the smartphone, such as playing online games, which is also a very big influence on students. (Horigian et al., 2021; Shafi et al., 2020). Due to this disruption, it is also hampered by economic factors, because not all students whose economy is in the lower classes will have difficulty using online-based learning media because they do not necessarily have smartphones, which makes them feel inferior.

This learning method using online media was used when the world was hit by Covid-19 (Brown & Shenker, 2021; Johnson et al., 2021). Then at that time the use of online media grew very quickly in all corners. Where at that time all activities were carried out online, starting from studying, working, doing business and so on, were carried out online because there were regulations that strictly prohibited carrying out activities outside at that time. Online activities were carried out for approximately one year. Using online media was now a way out. The only thing is so that you can still carry out your activities as usual (Al-Fraihat et al., 2020; Meel & Vishwakarma, 2020). The existence of

online media is very helpful in being able to survive so that the role of online media at that time becomes the main role that must be played.

The aim of this research was to determine the extent of use of the internet in using internet-based learning media and also to acknowledge the shortcomings, difficulties and obstacles experienced by educators and students in using learning media and how to access this online media. How to apply online learning media to make it easier to carry out the learning process through online media even without direct face-to-face contact between educators and students is also the main objective of this research. Problems encountered include difficulties or difficulties in accessing online-based applications. The factors that cause such obstacles in online media applications are poor internet networks so that students have difficulty using this online media.

RESEARCH METHOD

The approach taken by researchers towards what will be researched can create problems that will occur, but any conditions that are less conducive will give rise to enthusiasm to continue moving forward.(Archibald et al., 2019; Khan et al., 2018; Musumeci et al., 2019). With the development of ways to learn using the internet, schools can overcome these problems. Rapidly developing technology will help problems that occur in the world of education, therefore the internet plays an important role in making it easier to access all the material to be studied. The internet here is a system that has developed to this day and is still used by every group, both in the world of education and outside education. In online learning, which is often used to search for learning materials, internet media can be used(Cabero Almenara & Martínez Gimeno, 2019; Verma & Sinha, 2018). This media is very useful for teachers to make it easier to find subject matter which will be explained later to students in learning. The learning atmosphere using media will create creativity, innovation and curiosity about new things for students.

Here the research method used in research on the Use of the Internet as an Online Learning Media is a quantitative method, the type of quantitative used is in the form of a field survey. The purpose of conducting this survey is to find out and analyze observations obtained from using the internet as an online learning medium(Naparstek & Cohen, 2019; C. Zhang et al., 2018)This research was not carried out specifically on schools but covers the entire world of education. This happened in 2021/2022 because at that time everything related to the learning process was carried out online(Meel & Vishwakarma, 2020). When learning online, one of the suitable media to use is the internet because with the internet the teaching and learning process continues to run smoothly. The internet has a big influence on students and educators which can have a negative or positive impact when learning takes place.

The source of research data comes from educators and students in each school where the research will be conducted. The data is generated in each questionnaire that has been distributed by researchers to students and teachers about the benefits of the internet in online learning(Blake et al., 2020; Meel & Vishwakarma, 2020). There you will find out how educators and students develop when learning using online media. The use of internet

media in learning plays a very important role in making online learning easier. This will be an opportunity for students to play an active role in using this media. If every school implements learning methods using the internet, an educator must be able to accompany them in learning so that undesirable things don't happen.(Sadiq et al., 2021; Tsao et al., 2021b). A teacher is obliged to understand internet media in depth before teaching it to his students so that students can understand and comprehend the media that will be used during the lesson.

One of the supporting applications for using internet media for learning is Google Meet, which Google Meet was created to make it easier for educators to teach their students to become educators and students will still be able to carry out the learning process like face to face by using Google Meet.(Johnson et al., 2021, 2021)Thus, it can increase students' knowledge about how to use the Goggle Meet application. The development of the Google Meet application developed during Covid-19, which is why students were able to find out how to use the Google Meet application and just found out about the many learning applications that can be used using inexpensive quotas, which are affordable for students, and there educators can explaining the material also by looking at the students, so this learning is the same as usual at school, only the form is different, here the educator sees the students but cannot be fully monitored, because this is done indirectly.

This research data was collected using survey techniques, meaning that the researcher created a grid related to the use of the internet as an online learning medium(Allen et al., 2018; Ghritlahre & Prasad, 2018).The survey material grid is prepared according to the research problem, namely the use of the internet as an online learning medium. The data that has been collected is analyzed using quantitative methods by looking at the percentages for each survey question item that has been distributed. Then the percentages are described using words that are combined with relevant previous researchers, then a discussion of the results of the research discusses narratives and researchers who build on existing research conclusions. The percentage that has been determined is then presented with the researcher's words and several expert opinions as well as research from similar previous researchers(Jahanbakht et al., 2021).In this section, the discussion of the research results is where the researcher's arguments are narrated so that they are developed by the researcher as an arbiter of the many conclusions from research that have been obtained previously.

RESULTS AND DISCUSSION OF RESULTS

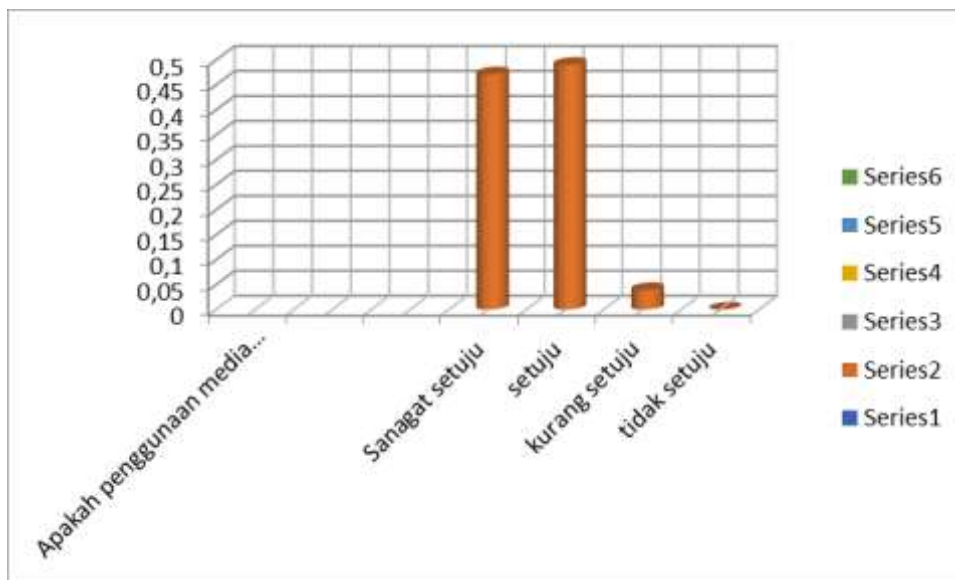
The survey that researchers had previously carried out was via a questionnaire, namely on Google form, which had been filled in by 50 people taken from several educators, students and students. On average, everyone is familiar with internet media. Internet media is very useful for providing enthusiasm in the learning process because students will not get bored or fed up when learning using this internet-based media, because students will not feel bored flipping through books to get information and material in the learning process. teaching runs effectively and efficiently and can increase

the enthusiasm of students in exploring knowledge. The disadvantage of this internet media is that the internet network must be good, there are applications that have errors when used, the quality of storage space is not available because most download materials with high capacity so that it is blocked. using internet media. Using internet media during the learning process is very effective because there are many positive features in it, despite the advantages and disadvantages of using online media during the learning process, but this application is considered to be able to encourage and increase students' enthusiasm for studying.

INTERNET MEDIA IS REQUIRED DURING LEARNING

From the distribution of questionnaires that have been carried out by researchers to students and educators in educational institutions, it produces very fast responses when researchers conduct surveys by distributing questionnaires. So these responses produce different opinions and percentages regarding the use of online media. Of the 50 (fifty) people who filled out the questionnaire, only 2% did not agree with using online media during this learning. And half of them disagree and some even disagree with using learning media when learning online and agree with using online media when learning. Of the number of students who filled out the questionnaire, not a single student agreed that internet media is really needed nowadays. So that the learning process does not have difficulty in using this online learning media when at home or outside the reach of school. While doing online learning.

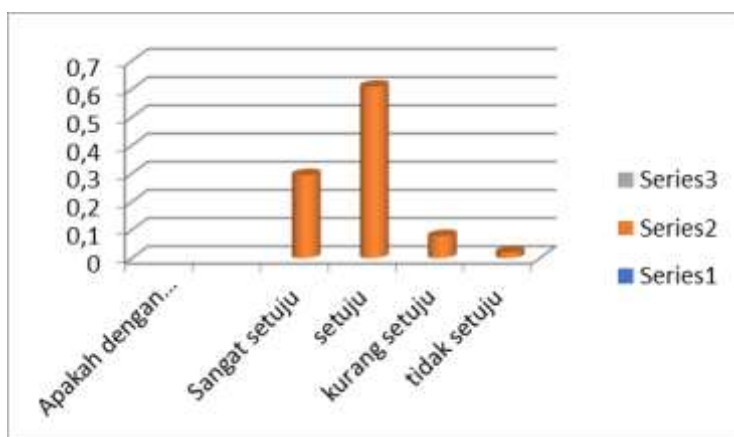
LEARNING MEDIA CAN HELP THE LEARNING PROCESS



If learning is carried out online then the use of internet media is really needed. Internet media is the only way to continue to be able to carry out the learning process, namely by using this online media. If you look at the responses after distributing the questionnaire, there are 47% who really need internet media as a learning process. 49% agree with the online learning process by using online media. Only 4% disagree with using online media for the learning process. Because by using the internet media

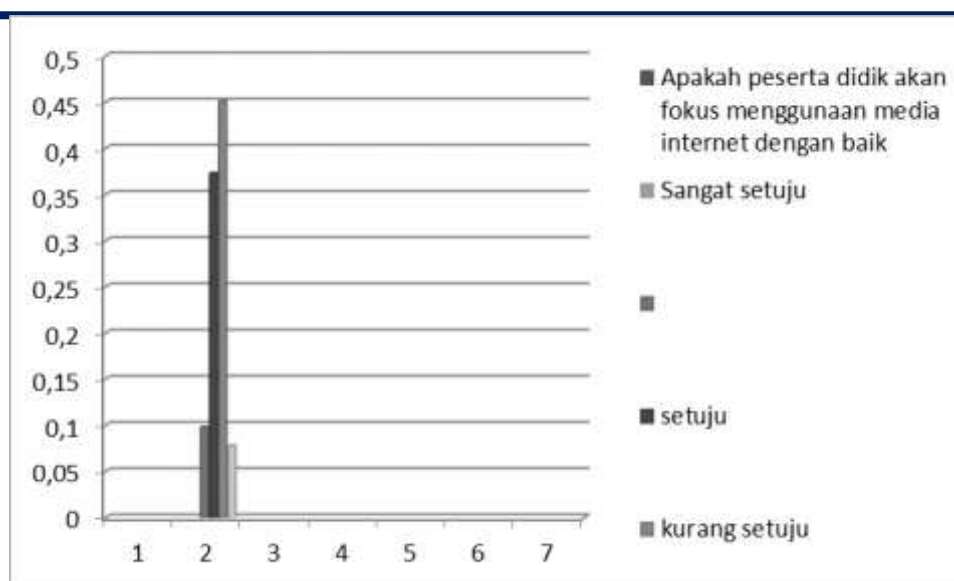
everything will it is easy to do and easy to find information using this media that is far away will feel close, so that the learning process will run smoothly. From this survey it can be seen directly that using the internet media is really needed by every student to search and get information about learning. This

USING INTERNET MEDIA CAN INCREASE STUDENTS' INSIGHT



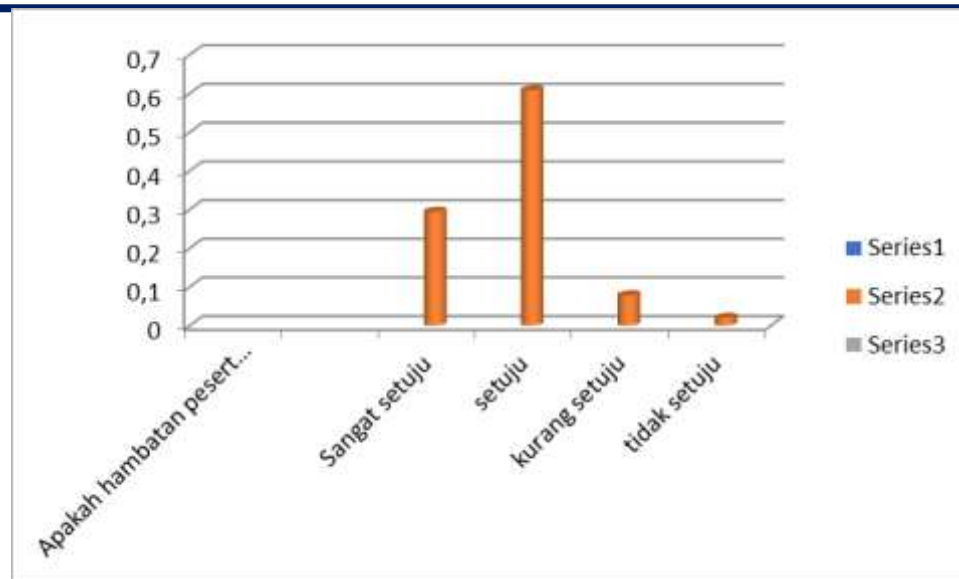
In this discussion, the use of internet media can broaden students' insight from students who do not understand this until they finally understand. From the survey results, 29% strongly agree with this option because it is really needed by students to increase their insight, inspiration and high curiosity. 60.8 % agree that the use of this learning media can increase students' creative perspectives in this material. 7.8% do not agree with this option because it is often used for things that are not useful so it will not increase students' insight, thus some do not agree with the option Here, the role of parents is really needed to play an active role compared to educators because only parents can accompany their children in the learning process. The role of educators must also be increased in learning how students can focus on learning online.

STUDENTS WILL FOCUS ON USING ONLINE MEDIA



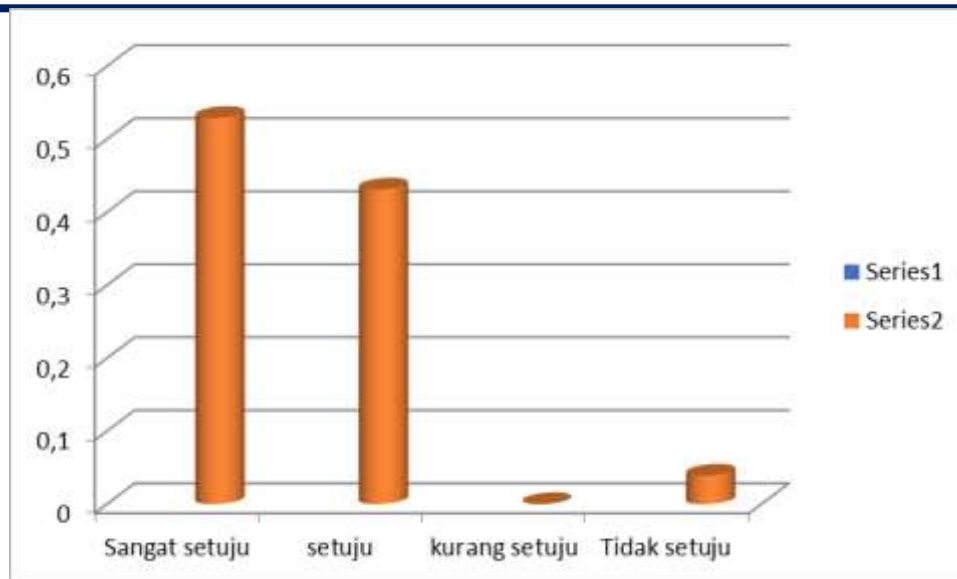
From the data above, you can see an analysis of how much students focus when online learning takes place. Of the 50 people who have filled out the questionnaire, there are 11.8% who strongly agree because when using internet media the level of student focus will decrease because when using it there are lots of applications that can be used. disturbing the level of focus of students, for example online games which can disturb students regarding their level of focus in learning using online media, 43.1% agree with the level of student focus in using online media when studying, with the existence of this online learning media it will make educators not find it difficult to teach. 35.3% do not agree with using online media when studying, not all students will be disturbed by their focus in using online media when studying. There are also students who really focus on learning using online media, but it is unlikely that students will focus on learning using internet media when studying.

USING INTERNET MEDIA USES GOOD SIGNALS



When using internet media there are negative impacts, when using online media when studying you also need a good network in order to be able to connect to an application used in learning. So from the results of this survey there are 62.7% who agree with this option because if the signal If it's not good then students won't be able to join in using online media so students will miss out on ongoing lessons. So networking is very necessary in using online media in this learning process. In addition, the condition of students' homes is not strategic, which is far from reachable, even if there is a network, they have to go first to a place where there is a signal, so students will definitely have difficulty finding the network, it will definitely take a lot of time to get to a place where there is a signal, so technology experts creating a network that can be accessed in remote places so that students no longer need to look for signals in other places.

USING INTERNET MEDIA IS USEFUL DURING THE PANDEMIC



Internet media played a very important role during the recent pandemic because only using internet media can help keep the learning process going, so that educators and students can still carry out the learning process, there are many applications that can be used in this learning process, namely zoom, Google Meet, Google Classroom. In this way, the learning process will be able to be carried out well. The survey results show that 5.2% agree that the use of online media during the pandemic is very much needed, both educators and students need internet media for learning during this pandemic. By using online media during the learning process, you can It is going well because educators and students can still carry out the learning process, although it cannot be said to be effective, but at least it can help the learning process effectively and smoothly.

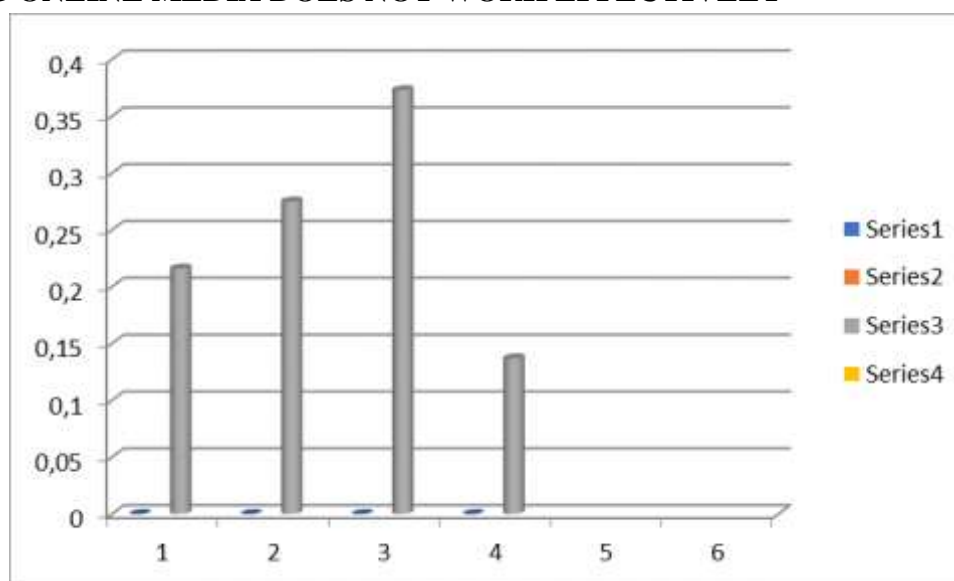
USING ONLINE MEDIA CAN UNDERSTAND STUDENTS WHILE LEARNING



Internet media also has negative and positive impacts, such as students being able to understand the learning process properly and correctly. With the results of this survey,

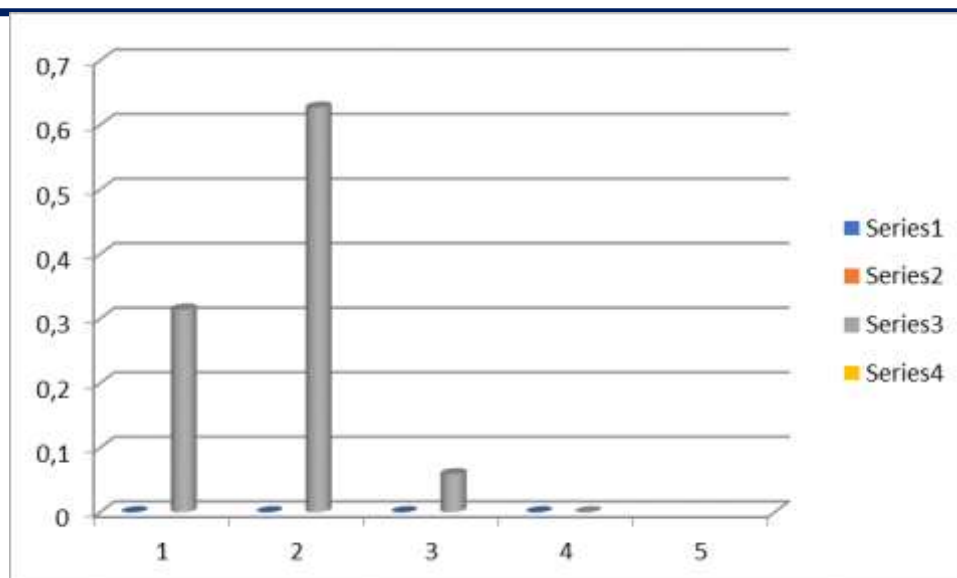
many students do not agree that students can understand the learning process when using online media, there are 63.3% who are unable to understand learning. by using this online media. By using this online media, students are less able to understand the learning because they cannot hear clearly and it has a very big impact on students which can disrupt student focus and students will not be able to understand the learning well and correctly. Looking at the negative side, using online media When studying, it is difficult for students to understand the lesson, so it will be even more difficult for educators to provide material to the students, so learning will not run smoothly.

USING ONLINE MEDIA DOES NOT WORK EFFECTIVELY



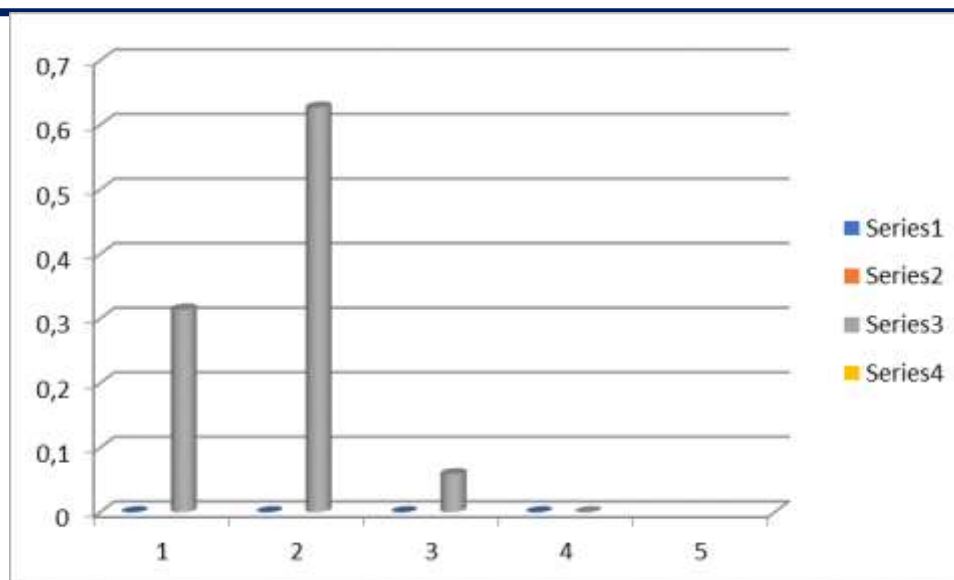
By using learning using online media, it can increase students' learning interest in using learning media, plus the features contained in it will increase students' learning knowledge and educators will find it easier to convey the material, from the research results it can be seen that 52% disagree if learning uses online media does not run effectively, actually this learning is effective by using online media which can provide new knowledge to students so that it will be easier for teachers to provide material so that the role of teachers and students can run smoothly to realize learning well and correctly, but on the other hand there are opinions who disagree because using online media when studying can disrupt students' focus in receiving this learning, so there are many pros and cons to this problem.

USING INTERNET MEDIA INCREASES STUDENTS' CREATIVITY



Internet media will make students become more creative in developing their talents, because this can bring out the skills and abilities of brain processing in using this online media, so with this learning media it can bring out students' skills and abilities in learning, everything will be easy to learn, with the creative learning abilities of teaching students will be helped, as survey results show that 56% agree that using online learning media will increase students' creativity in learning. As was the case during the last pandemic, at that time learning was carried out online which resulted in students having to study independently. Look for more details on the material provided by educators, so that students must develop their creativity in this online learning, educators and students must work together in carrying out this learning.

THE PANDEMIC HAS BEEN AN INFLUENCE ON EDUCATION USING ONLINE MEDIA



From the data taken from the survey, 70.1% agreed that the pandemic had an impact on the world of education. Because the pandemic in the past meant that all activities were carried out online without exception, so the learning process was also carried out online, because of this the pandemic had a big impact on life, which where in the world of education students play a greater role in searching for material as well as parents also play a role in teaching lessons to their children so everyone plays a role in education, therefore the pandemic has a big influence on the education of parents, educators and students. In this way, educators and people can learn lessons Parents can be together more, because of the pandemic, everything related to the world of education and outside of education is influenced by the pandemic. In this case, internet media is really needed by various groups.

Online learning media is a technological development that is currently very much needed by every group in the world of education, from elementary school to middle school to early high school and also at the student level. Using online learning media will be able to improve effective and efficient learning methods so that students quickly accept the learning provided by educators, so that educators no longer feel overwhelmed in providing learning to students. Using online learning media with a unique and attractive appearance means that students will understand quickly like elementary school students, they are happier and also feel curious about interesting things, so that the learning process using online learning media will be understood well. Also, by replacing sounds with anime, cartoons make students always remember the material.

This online learning media has become one of the mainstays of educators in providing learning materials. With this online learning media, educators feel helped. Educators will no longer be overwhelmed in finding sources to create materials to give to educators. Just by using skills, educators will be able to create materials cheaper, because all the surah teaching materials are easy to find, all that remains is for the teacher's creativity to be developed. For example, with the Power Pont application, educators can create material from a collection of materials that educators obtain from certain sources. ,

then educators create their own language which will be cheaper for students to learn. Also added with interesting pictures so that the material that educators create becomes even more perfect.

The results of research using quantitative methods can be a source of inspiration for teacher educators, because with this research educators can find out what students feel and what students think about using online-based media. It turned out that various answers were given from around 50 people who were interviewed, including educators, students and students, who expressed their thoughts about this online-based educational media. There are many opinions that agree and there are many opinions that disagree. If presented, there will be a balance between the pros and cons in the problem of using online media in the learning process. Like the question whether internet media is really needed when learning, there are around 98% who really know what online media is, so it can be concluded that every group is familiar with hearing the word online media, which is depicted in their minds as a small object called a smartphone that can accommodate millions of knowledge in it, not only smartphones, laptop computers also have their own way of developing the learning process, so we can conclude that humans cannot be separated from the world of technology which can make it easier to find sources of information, and can also send messages to people who are far away, In just a matter of seconds, people will be able to find out other people's news, without having to wait days to get the answer.

Despite the many benefits and drawbacks of using online-based learning media, this online media is still very much used both for the learning process and for everyday life, internet media has become a second life for humans, because if you don't use internet media for a day, people will feel restless. and feel like the world is meaningless. With this online learning media, it makes it easier for educators and students to gain knowledge, it can also motivate the enthusiasm of educators and students in seeking knowledge and can express their skills in being involved in technology, and they can also make money if they have skills in the field of technology.

CONCLUSION

The use of online media is really needed not only in the world of education, but all people in the world need the role of online-based technology. With this online media, it can foster students' enthusiasm for exploring knowledge which is very useful in the future. In the world of education This demands that you be more creative and innovative in using online-based learning. There are many applications that can be used in this online-based learning process such as: Zoom, Goggle classroom, Goggle meet, Whattshapp. Also supporting media in searching for material for the learning process, such as: Google, Google Scholar, E-books, Encyclopedia. This will make it easier for educators and students to carry out the online learning process. When using online learning media, what you need to pay attention to is how to avoid unwanted problems.

With this, the research used by the researcher is a quantitative method, which is a method of conducting a survey by distributing a questionnaire and then completing it by

pre-production, such as students who are directly affected by the influence of this pandemic. Using learning media applications is an easy way to carry out this online-based learning process, by This is also not an excuse for students not being able to develop their talents in learning competencies, but it can increase students' ability to process and develop their talents and interests in learning, so that the pandemic does not hinder the learning process and it will even be easier for students to develop their knowledge during the learning process. carried out online using online-based learning media. Overall, the learning media used by students during the online learning process provides assistance to facilitate learning facilities so that they continue to run well.

SUGGESTION

From the results of the analysis, researchers conducted observations through questionnaires distributed regarding the use of online media for learning, which can increase students' insight into applications that can be used in the online learning process. In using internet media, there are many applications that can be accessed by students, so here students are not required to be formal but can develop students' interests and talents in this online learning process. From all the discussions that the researcher has explained, there are still many shortcomings in the research. The limitations in describing the results of the survey regarding the distribution of the questionnaire are also the shortcomings found by the researcher when distributing this questionnaire, therefore the researcher needs supportive suggestions from readers or further researchers who also have the same title for this research.

THANK-YOU NOTE

The researcher also would like to thank the respondents who answered the questions that the researcher had distributed using an online-based questionnaire where the respondents' rebuttal responses helped in observing research on the use of the internet based on online media as one of the virtual learning methods used by educators and students. in fostering learning creativity.

REFERENCES

- Ahmed, W., Vidal-Alaball, J., Downing, J., & López Seguí, F. (2020). COVID-19 and the 5G Conspiracy Theory: Social Network Analysis of Twitter Data. *Journal of Medical Internet Research*, 22(5), e19458. <https://doi.org/10.2196/19458>
- Ahmed, YA, Ahmad, MN, Ahmad, N., & Zakaria, NH (2019). Social media for knowledge-sharing: A systematic literature review. *Telematics and Informatics*, 37, 72–112. <https://doi.org/10.1016/j.tele.2018.01.015>
- Alanzi, T. (2021). A Review of Mobile Applications Available in the App and Google Play Stores Used During the COVID-19 Outbreak. *Journal of Multidisciplinary Healthcare*, Volume 14, 45–57. <https://doi.org/10.2147/JMDH.S285014>
- Al-Fraihat, D., Joy, M., Masa'deh, R., & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. *Computers in Human Behavior*, 102, 67–86. <https://doi.org/10.1016/j.chb.2019.08.004>
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- Allen, J. J., Anderson, C. A., & Bushman, B. J. (2018). The General Aggression Model. *Current Opinion in Psychology*, 19, 75–80. <https://doi.org/10.1016/j.copsyc.2017.03.034>
- Al-Mohaithef, M., & Padhi, B. K. (2020). Determinants of COVID-19 Vaccine Acceptance in Saudi Arabia: A Web-Based National Survey. *Journal of Multidisciplinary Healthcare*, Volume 13, 1657–1663. <https://doi.org/10.2147/JMDH.S276771>
- Apuke, O.D., & Omar, B. (2021). Fake news and COVID-19: Modeling the predictors of fake news sharing among social media users. *Telematics and Informatics*, 56, 101475. <https://doi.org/10.1016/j.tele.2020.101475>
- Archibald, M.M., Ambagtsheer, R.C., Casey, M.G., & Lawless, M. (2019). Using Zoom Videoconferencing for Qualitative Data Collection: Perceptions and Experiences of Researchers and Participants. *International Journal of Qualitative Methods*, 18, 160940691987459. <https://doi.org/10.1177/1609406919874596>
- Belkin, M., Hsu, D., Ma, S., & Mandal, S. (2019). Reconciling modern machine-learning practice and the classical bias–variance trade-off. *Proceedings of the National Academy of Sciences*, 116(32), 15849–15854. <https://doi.org/10.1073/pnas.1903070116>
- Ben-Daya, M., Hassini, E., & Bahroun, Z. (2019). Internet of things and supply chain management: A literature review. *International Journal of Production Research*, 57(15–16), 4719–4742. <https://doi.org/10.1080/00207543.2017.1402140>
- Bhimani, H., Mention, A.-L., & Barlatier, P.-J. (2019). Social media and innovation: A systematic literature review and future research directions. *Technological Forecasting and Social Change*, 144, 251–269. <https://doi.org/10.1016/j.techfore.2018.10.007>
- Blake, H., Bermingham, F., Johnson, G., & Tabner, A. (2020). Mitigating the Psychological Impact of COVID-19 on Healthcare Workers: A Digital Learning Package. *International Journal of Environmental Research and Public Health*, 17(9), 2997. <https://doi.org/10.3390/ijerph17092997>
- Brown, A., & Shenker, N. (2021). Experiences of breastfeeding during COVID- -19: Lessons for future practical and emotional support. *Maternal & Child Nutrition*, 17(1). <https://doi.org/10.1111/mcn.13088>
- Cabero Almenara, J., & Martínez Gimeno, A. (2019). Las TIC y la formación inicial de los docentes. Modelos and digital competences. *Professorado, Revista de Currículum y Formación Del Professorado*, 23(3), 247–268. <https://doi.org/10.30827/profesorado.v23i3.9421>
- Chopra, K., Gupta, K., & Lambora, A. (2019). Future Internet: The Internet of Things-A Literature Review. 2019 International Conference on Machine Learning, Big Data, Cloud and Parallel Computing (COMITCon), 135–139. <https://doi.org/10.1109/COMITCon.2019.8862269>
- Fabiano, N. (2017). Internet of Things and Blockchain: Legal Issues and Privacy. The Challenge for a Privacy Standard. 2017 IEEE International Conference on Internet of Things (IThings) and IEEE Green Computing and Communications (GreenCom) and IEEE Cyber, Physical and Social Computing (CPSCom) and IEEE Smart Data (SmartData), 727–734. <https://doi.org/10.1109/iThings-GreenCom-CPSCom-SmartData.2017.112>
-

-
- Geldsetzer, P. (2020). Use of Rapid Online Surveys to Assess People's Perceptions During Infectious Disease Outbreaks: A Cross-sectional Survey on COVID-19. *Journal of Medical Internet Research*, 22(4), e18790. <https://doi.org/10.2196/18790>
- Ghritlahre, H.K., & Prasad, R.K. (2018). Application of ANN technique to predict the performance of solar collector systems—A review. *Renewable and Sustainable Energy Reviews*, 84, 75–88. <https://doi.org/10.1016/j.rser.2018.01.001>
- Hassan, S.S., Williams, G.A., & Jaiswal, A.K. (2018). Emerging technologies for the pretreatment of lignocellulosic biomass. *Bioresource Technology*, 262, 310–318. <https://doi.org/10.1016/j.biortech.2018.04.099>
- Horigian, V.E., Schmidt, R.D., & Feaster, D.J. (2021). Loneliness, Mental Health, and Substance Use among US Young Adults during COVID-19. *Journal of Psychoactive Drugs*, 53(1), 1–9. <https://doi.org/10.1080/02791072.2020.1836435>
- Jahanbakht, M., Xiang, W., Hanzo, L., & Rahimi Azghadi, M. (2021). Internet of Underwater Things and Big Marine Data Analytics—A Comprehensive Survey. *IEEE Communications Surveys & Tutorials*, 23(2), 904–956. <https://doi.org/10.1109/COMST.2021.3053118>
- Johnson, S., Dalton-Locke, C., Vera San Juan, N., Foye, U., Oram, S., Papamichail, A., Landau, S., Rowan Olive, R., Jaynes, T., Shah, P., Sheridan Rains, L., Lloyd-Evans, B., Carr, S., Killaspy, H., Gillard, S., Simpson, A., The COVID-19 Mental Health Policy Research Unit Group, Bell, A., Bentivegna, F., ... Tzouvara, V. (2021). Impact on mental health care and on mental health service users of the COVID-19 pandemic: A mixed methods survey of UK mental health care staff. *Social Psychiatry and Psychiatric Epidemiology*, 56(1), 25–37. <https://doi.org/10.1007/s00127-020-01927-4>
- Khan, M.J., Khan, H.S., Yousaf, A., Khurshid, K., & Abbas, A. (2018). Modern Trends in Hyperspectral Image Analysis: A Review. *IEEE Access*, 6, 14118–14129. <https://doi.org/10.1109/ACCESS.2018.2812999>
- Mamun, MA, Sakib, N., Gozal, D., Bhuiyan, AI, Hossain, S., Bodrud-Doza, Md., Al Mamun, F., Hosen, I., Safiq, MB, Abdullah, AH, Sarker, Md. A., Rayhan, I., Sikder, Md. T., Muhit, M., Lin, C.-Y., Griffiths, M.D., & Pakpour, A.H. (2021). The COVID-19 pandemic and serious psychological consequences in Bangladesh: A population-based nationwide study. *Journal of Affective Disorders*, 279, 462–472. <https://doi.org/10.1016/j.jad.2020.10.036>
- Meel, P., & Vishwakarma, D. K. (2020). Fake news, rumors, information pollution in social media and web: A contemporary survey of state-of-the-arts, challenges and opportunities. *Expert Systems with Applications*, 153, 112986. <https://doi.org/10.1016/j.eswa.2019.112986>
- Musumeci, F., Rottondi, C., Nag, A., Macaluso, I., Zibar, D., Ruffini, M., & Tornatore, M. (2019). An Overview on Application of Machine Learning Techniques in Optical Networks. *IEEE Communications Surveys & Tutorials*, 21(2), 1383–1408. <https://doi.org/10.1109/COMST.2018.2880039>
- Naparstek, O., & Cohen, K. (2019). Deep Multi-User Reinforcement Learning for Distributed Dynamic Spectrum Access. *IEEE Transactions on Wireless Communications*, 18(1), 310–323. <https://doi.org/10.1109/TWC.2018.2879433>
- Oteros-Rozas, E., Martín-López, B., Fagerholm, N., Bieling, C., & Plieninger, T. (2018). Using social media photos to explore the relationship between cultural ecosystem services and landscape features across five European sites. *Ecological Indicators*, 94, 74–86. <https://doi.org/10.1016/j.ecolind.2017.02.009>
-

-
- Oztemel, E., & Gursev, S. (2020). Literature review of Industry 4.0 and related technologies. *Journal of Intelligent Manufacturing*, 31(1), 127–182. <https://doi.org/10.1007/s10845-018-1433-8>
- Patra, J.K., Das, G., Fraceto, L.F., Campos, EVR, Rodriguez-Torres, M. del P., Acosta-Torres, L.S., Diaz-Torres, L.A., Grillo, R., Swamy, MK, Sharma, S., Habtemariam, S., & Shin, H.-S. (2018). Nano based drug delivery systems: Recent developments and future prospects. *Journal of Nanobiotechnology*, 16(1), 71. <https://doi.org/10.1186/s12951-018-0392-8>
- Radianti, J., Majchrzak, TA, Fromm, J., & Wohlgenannt, I. (2020). A systematic review of immersive virtual reality applications for higher education: Design elements, lessons learned, and research agenda. *Computers & Education*, 147, 103778. <https://doi.org/10.1016/j.compedu.2019.103778>
- Sadiq, S., Umer, M., Ullah, S., Mirjalili, S., Rupapara, V., & Nappi, M. (2021). Discrepancy detection between actual user reviews and numeric ratings of Google App store using deep learning. *Expert Systems with Applications*, 181, 115111. <https://doi.org/10.1016/j.eswa.2021.115111>
- Shafi, M., Liu, J., & Ren, W. (2020). Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan. *Research in Globalization*, 2, 100018. <https://doi.org/10.1016/j.resglo.2020.100018>
- Sisinni, E., Saifullah, A., Han, S., Jennehag, U., & Gidlund, M. (2018). Industrial Internet of Things: Challenges, Opportunities, and Directions. *IEEE Transactions on Industrial Informatics*, 14(11), 4724–4734. <https://doi.org/10.1109/TII.2018.2852491>
- Soda, N., Rehm, BHA, Sonar, P., Nguyen, N.-T., & Shiddiky, MJA (2019). Advanced liquid biopsy technologies for circulating biomarker detection. *Journal of Materials Chemistry B*, 7(43), 6670–6704. <https://doi.org/10.1039/C9TB01490J>
- Tangcharoensathien, V., Calleja, N., Nguyen, T., Purnat, T., D'Agostino, M., Garcia-Saiso, S., Landry, M., Rashidian, A., Hamilton, C., AbdAllah, A., Ghiga, I., Hill, A., Hougendobler, D., van Andel, J., Nunn, M., Brooks, I., Sacco, P.L., De Domenico, M., Mai, P., ... Briand, S. (2020). Framework for Managing the COVID-19 Infodemic: Methods and Results of an Online, Crowdsourced WHO Technical Consultation. *Journal of Medical Internet Research*, 22(6), e19659. <https://doi.org/10.2196/19659>
- Terns, M. P. (2018). CRISPR-Based Technologies: Impact of RNA-Targeting Systems. *Molecular Cell*, 72(3), 404–412. <https://doi.org/10.1016/j.molcel.2018.09.018>
- Tsao, S.-F., Chen, H., Tisseverasinghe, T., Yang, Y., Li, L., & Butt, Z.A. (2021a). What social media told us in the time of COVID-19: A scoping review. *The Lancet Digital Health*, 3(3), e175–e194. [https://doi.org/10.1016/S2589-7500\(20\)30315-0](https://doi.org/10.1016/S2589-7500(20)30315-0)
- Tsao, S.-F., Chen, H., Tisseverasinghe, T., Yang, Y., Li, L., & Butt, Z.A. (2021b). What social media told us in the time of COVID-19: A scoping review. *The Lancet Digital Health*, 3(3), e175–e194. [https://doi.org/10.1016/S2589-7500\(20\)30315-0](https://doi.org/10.1016/S2589-7500(20)30315-0)
- Verma, P., & Sinha, N. (2018). Integrating perceived economic wellbeing to technology acceptance model: The case of mobile based agricultural extension service. *Technological Forecasting and Social Change*, 126, 207–216. <https://doi.org/10.1016/j.techfore.2017.08.013>
- Wang, Y., Ruiz Diaz, D.F., Chen, K.S., Wang, Z., & Adroher, XC (2020). Materials, technological status, and fundamentals of PEM fuel cells – A review. *Materials Today*, 32, 178–203. <https://doi.org/10.1016/j.mattod.2019.06.005>
-

-
- Xu, X., Han, M., Li, T., Sun, W., Wang, D., Fu, B., Zhou, Y., Zheng, Zhang, X., Pan, A., & Wei, H. (2020). Effective treatment of severe COVID-19 patients with tocilizumab. *Proceedings of the National Academy of Sciences*, 117(20), 10970–10975. <https://doi.org/10.1073/pnas.2005615117>
- Zhang, C., Mortuza, S. M., He, B., Wang, Y., & Zhang, Y. (2018). Templates- -based and free modeling of I- -TASSER and QUARK pipelines using predicted contact maps in CASP12. *Proteins: Structure, Function, and Bioinformatics*, 86(S1), 136–151. <https://doi.org/10.1002/prot.25414>
- Zhang, Z., Xiao, Y., Ma, Z., Xiao, M., Ding, Z., Lei, X., Karagiannidis, G. K., & Fan, P. (2019). 6G Wireless Networks: Vision, Requirements, Architecture, and Key Technologies. *IEEE Vehicular Technology Magazine*, 14(3), 28–41. <https://doi.org/10.1109/MVT.2019.2921208>
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