



Utilisation of Youtube as a Video-based Learning Media

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ABSTRACT

The world of education and teaching is a part that cannot be separated from technological devices and the internet, educators utilizing this technology is very helpful for learning development. Therefore, this study aims to determine the utilization of Youtube as a video-based learning media. To find out the extent to which this video-based learning media is utilized, a survey was conducted to 50% of teachers who teach at high schools in Solok City by giving a questionnaire about the utilization of Youtube as a video-based learning media at the school. This type of research was conducted using descriptive quantitative. And the object of this research is educators and students at high schools in Solok City. And this data collection technique uses observation techniques using online questionnaires and online-based in-depth interviews. The results of this study are to find out if Youtube as a video-based learning media is very helpful for educators in learning development.

Keywords: Media, Video, Youtube

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INTRODUCTION

The Internet and information and communication technologies (ICTs) bring a great impact on society's economic management, education, production operations, social management and even personal life (Khanna & Kaur, 2019; Sinha et al., 2019). Since the introduction of the Internet in 1989 (Hodges, 2021). Many activities have begun through the Internet. In short, the Internet has brought the world together as if the world has no borders anymore. If in the past someone in Indonesia sent a letter to someone in the United States it took two-three weeks for the letter to be received. now through email or social networking sites the electronic letter is immediately received by the person

concerned (Ali et al., 2021; Dhir et al., 2018; Obar & Oeldorf-Hirsch, 2020). Therefore, the Internet has become part of people's daily lives in most parts of the world.

The benefits of the Internet as new media are also very much felt by the world of education (Hodges, 2021). Especially at the higher education level, the concept of conventional education has changed a lot after the advent of the Internet (Faizin & Samsudin, 2018). Upper secondary learning system lecture model, library, assignment making (Abula et al., 2018) (Jamali & Karam, 2018). filling out study plans and so on has been adapted to what can be done via the Internet. social media is an online media tool that is used to easily participate. Share in creating blog content, social networks, wikis, forums, and virtual worlds. Andreas Kaplan and Michael Haenlein define social media as a group of internet-based applications that build on web 2.0 technology and ideological foundations and that enable the creation and exchange of user-generated content. Indonesian people cannot be separated from smartphones, especially teenagers. What keeps them busy? None other than the online world, from social media such as Facebook, Twitter, Youtube.

The development of information and communication technology plays a role and affects all aspects of life (Chandio et al., 2021; Faizin & Samsudin, 2018; Mensah et al., 2019), One of them is the educational aspect (Aceto et al., 2018; Ahmed et al., 2021; Aldosari et al., 2019) Current technological developments require all parties to be skilled in using them. With the development of technology in the educational aspect, the learning process can improve quality or skills (Caena & Redecker, 2019), and can help solve problems in the world of education or can help people in the field of education. The teaching and learning process has important aspects, learning, learning, evaluation, educators, and students (Chang et al., 2018; Dziuban et al., 2018; Karabulut-Ilgu et al., 2018). In modern times, technology is considered as a quick way to solve problems, especially in learning (Mekki et al., 2019; Yuan et al., 2018), Technology is considered as something that facilitates human activities or needs in the world of education.

Over time, technological advances cannot be doubted because both from young children to adults have been able to access technology in line with the Internet, and having an android is also commonplace among the community (Behnke & Janssen, 2020; Hassan et al., 2018; Li et al., 2020). Therefore, with the advancement of technology, it is also utilized by all circles, especially the world of education. Educators are also racing each other to be able to utilize technology which has many supporting applications as a means for learning media to be able to run access to the media as a means of supporting learning to ensure that educators have conducted an observation or evaluation of their students (Dileep, 2020; Fan et al., 2018; Qadri et al., 2020), This is done so that students are not awkward in receiving learning resources from the media used (Chen et al., 2018; Ebert et al., 2018; Toussaint et al., 2020), also an important reference for the implementation of this media access, teachers can ascertain whether their students have technology that supports the continuity of learning from the media used.

Youtube as the subject of research is a flatfrom streaming type website media that accommodates all video-based knowledge resources (Staniewski & Awruk, 2019), This

media is very popular in all circles because it provides insight as a place of learning, entertainment, news and others (Angulo-Jiménez & DeThorne, 2019) (Kavitha et al., 2020) . In using YouTube, it depends on each user in its utilization. For educators who will utilize this media, monitoring or guidance is needed (Kang et al., 2020), It's all so that what you want to achieve can run optimally with that YouTube is also a platform media that has far developed with a general capacity to become an application that must exist in all kinds of other platforms accompanied by various kinds of utilization and usefulness.

The sustainability of this learning media must also be weighed from various aspects by educators such as the teaching area, whether it is dominated by the internet coverage area (Sijtsema & Lindenberg, 2018) (Chavoshi & Hamidi, 2019). The excitement of the surrounding population is adequate to run learning media like this. And for areas that may be remote, it will definitely be difficult to implement a learning media system like this, because not only is the technology lacking, the internet coverage network may still be minimal. On the other hand, in urban or densely populated areas, this learning media system may run quickly (Duppen et al., 2019), It is certain that the internet coverage area in urban and densely populated areas must be much more adequate in terms of access (Schehl et al., 2019) (Karji et al., 2019). Educators or students generally must have an android as a supporting medium for the continuity of this learning media, it can be ensured that the use of Youtube as a learning media can be used optimally.

Running the use of this Youtube media, previous educators must be able to direct their students in utilizing android in the use of learning media access, this is because Youtube media is used as a learning media so that it is not misused to access other things, for that here also requires confirmation from educators and student guardians to determine policies for their students in utilizing android as a supporting learning media (Peeters, 2018) . Youtube itself is the most popular social media in today's society, its popularity is projected to continue to increase along with the number of users. Previously, Youtube recorded the number of logged-in monthly users of 1.5 billion in mid-2017.

The data obtained in the utilization is in the form of learning motivation and concept understanding (Hodges, 2021) (Pokhilko et al., 2018) The instrument used was also a motivation questionnaire and a concept understanding test. The data were analyzed using quantitative statistics with the results of the study showing that there are differences in learning motivation and understanding of concepts in participating in learning by using real media, indicating that Youtube video media is superior compared to other real media to instill learning motivation in students. Evidenced by the results of research with observation questionnaires as much as 50% of educators with data collection techniques carried out using interview questionnaires, observation, questionnaires and documentation.

The virtue of using this media as a learning support media is that whatever is there in the application for learning will not be lost, because the upload video will always be stored as long as the educator who accesses it does not delete it. So when those who need the learning are either students or other general public with the existence of android supporting media and the like with an adequate internet network the learning will definitely be accessible. this will clearly make it easier for students to be able to access

whenever and when needed from time to time, because if students cannot access it now they will still be able to access it at a later time.

Based on the description above, researchers are interested in studying more deeply to find out the extent to which educators utilize Youtube as a video-based learning media at school. And as for that, the purpose of this research is to observe how educators utilize technology for learning as well as how students are able to receive learning from the media aimed at educators. As well as in order to find out how the interest of students in utilizing this media as a process of receiving learning, with this it is hoped that later the use of Youtube as a video-based learning media will be carried out as a cognitive, affective and psychomotor support learning evaluation for educators and students in educational containers.

RESEARCH METHODOLOGY

The research method used to examine the use of Youtube as a video-based learning media is quantitative method, with the aim that this method can find out and be able to analyze the observations obtained, related to the extent to which the use of Youtube as a video-based learning media is utilized. This research was conducted at Halu Oleo University at the beginning of the middle of the odd semester 2022/2023. This research time was chosen because it is in line with the release of a new curriculum at the beginning of the odd semester school year for the world of education, namely the Merdeka Curriculum.

The source of this research comes from 50% of the teachers who teach at the school concerned with the educators present at the time of the research. filling out questionnaires and observation interviews (Bai et al., 2020; Taimalu & Luik, 2019; Vegetti et al., 2018). In line with filling out questionnaires and interviews at the schools studied, it can be seen how the response of educators in utilizing this media and to what extent this media has been utilized as a video-based learning media.

The results of the research data have been collected in the form of questionnaire paper filled in and survey techniques with interview observations, before educators fill out questionnaires and interviews here researchers have prepared a grid or what questions will be addressed then also validated by supervisors who are experts in the field of media literacy (Chong et al., 2018; Qi et al., 2021), The criticism and suggestions from the validator will be made by the researcher as a basis or reference to improve the question grids in the questionnaires and interviews in this study all in order to get good respondents at the research site (Nordhoff et al., 2018; Park et al., 2018) . Namely all questions related to how the utilization of Youtube as a video-based learning media.

The research data that has been collected will be analyzed using quantitative methods, namely in order to see the percentage of the question grid in the questionnaire that has been distributed, then the percentage obtained will be described through discussion and deliberated with expert opinion and corrected with previous relevant research. In the discussion of research results, narratives and expert opinions will be united in the form of existing research conclusions.

RESULT AND DISCUSSION

Technological advances at this time have had a lot of impact on changes in the world of education, because what will be run for learning media today will not be separated from its relationship with Internet technology, to support access to this learning media educators have very diverse steps with the help of the Internet and technological advances, this proves that currently the world of education is very closely dependent on Internet access and technology. Because educators and students clearly feel the benefits of the existence of the internet and this technology as a learning medium that supports and along with it proves that educators and students in Indonesia are able to compete in utilizing technological advances. And in using Youtube as a supporting learning media, researchers have made observations, and researchers can find out that the school concerned has familiarized itself with the learning media that will be used.

This is also so that educators and students can know in advance the system of use, its utilization and the application of its use, can be seen like Youtube, before implementing this application the school has carried out monitoring and habituation first to educators in accessing this media as a supporting learning media, this is all so that respondents from students are able to use it as well as possible as a supporting video-based learning media, in educators this media is useful as a place to store material (Baur et al., 2018), sharing material with the advantage of being able to access it at any time, while for students this media is a place to add material, media repetition of material that can be accessed at any time while supported by the maximum supporting internet network.

Judging by the development of media that can be accessed today, researchers can judge if Youtube is indeed a supporting tool that is also of great benefit and usefulness in the world of education today, it can be seen that on average at various levels of education up to tertiary institutions are also very utilizing Youtube as a supporting learning medium for understanding material. And for this study with the approval of experts, the researcher chose one of the schools in Solok city to be reviewed by making observations about how the utilization of Youtube as a supporting learning media in the Solok City Man school. To find out the extent of the utilization of the media, it was reviewed by a survey giving an assessment questionnaire about the research title. And the following questionnaire assessment data has been attached below as follows:

Youtube helps understand the material conveyed repetition



From the distribution of questionnaires that have been conducted by researchers to educators and students in Halu Oleo University, the survey results obtained are 46.8% of

them answered that if the use of Youtube as a video learning media is good to use as an auxiliary means of understanding the material conveyed or repetition because it can be accessed again on the Internet network, 31% of Educators consider it quite good to be used as an auxiliary means of repeating the material conveyed, besides being able to access at any time, it is also a supporting forum 10.3% consider it very good to be used as an auxiliary means on the grounds that this can be accessed at any time and the existence of supporting facilities certainly greatly facilitates utilization. This internet as a repetition of learning, 11.9% of them consider this application not good to be used as a supporting tool for repetition of material because it is feared that if students are free to use the features of this application, they are afraid that there will be misuse of Youtube itself. and for the usual option 0% of educators did not choose because Youtube is also considered an important application that education needs now, so the researchers concluded that the use of Youtube as a medium for repetition of material in the school concerned is running optimally with good options, and very well with a maximum of teacher assessments that fully support the use of Youtube. option is not good with consideration of the negative effects of Youtube utilization.

Is there an understanding of Youtube for learning to be interesting



And for the option whether there is Youtube understanding for learning to be interesting, the researcher also asked in the interview process and questionnaire assessment, and obtained the following results, first for the good option the results of observations to Educators and Students obtained 56.3% they concluded that Youtube for understanding learning was very interesting this was because students were able to understand by listening and watching methods. For the good enough option they gave a percentage of 21.9%, this is because they are weighing the use of this Youtube with the method of watching in fear of misuse of its utilization, and for the very good option is 18.8%, it is clear that for them Youtube Educators and Learners are interesting media to support video-based learning, but in contrast to the assessment of 3.1% of teachers for ordinary options, this media is only normal because for them it may not help in learning

media. So for the option of whether YouTube makes understanding learning interesting Educators and Learners in this school support good options with maximum understanding, good enough options with weighing all aspects, very good if YouTube is maximized in interesting learning media, and a few of them choose ordinary because the use is considered not optimal, in contrast to the option does not exist because students think YouTube can be used in other aspects for its use.

Does YouTube open up insights with all aspects of learning



For this third option, whether Youtube opens insights with all aspects of learning has also been obtained by respondents from educators and students who have been surveyed, they filled out a questionnaire with various responses according to what they felt, and for the results the researcher has also attached the response results to the bar chart above, for the first percentage, namely, 54.5% good, 30.3 quite good, 9.01% very good, 6.01% ordinary, and 3.0% not good. With the percentage of each option that is already known, the researcher concludes that the Educators and Students in Halu Oleo University are more inclined to choose the good option, this can be said that half of them consider Youtube as opening up insights to be very good or the utilization of this media can be considered optimal. And for the second highest option, which is quite good, it can be concluded that the utilization of this media can still be said to be not optimal with perhaps certain considerations in all aspects that may be an obstacle, for the third option, which is very good, only a few of them consider the utilization of this media to be very good to be used as a place to open up insights in learning, and finally there are several educators who state that YouTube is not good for utilization in opening up insights in learning. this may be that they are very frightened regarding the negative impact of misuse of existing media, This may be very frightening for them related to the negative impact of misusing existing media, and for the usual option among educators no one chooses without any consideration, this is because for this media there are clear benefits for learning, so it can be concluded for the question of whether YouTube opens insights with all aspects of learning dominated by good options with maximum utilization in utilizing it as a video-based learning media.

YouTube is a source of learning material



Fourth, researchers with the next option with Youtube being a source of lessons, with a questionnaire survey that has been distributed in the school concerned, researchers get a percentage of 48.5% for the good option, 33.3% is quite good, 9.01% is very good and 9.01% is also not good, 0% is normal, and it can be seen that the good option that many educators choose because they consider YouTube as a maximum learning material is very helpful, With that, the researchers concluded that the use of Youtube as a source of lessons in the school concerned based on the scores of Educators and Students, namely, good with the provision that this media is considered maximally helpful in utilizing Youtube as a source of lessons or digging up information about learning, and for some of them stated that this media is very good this can be said to be far very maximum. And some people consider it quite good to use with the provision that it is still not optimal to run, and a few of them state that this media is not good considering that there are fears that it will not be utilized properly, but behind that, the researcher assesses that the media used if utilized properly will definitely have a good impact on the user in using it as a learning media that supports learning.

whether the facilities for this media include educators



Analysts of educators with the highest assessment for good with the maximum, that this media is rated well with almost most educators utilizing it for learning support media. quite good with the provisions not yet optimal, because less than some educators are still hesitant in using this media for learning support. very good only selected a few people, with the assumption that this media is very clear to help become a learning support media with all the benefits that are very much, and some of them think it's normal, but it can be concluded that for the school the use of YouTube can be said to be maximal. Because this

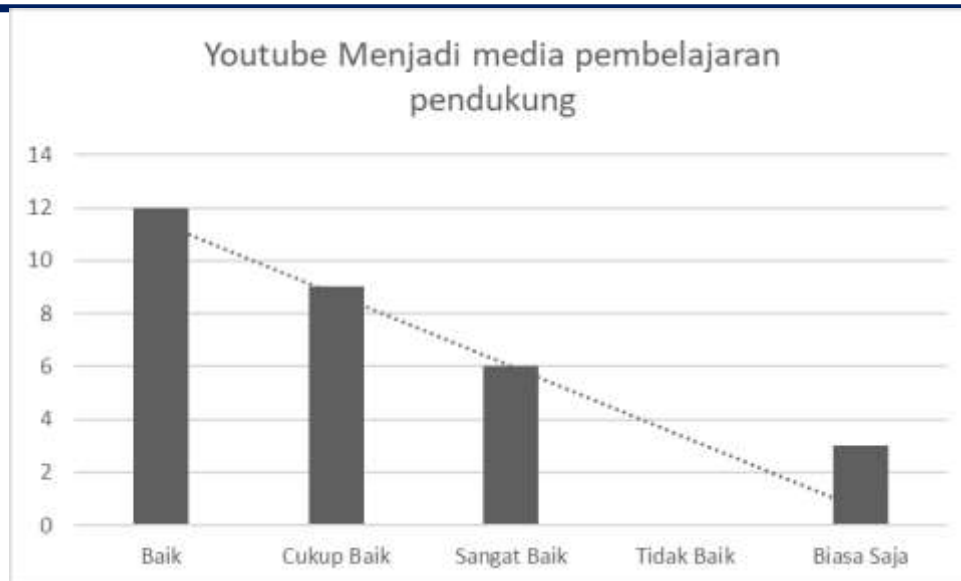
media has been run by almost all teachers. And this is expected with the results of the school increasing the use of this media to help educators in fulfilling the development of educators' insights in the development of learning media. Because the increasing use of media helps increase values for school progress such as increasing school accreditation, the quality of learning, the advantages that schools have. because the more advanced the school and the creative educators in utilizing technology and media become a lure in improving the quality of the school.

being involved in technological developments



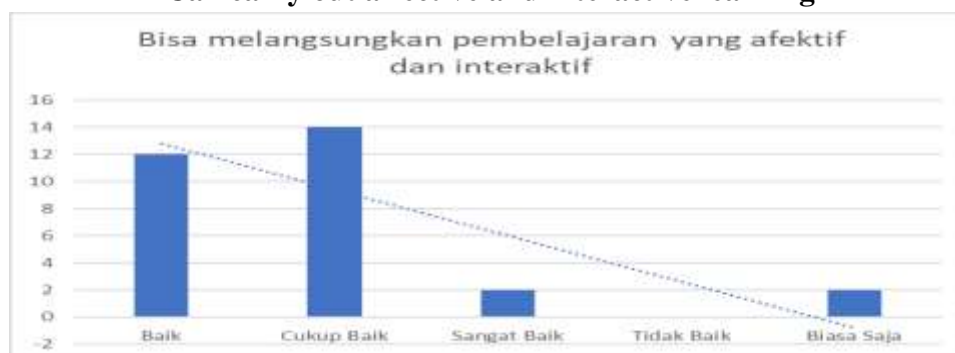
The next analysis is how respondents from educators participate in technological developments, as already attached to the survey results, and it is known that many educators choose good because they feel if they have participated in the development of media as learning that can be developed, the selection of options for quite good and ordinary is the same percentage of a little, for quite good educators assume that those who are already educators who are almost finished teaching (towards retirement) are very less feeling the rapid development of technology at this time, while the usual option educators assume that they do not really utilize media related to this technology in learning because it is not so in accordance with the learning methods they teach. With that, it can be concluded that if the school concerned has felt involved in the development of technology at this time, it just needs deep monitoring again for a good improvement, in order to get a very in-depth monitoring, it is recommended that the school concerned cooperate more with other schools that also make YouTube media as a learning support medium.

YouTube as a supporting learning media



The Youtube option as a learning support media has obtained survey results from a questionnaire that has been distributed to educators, and the results for learning support are good, it can be concluded that its development has been maximized. That educators have used this as a supporting medium for learning, not much different from the good enough option, they also use this media as a support but not completely because they are worried about the effects of misleading use on students. For very good options themselves half the percentage of good options, because educators strongly support this media as a supporting learning medium seen from the many benefits that result from using YouTube media itself, in contrast to educators who choose ordinary options, they think that this use is not too important because they do not use this media as a supporting learning medium, it is concluded that for this option many educators agree with the good option with maximum use for learning support.

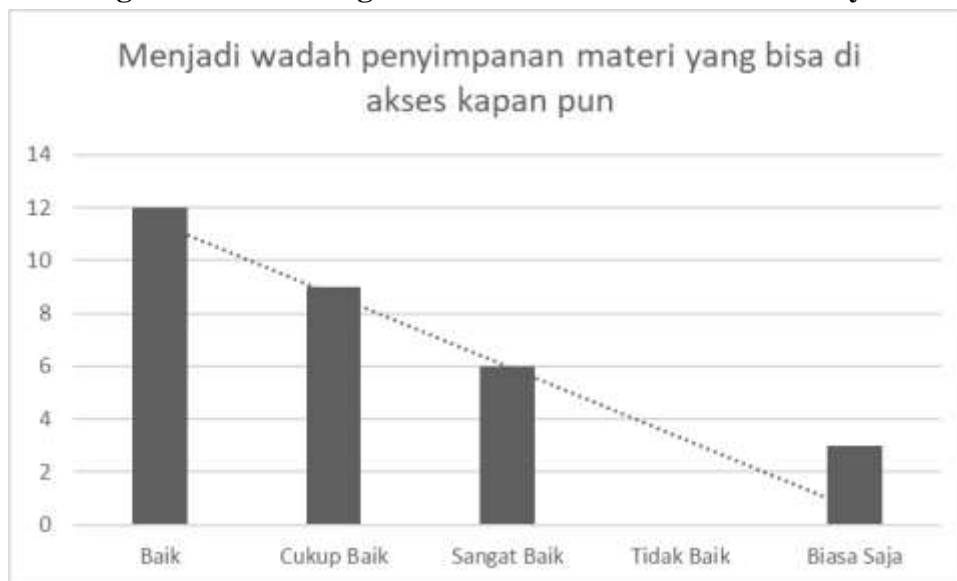
Can carry out affective and interactive learning



The option can carry out affective and creative learning has been obtained from the survey results with a questionnaire that has been distributed, it is known that there is a percentage change in its utilization, namely in the good and good enough options, in this question the good enough option occupies the highest percentage result, good enough here explains that not all affective and interactive learning can be obtained by using YouTube videos as learning media because educators do not see the actual development directly if they only watch without application , Slightly different from the good option, they

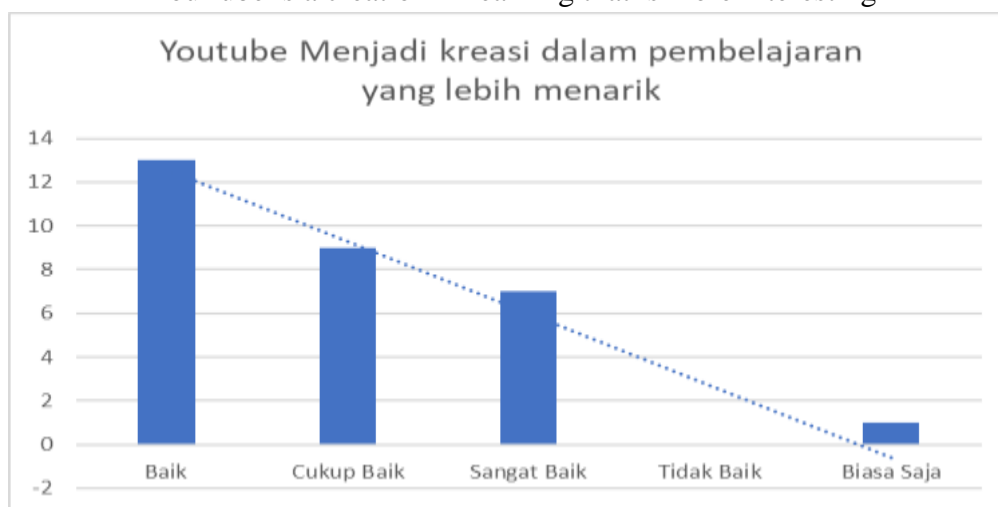
responded that this media was good at achieving affective and interactive learning in schools, and for the very good and ordinary options were in the same percentage, for educators, the good option assumed that this media was clearly very helpful for educators in realizing affective and interactive learning with the increasing use of YouTube media as a learning support media, compared to the ordinary option, educators thought this media was not so helpful in realizing affective and interactive learning. It is concluded that in the school concerned this media has not been maximized to be used as an affective and interactive learning media.

Being a material storage container that can be accessed anytime



The utilization of YouTube as a material storage container and can be accessed at any time also gets survey results from educators, the percentage for good options is back first on the grounds that educators argue that it is real if YouTube can be made into a material storage container with the advantage of being able to be accessed at any time, this makes it easier for students if one day students do not understand the material at school, for repetition they can re-understand this YouTube media because YouTube is a medium that can indeed be accessed with supporting network conditions, slightly different percentages of good enough options educators are still hesitant to allow students to repeat material with this media. But half of the percentage of good options educators choose very good options, because YouTube is indeed the right place for students to repeat independently if the educator is unable to attend or repeat the understanding of learning at home. The usual option has also increased in percentage because some educators think the same as before if this media does not play an important role here as a support in understanding the material that can be accessed, so it can be concluded that the use of YouTube as a place to store material that can be accessed at any time in the school concerned has run optimally with good options. Hopefully schools can further improve the utilization of YouTube as a learning support media.

YouTube is a creation in learning that is more interesting



For the last option, namely YouTube as a creation in more interesting learning, researchers also found the survey results, which are dominated by good options with the highest percentage with the assessment of educators, namely YouTube is good for making new creations in interesting learning, with its viewing system while listening directed by educators to their students, for the good enough option is not much different from the percentage of good options, it's just that educators again explained to researchers that they were afraid of misuse in utilizing YouTube as a learning media that helps. but there is something interesting in the question in this option, the percentage is very good almost the same as quite good, with the conclusion that for the creation of learning YouTube is considered very good, because this is a form of creation and innovation of educators in developing creativity in learning, But there is something interesting in the question in this option, the percentage is very good almost the same as quite good, with the conclusion that for the creation of YouTube learning is considered very good, because this is a form of creation and innovation of educators in developing creativity in high-quality learning by following the competition in utilizing increasingly sophisticated technology, but there are also some educators responding if the use of YouTube is still ordinary, not yet seen as a learning medium that supports it to be applied at school.

CONCLUSION

Youtube is a media application that holds various videos in which users can use it as a media source for watching, sharing videos and so on. with the aim of gaining knowledge, skills, creativity with the advantage of complete information. The research was conducted by researchers to be able to find out the extent to which the use of Youtube media in the school concerned was carried out and what were the obstacles and shortcomings in its use. For this reason, the researcher hopes that the school concerned will further expand the monitoring of the introduction of the Youtube application in order to get better utilization to be used as a learning media that supports the use of educators and students in the future along with technological advances.

REFERENCES

- Abula, K., Gröpel, P., Chen, K., & Beckmann, J. (2018). Does knowledge of physical activity recommendations increase physical activity among Chinese college students? Empirical investigations based on the transtheoretical model. *Journal of Sport and Health Science*, 7(1), 77–82. <https://doi.org/10.1016/j.jshs.2016.10.010>
- Ali, F., El-Sappagh, S., Islam, S. M. R., Ali, A., Attique, M., Imran, M., & Kwak, K.-S. (2021). An intelligent healthcare monitoring framework using wearable sensors and social networking data. *Future Generation Computer Systems*, 114, 23–43. <https://doi.org/10.1016/j.future.2020.07.047>
- Angulo-Jiménez, H., & DeThorne, L. (2019). Narratives About Autism: An Analysis of YouTube Videos by Individuals Who Self-Identify as Autistic. *American Journal of Speech-Language Pathology*, 28(2), 569–590. https://doi.org/10.1044/2018_AJSLP-18-0045
- Bai, C., Dallasega, P., Orzes, G., & Sarkis, J. (2020). Industry 4.0 technologies assessment: A sustainability perspective. *International Journal of Production Economics*, 229, 107776. <https://doi.org/10.1016/j.ijpe.2020.107776>
- Baur, D. G., Hong, K., & Lee, A. D. (2018). Bitcoin: Medium of exchange or speculative assets? *Journal of International Financial Markets, Institutions and Money*, 54, 177–189. <https://doi.org/10.1016/j.intfin.2017.12.004>
- Behnke, K., & Janssen, M. F. W. H. A. (2020). Boundary conditions for traceability in food supply chains using blockchain technology. *International Journal of Information Management*, 52, 101969. <https://doi.org/10.1016/j.ijinfomgt.2019.05.025>
- Chandio, A. A., Jiang, Y., Akram, W., Adeel, S., Irfan, M., & Jan, I. (2021). Addressing the effect of climate change in the framework of financial and technological development on cereal production in Pakistan. *Journal of Cleaner Production*, 288, 125637. <https://doi.org/10.1016/j.jclepro.2020.125637>
- Chavoshi, A., & Hamidi, H. (2019). Social, individual, technological and pedagogical factors influencing mobile learning acceptance in higher education: A case from Iran. *Telematics and Informatics*, 38, 133–165. <https://doi.org/10.1016/j.tele.2018.09.007>
- Chen, Y.-Y., Li, C.-M., Liang, J.-C., & Tsai, C.-C. (2018). Health Information Obtained From the Internet and Changes in Medical Decision Making: Questionnaire Development and Cross-Sectional Survey. *Journal of Medical Internet Research*, 20(2), e47. <https://doi.org/10.2196/jmir.9370>
- Chong, J., Soufan, O., Li, C., Caraus, I., Li, S., Bourque, G., Wishart, D. S., & Xia, J. (2018). MetaboAnalyst 4.0: Towards more transparent and integrative metabolomics analysis. *Nucleic Acids Research*, 46(W1), W486–W494. <https://doi.org/10.1093/nar/gky310>
- Dhir, A., Kaur, P., & Rajala, R. (2018). Why do young people tag photos on social networking sites? Explaining user intentions. *International Journal of Information Management*, 38(1), 117–127. <https://doi.org/10.1016/j.ijinfomgt.2017.07.004>
- Dileep, G. (2020). A survey on smart grid technologies and applications. *Renewable Energy*, 146, 2589–2625. <https://doi.org/10.1016/j.renene.2019.08.092>
- Duppen, D., Van der Elst, M. C. J., Dury, S., Lambotte, D., De Donder, L., & D-SCOPE. (2019). The Social Environment's Relationship With Frailty: Evidence From Existing Studies. *Journal of Applied Gerontology*, 38(1), 3–26. <https://doi.org/10.1177/0733464816688310>
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- Ebert, J. F., Huibers, L., Christensen, B., & Christensen, M. B. (2018). Paper- or Web-Based Questionnaire Invitations as a Method for Data Collection: Cross-Sectional Comparative Study of Differences in Response Rate, Completeness of Data, and Financial Cost. *Journal of Medical Internet Research*, 20(1), e24. <https://doi.org/10.2196/jmir.8353>
- Faizin, M. N., & Samsudin, A. (2018). The use of Virtual Analogy Simulation (VAS) in physics learning. *Journal of Physics: Conference Series*, 1013, 012048. <https://doi.org/10.1088/1742-6596/1013/1/012048>
- Fan, L., Zhu, B., Su, P.-C., & He, C. (2018). Nanomaterials and technologies for low temperature solid oxide fuel cells: Recent advances, challenges and opportunities. *Nano Energy*, 45, 148–176. <https://doi.org/10.1016/j.nanoen.2017.12.044>
- 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>
- Hodges, J. A. (2021). Forensic approaches to evaluating primary sources in internet history research: Reconstructing early Web-based archival work (1989–1996). *Internet Histories*, 5(2), 119–134. <https://doi.org/10.1080/24701475.2020.1784539>
- Jamali, D., & Karam, C. (2018). Corporate Social Responsibility in Developing Countries as an Emerging Field of Study: CSR in Developing Countries. *International Journal of Management Reviews*, 20(1), 32–61. <https://doi.org/10.1111/ijmr.12112>
- Kang, E., Lee, J., Kim, K. H., & Yun, Y. H. (2020). The popularity of eating broadcast: Content analysis of “mukbang” YouTube videos, media coverage, and the health impact of “mukbang” on public. *Health Informatics Journal*, 26(3), 2237–2248. <https://doi.org/10.1177/1460458220901360>
- Karji, A., Woldesenbet, A., Khanzadi, M., & Tafazzoli, M. (2019). Assessment of Social Sustainability Indicators in Mass Housing Construction: A Case Study of Mehr Housing Project. *Sustainable Cities and Society*, 50, 101697. <https://doi.org/10.1016/j.scs.2019.101697>
- Kavitha, K. M., Shetty, A., Abreo, B., D’Souza, A., & Kondana, A. (2020). Analysis and Classification of User Comments on YouTube Videos. *Procedia Computer Science*, 177, 593–598. <https://doi.org/10.1016/j.procs.2020.10.084>
- Khanna, A., & Kaur, S. (2019). Evolution of Internet of Things (IoT) and its significant impact in the field of Precision Agriculture. *Computers and Electronics in Agriculture*, 157, 218–231. <https://doi.org/10.1016/j.compag.2018.12.039>
- Li, C., Chen, G., Zhang, Y., Wu, F., & Wang, Q. (2020). Advanced Fluorescence Imaging Technology in the Near-Infrared-II Window for Biomedical Applications. *Journal of the American Chemical Society*, 142(35), 14789–14804. <https://doi.org/10.1021/jacs.0c07022>
- Mekki, K., Bajic, E., Chaxel, F., & Meyer, F. (2019). A comparative study of LPWAN technologies for large-scale IoT deployment. *ICT Express*, 5(1), 1–7. <https://doi.org/10.1016/j.ict.2017.12.005>
- Mensah, C. N., Long, X., Dauda, L., Boamah, K. B., Salman, M., Appiah-Twum, F., & Tachie, A. K. (2019). Technological innovation and green growth in the Organization for Economic Cooperation and Development economies. *Journal of Cleaner Production*, 240, 118204. <https://doi.org/10.1016/j.jclepro.2019.118204>
- Nordhoff, S., de Winter, J., Kyriakidis, M., van Arem, B., & Happee, R. (2018). Acceptance of Driverless Vehicles: Results from a Large Cross-National
-

-
- Questionnaire Study. *Journal of Advanced Transportation*, 2018, 1–22. <https://doi.org/10.1155/2018/5382192>
- Obar, J. A., & Oeldorf-Hirsch, A. (2020). The biggest lie on the Internet: Ignoring the privacy policies and terms of service policies of social networking services. *Information, Communication & Society*, 23(1), 128–147. <https://doi.org/10.1080/1369118X.2018.1486870>
- Park, Y., Dodd, K. W., Kipnis, V., Thompson, F. E., Potischman, N., Schoeller, D. A., Baer, D. J., Midthune, D., Troiano, R. P., Bowles, H., & Subar, A. F. (2018). Comparison of self-reported dietary intakes from the Automated Self-Administered 24-h recall, 4-d food records, and food-frequency questionnaires against recovery biomarkers. *The American Journal of Clinical Nutrition*, 107(1), 80–93. <https://doi.org/10.1093/ajcn/nqx002>
- Peeters, T. (2018). Testing the Wisdom of Crowds in the field: Transfermarkt valuations and international soccer results. *International Journal of Forecasting*, 34(1), 17–29. <https://doi.org/10.1016/j.ijforecast.2017.08.002>
- Pokhilko, P., Epifanovsky, E., & Krylov, A. I. (2018). Double Precision Is Not Needed for Many-Body Calculations: Emergent Conventional Wisdom. *Journal of Chemical Theory and Computation*, 14(8), 4088–4096. <https://doi.org/10.1021/acs.jctc.8b00321>
- Qadri, Y. A., Nauman, A., Zikria, Y. B., Vasilakos, A. V., & Kim, S. W. (2020). The Future of Healthcare Internet of Things: A Survey of Emerging Technologies. *IEEE Communications Surveys & Tutorials*, 22(2), 1121–1167. <https://doi.org/10.1109/COMST.2020.2973314>
- Qi, Q., Tao, F., Hu, T., Anwer, N., Liu, A., Wei, Y., Wang, L., & Nee, A. Y. C. (2021). Enabling technologies and tools for digital twin. *Journal of Manufacturing Systems*, 58, 3–21. <https://doi.org/10.1016/j.jmsy.2019.10.001>
- Schehl, B., Leukel, J., & Sugumaran, V. (2019). Understanding differentiated internet use in older adults: A study of informational, social, and instrumental online activities. *Computers in Human Behavior*, 97, 222–230. <https://doi.org/10.1016/j.chb.2019.03.031>
- Sijtsema, J. J., & Lindenberg, S. M. (2018). Peer influence in the development of adolescent antisocial behavior: Advances from dynamic social network studies. *Developmental Review*, 50, 140–154. <https://doi.org/10.1016/j.dr.2018.08.002>
- Sinha, A., Kumar, P., Rana, N. P., Islam, R., & Dwivedi, Y. K. (2019). Impact of internet of things (IoT) in disaster management: A task-technology fit perspective. *Annals of Operations Research*, 283(1–2), 759–794. <https://doi.org/10.1007/s10479-017-2658-1>
- Staniewski, M. W., & Awruk, K. (2019). Entrepreneurial success and achievement motivation – A preliminary report on a validation study of the questionnaire of entrepreneurial success. *Journal of Business Research*, 101, 433–440. <https://doi.org/10.1016/j.jbusres.2019.01.073>
- Taimalu, M., & Luik, P. (2019). The impact of beliefs and knowledge on the integration of technology among teacher educators: A path analysis. *Teaching and Teacher Education*, 79, 101–110. <https://doi.org/10.1016/j.tate.2018.12.012>
- Toussaint, A., Hüsing, P., Gumz, A., Wingenfeld, K., Härter, M., Schramm, E., & Löwe, B. (2020). Sensitivity to change and minimal clinically important difference of the 7-item Generalized Anxiety Disorder Questionnaire (GAD-7). *Journal of Affective Disorders*, 265, 395–401. <https://doi.org/10.1016/j.jad.2020.01.032>
-

-
- Vegetti, S., Despali, G., Lovell, M. R., & Enzi, W. (2018). Constraining sterile neutrino cosmologies with strong gravitational lensing observations at redshift $z \sim 0.2$. *Monthly Notices of the Royal Astronomical Society*, 481(3), 3661–3669. <https://doi.org/10.1093/mnras/sty2393>
- Yuan, C., Spiegelman, D., Rimm, E. B., Rosner, B. A., Stampfer, M. J., Barnett, J. B., Chavarro, J. E., Rood, J. C., Harnack, L. J., Sampson, L. K., & Willett, W. C. (2018). Relative Validity of Nutrient Intakes Assessed by Questionnaire, 24-Hour Recalls, and Diet Records as Compared With Urinary Recovery and Plasma Concentration Biomarkers: Findings for Women. *American Journal of Epidemiology*, 187(5), 1051–1063. <https://doi.org/10.1093/aje/kwx328>
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