The Efforts to Improve Student Learning Outcomes with an Online Material Solution in School Classes in Rural Indonesia

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ABSTRACT

This article was an effort to improve student learning in schools in rural areas that can be made by various solutions, including utilizing materials available on the Internet. The authors believe that schools in remote areas did not necessarily have to surrender to their conditions, but they must make various efforts to improve the quality of learning. Therefore, we have carried out this study by utilizing many existing data and literature sources, found by searching the Internet. Next, we examined the phenomenological approach to find an answer from a large number of data at the highest level. The analysis involved coding the data, evaluating, and drawing conclusions that we believe can answer the main problem. Based on the analysis and discussion of the results, we can conclude that the learning problems in remote areas can be solved using the internet network, which has slowly penetrated remote areas. The result was also said that online materials were solution when teachers and resources were limited access, and these online materials barely distinguish between schools in cities and villages. Thus, the results of this study can add insights that were useful at the academic level of high schools and their benefits for policy courts in government and education practitioners in the field.

Keywords: *Students Learning Outcomes, Online Materials, Rural School*

INTRODUCTION

Teaching in remote areas is a work with many obstacles and unsatisfactory results. So that schools there can provide high results, solutions to serve students with new knowledge, abilities, and mastery of specific fields for students can be carried out such as school services in cities(Triyanti et al., 2021; Sitepu et al., 2022). The school climate in rural areas is unlike in cities, where a learning climate includes communication between teachers and students. Good learning is cooperation and educational services to students so that a developing experience is understood that is intentionally made to change student behavior according to the demands of the instructive goal. Discoveries among

educators and students in schools must occur well to progress in developing experiences. This achievement must be seen from students' understanding, domination of the material, and student learning outcomes. The reasons for obtaining inappropriate results can arise from within the student and the student's learning climate (Songbatumis, 2017). In addition to communication for learning, online materials can also be used to support learning. Along with the times, the learning process also changes. At first, the teacher became the only medium to obtain knowledge in teaching and learning (Ryan et al., 2013). This continued until finally, the book media appeared; with the book media, this would make it easier for everyone from various circles to obtain the knowledge they wanted because book media is easier to reach and obtain (Li, 2021). One of the fields of education that is impacted by developments in technology and information is higher education. The Internet provides a substantial contribution to various universities, and the Internet can provide convenience in finding information in various forms. This certainly makes it easier for students to obtain various information that they cannot get in lecture places.

In other words, getting free material on the internet is a significant advantage for internet users, especially in the educational environment, of course, in developed countries and supported by existing infrastructure. However, that would not be useful if many schools exist today (Emeka & Nyeche, 2016). it is still far from the city center. However, when teachers and school leadership are informed that there are various ways to get free learning materials that existing materials may not achieve through teacher assistance due to all reasons for human limitations and inability in real time, relying on online materials is very useful. Especially in schools located in areas teacher human resources are still minimal. This is because the connection provided by this digital application has proven to play a very vital role in the lives of not only students but ordinary people.

Because basically, changing the mindset toward progress can be done by interacting with materials on the internet. Especially when a country and region is facing a crisis such as a pandemic or other crises, this digital network for learning materials must be made in the form of learning policies for schools or areas affected by the crisis (Livingstone, 2012). This is a way of giving flexibility and resilience to the national education system, meaning not only in big cities have excellent materials but those in remote locations we can probably have access to at least. However, of course, commitment and attention are needed so that the digital divide does not occur because many educational institutions run in the regions do not have the feeling that this digital gap must be overcome, namely through government policies that are evenly distributed as the basis for education that is carried out according to the legal principles of quality and equal distribution of education democracy.

So, the free online material is very impactful in terms of educational equality; it is recognized by experts such as the United Nations dealing with the education and culture section that quite a lot of regions in the world, especially those from underprivileged families, of course, they are told to Rural areas in poverty tend not to have internet access (Williamson et al., 2020). Therefore the policy to serve education or access education for remote schools using learning materials is one that is very potential and promising.

The online material from the channel, in addition to making it easier to find information, also makes it easier for students to understand less affordable lecture material. By looking for additional material on the Internet, the Internet is beneficial for students besides being able to access various information and increase knowledge according to their academic needs, so online material is an alternative to finding

information other than the library(Anshari et al., 2017).Therefore, the Internet can be a source of learning with the ease of finding information in the form of data. However, besides that, it turns out that there are still many students who have not used the Internet as a medium to support their learning. Most of them still use data as a medium of communication and entertainment. To support this research, there would be several theories regarding online data, namely a relationship with various types of computers and networks that exist worldwide and have operating systems with different applications (NCBI Resource Coordinators, 2015). This relationship takes advantage of technological advances, such as telephones and satellites, which also use standard protocols for communication.

Online materials are computer networks connected and can read and describe various communications for specific educational purposes in remote areas. Online data has the meaning of a collection of several computers; even millions of computers in the world are connected and connected(West, 2022). For computers to interact and connect, media is needed to interconnect between computers. The cable or fiber optics media can also be satellite or telephone connections. Internet data is a collection of networks that have a global scale. However, no one can be held responsible for using the online material. Initially, the Internet was only used for military purposes, but now the Internet is a necessity at the same time. Data on the Internet used for learning would increase reading skills, think critically, and integrate or associate reading sources with one another. The Internet is a network that can connect many computer devices, making it easier to send news and obtain information. In addition, online materials can also be used as learning media to access educative information because the Internet is considered one of the most updated, practical, easy, and reliable media to meet information needs without being constrained by space and time (Ko & Rossen, 2017).

Using internet data as a learning medium would affect a person's reading ability, but it can also improve the ability to distinguish information from various sources of information obtained(He et al., 2016). Because of the ease of information that can be obtained, this causes the learning process is student-centered, so students are required to be more active in finding information and reading materials related to lecture material. Students who use data for lecture activities as a medium in learning activities would support the quality of education and learning quality. In presenting internet data, it can display audio, visual, and audiovisual simultaneously to increase students' interest in accessing the Internet data because learning to use the Internet is more accessible, more effective, and not monotonous. Internet use is believed to increase student interest and learning outcomes. Internet data positively influences the learning process; this is evidenced by the research showing that the use of the Internet has an effect of 73.3% on student learning outcomes (Salmon, 2013).Many things can be done by using the Internet data, including looking for information, discussing, looking for relevant information, looking for answers, or looking for additional information related to lecture material that can improve students' critical thinking skills(Zhao & Zhang, 2017). In addition, the Internet also has other positive impacts, as stated by experts; among others, students can easily take courses anywhere in the world without institutional or national boundaries, participants can quickly learn from experts in their fields of interest, and lectures or studies can be quickly taken from any part of the world without depending on the university or school where the student is studying. In addition, an internet library is now more dynamic and can be used throughout the universe (Osei Asibey et al., 2017).

Using E-learning or electronic learning material is progressively perceived as a method for beating instructive issues, both in created and non-industrial nations*(Tîrziu & Vrabie, 2015)*. Many individuals utilize various terms about e-learning; however, on a fundamental level, e-learning would be discovered that involves electronic administrations as media and instruments. Electronic learning, or E-learning, began during the 1970s. Different terms offer viewpoints/thoughts regarding electronic getting the hang of, including online learning, web empowered learning, virtual learning, or online learning. E-learning is all that incorporates the utilization of PCs to help to work on the nature of picking up, including the utilization of portable advancements like PDAs and MP3 players. Likewise, the utilization of online and hypermedia showing materials, media CD-ROMs or sites, conversation discussions, cooperative programming, email, websites, wikis, PC helped evaluation, instructive movement, recreations, games, learning the executives programming, electronic democratic frameworks, and others. It can likewise be a mix of the utilization of various media (Tîrziu & Vrabie, 2015*)*

E-advancing is any instructing and discovering that utilizes electronic circuits to convey learning content, communication, or direction*(Ghareb & Mohammed, 2016)*. E-advancing as a nonconcurrent learning action through PC electronic gadgets get learning materials that suit their requirements. Rosenberg stressed that E-learning alludes to the utilization of web innovation to convey a progression of arrangements that can further develop information and abilities *(Arkorful & Abaidoo, 2015)*. E-learning is an instructing and discovery that permits the conveyance of instructing materials to understudies utilizing Internet data or other PC network media *(Li, 2021)*. Learn Frame in the Glossary of E-learning Terms E-learning is a school system that utilizes electronic applications to help educate and get the hang of utilizing the Internet, PC organizations, or independent PCs.

From a few sentiments who remarked on E-learning, it very well may be reasoned that E-learning is an instructing and learning idea that permits the conveyance of instructing materials to students utilizing the web, intranet, or other PC network media and other electronic hardware that can uphold the growing experience. Nonetheless, from most conclusions, E-learning is constantly related to the utilization of the web so that distance learning is conceivable and is not restricted by spot and time. What is more, comparable to this, it very well may be deciphered that E-learning is another methodology in discovering that is adjusted to the improvement of the computerized data period (Aljuboori et al., 2020). Another definition, E-learning and Internet data are distance discovery that uses PC innovation, PC organizations, and the web. E-learning permits understudies to learn through PCs in their different spots without having to go to participate in learning exercises in class. E-learning is often comprehended as a type of online discovery that can be gotten from an intranet on a neighborhood organization or the web (Aparicio et al., 2016). E-learning materials do not need to be conveyed online either through nearby organizations or the web, disconnected dispersion utilizing CD/DVD media is likewise an E-learning design. For this situation, applications and learning materials are created case-by-case and dispersed through CD/DVD media; then, the student can exploit the CD/DVD. The aimed this article was efforts in Improving student learning outcomes with an online material solution in school classes in rural Indonesia.

METHODS

Furthermore, in the second part, we would present how we carried out this research study while we repeat that this is to discuss efforts to improve student learning outcomes in schools located in areas where learning resources may be minimal (Hallinger & Heck, 2011). Concerning this study, we have analyzed the data we got from various literature sources through digital searches and then examined them under the phenomenological approach system. The study steps involved data coding, data evaluation, and interpretation as a whole and ended with drawing conclusions that we did as a discussion of the study as valid and reliable (Veletsianos & Shepherdson, 2016). This study maximizes secondary data from book publications and other academic journals. Then we use it in a qualitative descriptive design by adhering to the guidelines for writing other critical literature reviews, especially those related to studies of improving the quality of learning carried out by technology and informatics, which are now being discussed in more disciplines. These are the simple steps we have taken from the formulation and introduction, followed by searching and analyzing data and ending with reporting the results (Chen & Yan, 2016).

RESULT AND DISCUSSION
Impact on the development of science and technology

Unexpectedly the influence of learning today is the impact on the development of science and technology. This is evidenced by various studies that examine the impact of implementing educational technology to improve student learning. Internet or data-based learning is increasingly being used to get easy learning in their own space but in elementary schools both in cities and in remote villages(Ahn, 2011; Mizani, et al., 2020). One of the most widely used media is mobile-based applications because mobile phones are the easiest thing to use by both students and ordinary people. With various existing applications, smartphones can provide learning material devices for education in urban areas and schools on the city's outskirts, where teachers are willing to adopt technology into the classroom. The reason is that the Internet provides convenience for educators. This is none other because the internet network has begun to enter various corners of the region efficiently, which would quickly and cheaply benefit information education providers. Mastering a little knowledge of data retrieval, the teachers will quickly get the information needed where sometimes the information is impossible to find in the real world. For this reason, we believe that teachers trust the internet network to get learning, ultimately improving their students' learning outcomes (de Sousa et al., 2017).

The role of online materials in the implementation of school education shows a relatively rapid development lately based on the direction of the government as taking policies that are supported by the provision of internet facilities not only for fishery service centers in urban areas but now schools in rural areas increasingly pursue the assistance of various facilities that support data-based learning (Corry & Carlson-Bancroft, 2014). The inclusion of the internet network in various regions of the country is an extraordinary development, and now schools are increasingly making the level of education on the Internet more widespread, which has become concrete evidence that is increasingly phenomenal. On the left, the level of dependence of schools on online materials is increasing, where schools are increasingly allowing teachers to access relevant content for learning at the elementary, middle, and high school levels (Rasmitadila et al., 2020).

So this is proof that the existence of internet material based on the recognition of various parties is beneficial, especially in disseminating information and getting the

359

opportunity to not only get information but also to communicate ideas and establish cooperation with various learning centers in the country (Kuncoro et al., 2020). Even schools establish relationships with education providers abroad so that more and more Indonesian people are collaborating and collaborating with schools between countries. By having skills that scold, teachers can access internet data in the form of information according to learning needs where the teacher at the front must be the guide on how to access learning materials and then train students to learn independently from level with the spirit of independent education where students Teachers and students have the opportunity to get their payment projects autonomously not only depending on the material presented in the form of material principles but also various methods and strategies for teachers to maximize effective learning (Wong et al., 2010).

Online material solution for remote schools

According to various international reports, especially the UNESCO education and culture section, where several educational applications in the form of platforms and other learning resources have now been increasingly prepared by various organizations where this method is beneficial for parents, teachers, and also schools, including the government(Liu & Li, 2020). In this way, many schools have used this approach to helping their students to succeed in academics by preparing learning materials and also interaction methods; where when a pandemic hits the world, the existence of the Internet with all educational material platforms makes a solution where there is no need to pay then it is provided in various languages that are very easy to use when teachers and students parents want to get out of trouble during the pandemic. All of this is clear evidence that now anywhere in the world, access to learning content that has an impact on their schools has been widely opened not only in urban areas but in various corners of the area where with the ability and willingness to use all available materials. on the Internet would be something beneficial for solving learning as long as they are in difficulties, but they are willing to improve and use these free online material for learning needs (Ruthberg et al., 2020).

Suppose we still remember the remote learning event during the lockdown in response to the pandemic. In that case, this online material-based learning is a very relevant model to be applied again by relying on learning or materials available in various material sources (Italiana, 2021). Meanwhile, taking lessons where what is felt to be difficult today would be a lesson to be prepared for the future. That is because at the time of covid hit the world where education was severely disrupted, which disrupted hundreds of countries and nearly 1.7 billion students (Kristóf, 2020). Many countries have taken advantage of learning materials available on the Internet. This is nothing but an effort to allow all students to have the opportunity to succeed in school even though it was in a pandemic or even though today students do not get the same treatment as schools in big city centers but with solutions utilizing digital-based learning and materials or this online material is a solution that must be responded to so that the principles of equitable education and democracy for all can be achieved through switching to materials on the Internet (Mishra dkk., 2020).

In pandemic disruption, there are many lessons to be learned, especially when technology is a learning solution by offering a wide selection of materials that can be accessed remotely. For example, with the availability of online materials, it is essential when distance learning is not enough, but also, most importantly, this technology provides the key to keep learning even if the children are in remote areas. Likewise, teachers with technology that provide their learning materials become more critical

when learning face-to-face. Despite the various views and assumptions that are still not so sure about this technology-assisted learning, whatever the reason, technology, and teachers still play a significant role in efforts to develop learning that adequate teachers support, and this allows the use of technology not only during education affected by the pandemic, but the lessons that can be drawn from using technology in education are enabling and developing these digital tools for future learning (Baber, 2020). Indeed, many also deny how online digital technology tools can provide a pedagogical approach to enable remote or face-to-face learning.

As it is understood that education is an effort to interact with humans on an Intellectual basis, but sometimes when learning has to be done where it lacks Solutions, such as the implementation of education in remote areas cannot be equated with education in big cities, how is it that students in small cities can still take advantage of their learning with interactions such as online materials? This is one solution that may not have the impact of this technology (Alqahtani & Rajkhan, 2020). From the point of view of parents who are teacher partners, this is something that must be continued so that student learning in remote areas where the limitations of these learning tools and the presence of parents must be maximized; for example, parents are given the skills to access technology to get maintenance content that can be delivered to students. Over time the transition from manual teaching methods to digital ways is a step that must be prioritized where maximizing learning strategies guides parents and the community so that they do not. Another view is that education takes place in Scouts only when adequate teachers support it.

Online material for rural schools

Talking about solving learning materials on the Internet for this deepening school is the same as discussing learning during a pandemic (Heliawati et al., 2021). Because outside of the pandemic, the fate and conditions of learning in schools in rural areas are also categorized as disrupted learning. They can be said to be disturbed all the time due to limited supporting facilities compared to the system and implementation of schools in big cities. Indeed, the pandemic has not only had the impact of losing learning, but the pandemic has also been the same in schools in rural areas where there is a gap in learning outcomes that has made the government think of solutions such as utilizing learning materials on the Internet (Rizaldi & Fatimah, 2020). This is following Ali's belief that through the assessment of the ability of technology to distribute education, it has been tested so that many educators are open-minded to adapt learning to the conditions in which the school is run, namely the solution to using educational technology is to be necessary so that learning is disrupted or even distribution of learning between students(Hazaymeh, 2021). The city and the countryside would be resolved as soon as possible. The problem that needs to be answered is how technology can innovate education and help parents in remote areas to be able to get equitable learning in the form of access to technology which is certainly beneficial for students in rural areas. This needs to be considered considering that technology is an opportunity but also a challenge that must be found solutions so that student learning in remote areas can continue to be resolved and they can feel the impact of the solutions through learning technology (Adarkwah, 2021). Indeed, it must be admitted that many countries with economies are still not good, say Indonesia and several other African countries (Kuo et al., 2014). They have succeeded in utilizing learning through internet access which was very opposed at the beginning where incompetence and understanding rather than

leadership in terms of utilizing quality facilities such as what is happening in schools in these big cities must be found the right solution.

In this case, the World Bank has sponsored various thoughts and tennis assistance to countries still categorized as not being able to access various technologies due to the problem of limited teachers, and also school leadership in rural areas is still minimal with the tools needed. Likewise, education representatives such as education offices and educational management bodies in this area must design various solutions, which in essence is to maximize the use of technology in any form so that there is an even distribution of learning at all levels and all regions in the learning materials that are presented for free on the Internet (Johnson & Johnson, 2004). This can be maximized when schools in rural areas get into problems where they have a lack of roles but strong ones who are highly dedicated, then schools in villages can be creative in utilizing existing facilities, namely the Internet for free.

Therefore, it takes leadership of the education office to provide the broadest possible training in which teachers must be given new challenges so that they want to maximize their human resource achievements due to community participation of qualified teachers and modifications to utilize online learning to reach villages via smartphones and laptops. So that students can continue to be helped with various materials and training that would make it easier for those in the teacher's area to feel able to maximize the materials in different challenges, of course, require different solutions so that the founders do not wait for other parties to help them (Bijker et al., 2012).. However, they consciously and creatively try out various existing facilities, for example, by getting intensive training using alternative learning facilities and taking advantage of existing online material facilities to help students both from preparing the learning process to expand.

Like the experience when the pandemic hit Indonesia, the government of the education office has decided it is essential to encourage educators to want to take advantage of learning resources on the Internet so that all applications in the form of Android would certainly help teachers to continue to develop various literacy skills even though they are there (Yang & Deb, 2014). These are among other advantages of accessing internet materials even though the student teachers are in remote areas because sharing data and information requires strong would and support from the parties as well as good intentions to find educational solutions that are being disrupted both geographically in rural areas and the scale of the ongoing pandemic.

The adoption of technology for schools in remote parts of the country is one of the approaches taken by schools where the education law guarantees the independence of schools to improve the quality of their learning in the sense that schools do not have to wait for orders from the curriculum of the government from highly centralized policies(Yasunaga, 2014).So that this is a motivation for schools in remote areas with the availability of free and easy material and very combinatorial, this must be an active role from teachers and school boards where through policy and leadership from a good attitude so that the school is not in a hurry -hurry the situation is empty of material but with all their might they take advantage of the material available on the internet.

So online teaching with complete materials would undoubtedly provide opportunities for students and parents to accelerate their schooling because as a country with many conflicts, financial finance, not pandemics, and other socio-geopolitics, they do not become victims many times because of the effects and impacts of the state all of which are limited. Therefore, this research is wrong to expect school flexibility where parents can take advantage of what is available with a distance learning system where

362

everything has a variety of free and ongoing materials. So, in other words, learning is not only regulated by the central government but becomes another obligation and personal responsibility for teachers in the regions so that schools whose name is self-education can be optimized and suitable for Indonesia. This archipelagic country has limited connections and limitations and other human resources(Forlin, 2013).

The findings of this study imply that education is the authority of the central government, but when many obstacles are encountered, the use of online materials, which are school insecticides, is considered necessary; it is a breakthrough and stratification because today's technology does not distinguish between urban and rural areas as a whole. Therefore, the use of various applications for free online materials would provide added value for school leadership in remote areas, how limitations for limitations are always a reason not to improve the quality of learning, especially for students. (Adnan & Anwar, 2020). Judging from the overall presentation of the results of this study, the author believes that there must be limitations both in the research process because of the limitations experienced in data collection where these factors should be, such as having to test schools, want to pay attention directly and observe how this actual condition does not happen. However, we rely on the data that has been presented in various application content, all of which are secondary data that has been written by various sources of information and data with a high level of accuracy, must be left behind seeing that not all studies have received actual data exposure from the respondent's point of view, we rely on published data which we did not come directly to the place then the object of our research relied on what experts said which maybe this needs to be developed (Rahiem, 2021). So that the sources of information are more diverse and varied later in the data collection process We use use online and this happens because we have very little time and maybe our understanding would change when we have to interact directly with education actors in remote school areas.

In the next section, we also find that the material on the Internet is a solution for those studying in remote areas. This is following UNESCO's directives when a pandemic hits the world, and all countries are facing difficulties where lockdowns and restrictions on face-to-face learning are made, so online material solutions are essential. Likewise, we find that the online learning models for remote schools expect initiative and collaboration on indicators to continue to make their schools not lagging like in developed countries, they use internet data to design learning, and finally, they make online data-based schools become schools up-and-coming solution. Therefore, this study believes that a deep understanding of efforts to improve optimal learning outcomes when schools are in a pandemic or in remote conditions where there are limitations, so the use of the Internet with easily accessible data is a solution to improve the quality of student learning—each in remote areas. Thus, we hope this data would be a meaningful input for future studies.

CONCLUSION

In this final section, we would summarize the results of the discussion to get deep resilience and what efforts educators make to improve student learning outcomes if they have to study using online methods, which are a solution when schools are in remote areas. By utilizing secondary data in the form of scientific evidence from various perspectives, both they are experts in learning and those who are experts in online and internet-based learning solutions, which they have published in various communication sources in the form of books and scientific papers. We believe this finding certainly has many limitations and shortcomings; therefore, we hope for some correction or feedback

so we can improve it in the future. The results, among others we have described in the results and discussion section, include learning with data or the Internet, of course, having an impact on learning even though in remote areas it happens because the development of science and technology is no longer a problem only enjoyed by those who study in the city center and other developed countries.

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