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Use of learning media through technology for biology education students

Indra Maulana *, Risma Delima Harahap, Islamiani Safitri

Program Studi Pendidikan Biologi, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Labuhanbatu, Rantauprapat, Labuhan Batu, North Sumatera, Indonesia

**Corresponding Author Email:* ndraalana11@gmail.com

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Abstract

Education is a learning process in increasing the knowledge and insights possessed by these students. The existence of technology for biology education students can be useful for the learning process and as a learning medium. This type of research is qualitative with descriptive method. The population used is the sixth semester of Biology Education Students, the total sample is 35 people, the data collection technique is done by giving questionnaires, the questionnaires are given to students directly and through google form. The results of the study obtained from 5 indicators (1) The use of learning media applications through the use of technology obtained a percentage of 60.29%, (2) Increased motivation obtained a percentage of 59.78%, (3) Effectiveness obtained a percentage of 61.30%, (4) Learning Media obtained the percentage of 56.36%, (5) Interest in Using Technology obtained a percentage of 57.96%, With the existence of learning media through the use of technology, it can support the implementation of learning for students and can get better knowledge insights.

Abstrak

Pendidikan merupakan suatu proses pembelajaran didalam menambah pengetahuan wawasan yang dimiliki oleh mahasiswa tersebut. dengan adanya Teknologi bagi mahasiswa pendidikan biologi dapat bermanfaat untuk proses pembelajaran dan sebagai media pembelajaran Penelitian ini bertujuan untuk melihat dang mengetahui penggunaan media pembelajaran melalui pemanfaatan teknologi bagi mahasiswa pendidikan biologi memiliki peran penting didalam menunjang pelaksanaan pembelajaran. Jenis Penelitian ini kualitatif dengan metode deskriptif. Populasi yang digunakan adalah Mahasiswa/i Pendidikan Biologi Semester enam,Total sempel berjumlah 35 orang, Tehnik pengumpulan data dilakukan dengan pemberian angket, Angket tersebut diberikan kepada Mahasiswa/i yang secara langsung dan melalui google form. Hasil Penelitian yang diperoleh dari 5 indikator (1) Penggunaan Aplikasi media pembelajaran melalui pemanfaatan teknologi memperoleh persentase sebesar 60.29%, (2) Peningkatan Motivasi memperoleh persentase sebesar 59.78%, (3) Keefektifan memperoleh persentase sebesar 61.30%, (4) Media Pembelajaran memperoleh persentase sebesar 56.36%, (5) Minat Penggunaan Teknologi memperoleh persentase sebesar 57.96%, Dengan adanya media pembelajaran melalui pemanfaatan teknologi bisa menunjang didalam pelaksanaan pembelajaran bagi mahasiswa dan bisa mendapatkan wawasan pengetahuan yang lebih baik.

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A. Introduction

Education is a learning process that increases the students' knowledge and understanding. Learning cultivates a student's zeal for education and their integrity. Students can engage in learning and have access to assigned lesson materials or assignments (Sari, 2021). It plays a significant function in education to increase the quality of human resources in the modern day. Education is a strategy that may be actively implemented in the society in order to establish an effective learning process, and it is preferable to be able to realize its potential (Kurniawan & Santoso, 2013). Education can be realized through the existence of a learning environment that enables students to actively develop their own potential and the skills necessary to have some strength, personality, as well as intelligence and noble character, as well as religious spirituality, and self-control and skills needed for themselves, as well as an understanding of what it means to be a good citizen of the nation (Wibowo,2020). Education at a university is essential for the formation of a positive attitude. The development of a superior personality and character in line with the noble principles of ideology in the Indonesian state, and reinforce the students character acquired at an education previous level (Susanti, 2017).

As a result of technological advancements, a model for creative and unique lessons in the execution of a learning process has been developed. The learning system in a network plays a vital function for every student and educator and has assisted a teacher in resolving an issue related to the advancement of technology. Blended learning, which is a mixture and also has advantages in the execution of a lesson that may be carried out electronically or in person, is one of the lesson models that can be used to a technological advancement (Effendi & Wahidy, 2019). Technology is used as a learning medium that may be utilized in the execution of lessons, not only for the delivery of a lesson, but also for the development of students' competence. Through e-learning, students actively observe, apply, and comprehend the subject matter in addition to listening to the teacher teach about it (Pakpahan & Fitriani, 2020). The most essential aspect of the use of media in lectures is that it facilitates interaction between lecturers and students in the learning process, hence making courses better, more effective, more efficient and arousing students' interest in learning (Daulay, 2021).

There have been efforts to improve the efficacy of a learning process. In this instance, this information technology may be utilized to teach (Sukardi, 2019). In order to improve students' acquisition of learning objectives, a lecturer must be more inventive and creative in producing and employing the chosen medium, so that it is simpler for students to follow each class (Ulfaida & Pahlevi, 2021). The application of technology in Biology education, namely technology's role in the alignment and sustainability of Biology lessons at both the elementary and secondary levels, as well as technology's ability to pique students' interest in being able to study Biology, can create a realization and relevance to what can be seen. For students, technology can generate a more exciting and varied medium for Biology lectures that is currently lacking. Technology can also increase a lecturer's knowledge or competency in delivering Biology material (Iswanto, 2017).

In order to learn how to use media, students must be able to improve their independence as students (Hastuti & Pratama, 2021). Learning media are tools, approaches, and resources that may be utilized to carry out a learning or teaching activity and assist students in conceptualizing an abstract topic. Information and communication technology is also highly important in the field of education, namely in computer technology learning media. The purpose of using media is for students to be able to create something new and use something that already exists in many forms and variants that are helpful in everyday life (Zayyadietal.,2017). Improving the quality of education in infrastructure and teaching and learning processes and so on (Prabu & Puspitasari, 2015). Information technology that has been used also as a medium in the implementation of a lesson is by using an e-learning. E-learning in the implementation of learning can enable the delivery of teaching materials to students by using a technology media or other computer network media that can be accessed in its use (Astini, 2020).

Based on this research that has been carried out on students of Biology Education, Labuhanbatu University, researchers conducted interviews with students and lecturers and obtained information that students use a

Learning Media Through the Use of Technology in supporting the Learning Implementation Process for students. However, there are also students who experience obstacles regarding the media in the use of learning media through the use of technology for biology education students because they do not understand and do not understand and others.

According to Pratiwi & Harahap (2022), There are students who do not comprehend the subject in lecture learning utilizing technology, and there are also students who do not utilize technological applications to help the learning process. Students' inability to comprehend the offered content is typically a result of inadequate network connectivity, which is exacerbated by the usage of interactive media and instructional materials. However, some students also report that they are pleased with the usage of learning media in the implementation of technology-based learning. For biology education students, the method of applying learning in employing learning media through the usage of technology has a very positive influence.

This research has never been undertaken at Labuhanbatu University for Biology Education Students; thus, the problem background inspires researchers to conduct research on the use of learning media through the use of technology for biology education students in the learning implementation. This research also seeks to observe and understand the usage of learning media through the use of technology by biology education students who play a crucial role in the implementation of learning.

B. Material and Method

This research was conducted in February at Labuhanbatu University on biology education students. This type of research is qualitative with descriptive method. The population used is the sixth semester biology education students with a total sampling of 35 students of biology education at Labuhanbatu University. In sampling using total sampling is sampling where the number of samples is the same as the population, due to taking total sampling because the population is less than 100 (Sugiono, 2014).

Data collection techniques were carried out by giving questionnaires regarding the use of learning media through the use of technology for biology education students. By using google forms. The technique of distributing the questionnaire is done by distributing the google form link through WhatsApp Group media to students using 5 indicators. The indicators in this study are: (1) Application Use, (2) Increased Motivation, (3) Effectiveness, (4) Learning Media, (5) Interest in Using Technology.

Table 1 Questionnaire Grid for the Use of Learning Media Through the Use of Technology for Biology Education Students

No	Indicator	Question Number	Total Number of Statement Items
1	Application Usage	1,6,11,16,21	5
2	Increased Motivation	2,7,12,17,22	5
3	Effectiveness	3,8,13,18,23	5
4	Learning Media	4,9,14,19,24	5
5	Interest in Using Technology	5,10,15,20,25	5
Total			**25**

The initial preparation stage is carried out by observing and conducting observations and interviews with biology education students at the research location at Labuhanbatu University. biology student. Then it was continued by making questions and continued with instrument validation to expert validators, the data collection instrument used was a questionnaire interview distributed via google from as for the instrument on learning media through the use of technology in the process of implementing learning in semester VI biology education students (Salsabila et al., 2020; Agustina, 2013). The use of learning media through the use of technology for biology education students to students in the sixth semester of biology education. It can be seen in Table 1 regarding the Questionnaire Grid.

C. Results and Discussion

The data given to the respondents are in the form of a questionnaire/questionnaire and observations that will be analyzed using descriptive analysis, from the results of the table above, the results of the indicators on the use of learning media through the use of technology for

biology education students are as follows: take advantage of technology learning media in supporting the learning implementation process as in the indicators (1) The use of learning media applications through the use of technology obtains a percentage of 60.29% (2) Increased motivation in learning media through the use of technology obtains a percentage result of 59.78% (3) Effectiveness in learning media through the use of technology obtained a percentage result of 61.30% (4) Learning Media in learning media through the use of technology obtained a percentage result of 56.36% (5) Interest in the use of technology i in learning media through the use of technology obtained a percentage result of 57.96%.

There are some students and students who do not use technology in the learning implementation process because, like many students, they complain about the implementation of learning using various learning applications. Additionally, some of the students experienced problems and complained about their lack of interest in learning while learning to use technology media.

The usefulness of a learning process using educational technology in the form of the use of various kinds of applications has many perceived benefits, particularly those felt by the students themselves, as shown in the aspect of the diagram that students are pleased to know the use of technology applications in learning, as well as with the existence of learning media through the use of technology, which can increase the motivation of students and the effectiveness of learning process.

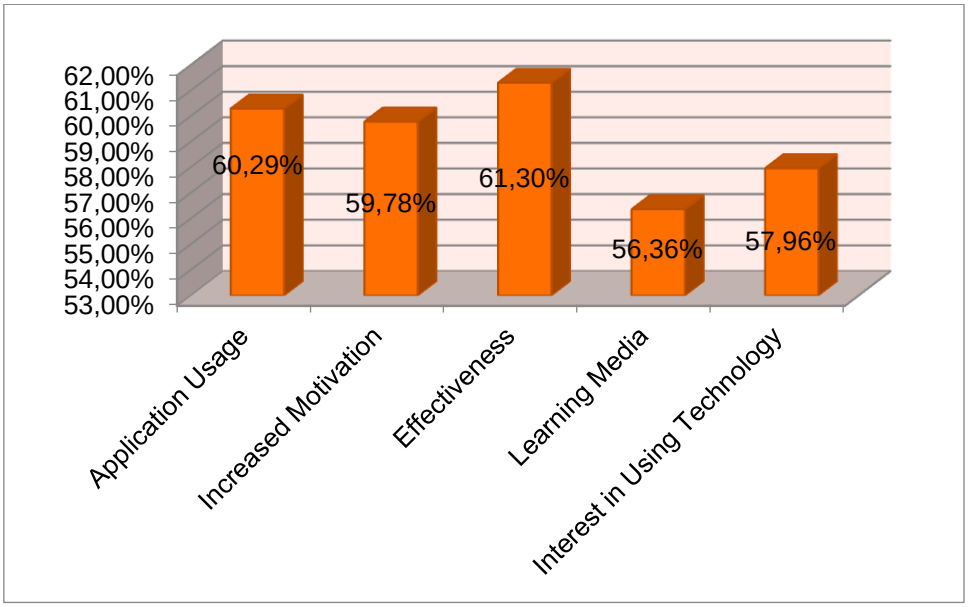

Figure 2
Diagram of the Use of Learning Media through the Use of Technology for Biology Education Students

In addition to understanding the various types of media that can support learning and increasing student interest in using technology to support learning, as described in the explanation of the indicator aspects regarding the use of learning media through the use of technology for biology education students, encourage students to study harder and enjoy learning so that their learning motivation will increase and they can use technology media as learning.

a. Application Usage

The application usage for biology education students greatly supports the process of implementing learning which has been found from the results of research that students who like to use learning media through the use of technology are 60.29% while students who do not take advantage of an application use in learning media through the use of technology are 39. 71%.

b. Increased Motivation

Increased motivation for biology education students greatly supports the process of implementing learning which has known results from research that students who like to use learning media with the existence of learning media through the use of technology can increase motivation in students themselves

through the use of technology by 59.78% while students who less use of increased motivation in learning media through the use of technology by 40.22%.

c. Effectiveness

The effectiveness of students in the learning implementation process greatly supports the learning implementation process which has known results from research that students who like to use learning media with the existence of learning media through the use of technology can increase motivation in students themselves through the use of technology by 61.30% while students who lack effectiveness in utilizing learning media through the use of technology is 38.7%.

d. Learning Media

Learning Media for students in the process of implementing learning is very supportive of the process of implementing learning which has known results from research that students who like to use learning media with the existence of learning media through the use of technology can increase knowledge about learning media in students themselves through the use of technology by 56.36% while students who do not use learning media in learning media through the use of technology are 43.64%.

e. Interest in Using Technology

Interest in the use of technology in students in the process of implementing learning is very supportive of a learning implementation process which has known results from research that students who like to use learning media with the existence of learning media through the use of technology in the interest of using technology in students themselves through the use of technology are 57.96% while students who are less interested in using technology in utilizing learning media through the use of technology are 42.04%.

The rapid development in technology must also be accompanied by expertise and expertise and student skills in applying a model in lessons for the advancement of an education. One of the models in the learning process that can be used to answer an advance in technology (Effendi & Wahidy, 2019). Technology is an important instrument that must exist in lessons that can determine an effectiveness in the process of biology lessons that have an impact on the results of learning outcomes for students (Afifa et al., 2021).

Utilizing technology in the planning and implementation of a lesson, spanning from learning methodologies to the selection of acceptable and relevant teaching materials based on student characteristics. When the process of implementing learning occurs, teachers can utilize technology as a medium to support courses in the form of an application or the presentation of audio-visual, audio, visual, etc. materials. With the introduction of technology, professors are no longer required to give content to students in person. The usage of e-learning by teachers enables students to study independently and with flexible schedules. Innovative and imaginative teachers who are needed to employ technology optimally in a learning process based on student characteristics (Huda, 2020).

Currently, the learning process based on e-learning can have a positive effect on a student's way of thinking when solving a problem in an activity. Thinking critically, independently, and having the courage to argue by searching for information on the internet can provide students with an understanding of how to use technology effectively and efficiently. In each activity of the learning process, students are also instructed to determine and prioritize the tasks assigned by the lecturer (Muthy & Pujiastuti, 2020).

A process in the sphere of education that operates in unison and in a continuous manner is necessary for producing and achieving success in education. Media that may be used to facilitate online or e-learning learning, such as Google Meet Zoom and others. It is sufficient to provide students the duty of accessing or navigating online pages so that all sources in a lesson may be received in full or in detail in the form of modules, electronic books, and video courses. In addition, the availability of media in technology-based classes enables students to participate and be active in acquiring new information from a variety of sources, so enhancing their existing potential and knowledge (Widianto et al., 2021).

Widespread use has been made of the implementation of learning through the use of multimedia, beginning with audio, the use of text, graphics, animation, and video in order to drive students to appreciate the topic being taught and to apply a method of applying learning in class. The most significant factor is a concept with defined objectives that can increase student engagement and make studying more pleasurable (Solviana, 2020).

Additionally, technology is present as a tool of facilitating teaching and learning. With the pandemic time, education has a challenge to optimize the role of technology in contributing to the advancement of education, from the perspective of implementing the learning process, learning media, lesson techniques, and lesson assessment. All students, including those at Labuhanbatu University, require a pleasant learning model or technique, regardless of their age. One of the media that may create a pleasant learning environment without diminishing or eliminating students' comprehension of a subject is a technological advancement (Salsabila et al., 2020).

The development and application of Information and Communication Technologies in education can lead to systemic improvements in education. Knowledge and comprehension of lecturers regarding various ICT applications that might be employed in the classroom are growing. Technology is of great assistance to the learning process. Students feel aided by the use of technology and this training activity as a tool to enhance their motivation, knowledge, comprehension, and experience in the application of technology to the learning process (Budiana et al., 2015).

Along with the development of an information technology (IT) which is increasingly rapidly in the world, the need for an IT-based teaching and learning concept and mechanism is inevitable. The concept, which was later known as e-learning, brought an impact on the implementation of a transformation process in conventional education into digital form, both in content and in the system. The use of e-learning as well as a medium in lessons is in a fairly good condition, as evidenced by the results in processing a data result obtained directly from the respondents with a percentage of 28.5%, good condition 21.6% and very good 10.1% (Agustina, 2013).

It is believed that the use of information technology as a medium in the learning process has been able to create a good and effective learning environment because it can provide students with the opportunity for better and faster learning because it can contain material that has been taught and display a task to carry out discussions between students and guidance with lecturers outside of formal teaching hours (Prajana, 2017)

With the availability of a quickly evolving information and communication technology, it is possible to utilize it as a tool to facilitate the process of adopting remote teaching and learning. As a result of the important role that technology plays in making a learning implementation process successful and able to continue operating efficiently throughout this epidemic. Thus, the present technology will have a very broad application that we can use not only for pleasure but also to access everything in the learning process utilizing the existing platform correctly and without stumbling over technology (Habibah et al., 2020).

That 13% of students strongly agree and 40% agree they feel motivated because the results of the score can be known directly. based on the results of interviews with students, some students are motivated to study because they can find out directly and quickly whether their exam results are good or not. However, there are still students who are not motivated, especially if their exam results are bad (Mastuti, 2016).

At Labuhanbatu University, the usage of learning technology is operating effectively and pretty well, which has the impact of increasing student motivation in the learning process. If the material delivered by a teacher is engaging, then the task of assaulting the teacher must always involve the use of an existing learning tool. Students require learning motivation in the execution of the learning process so that they are always motivated and passionate in implementing a learning and teaching process; consequently, lecturers must carefully plan what will be taught in class. Whether or if students are motivated to study, the usage of technology in the classroom is one of the influencing variables. If a learning technology is used effectively, it can have a good effect on a student's learning motivation, but if it is not used effectively, the reverse will occur: students will not be aware of and experience technological advancements (Zabir, 2018).

Information and computer technology (ICT) is being utilized in every industry, including education. One of the applications of ICT in the sphere of education is the provision of lecturers with learning media and resources. Several elements of life nowadays cannot be isolated from technology. One of these is the global education system. Technology may be utilized as both a channel and a source in the learning process. In this situation, as evidenced

by their presence, the lecturer must additionally utilize a presentation slide processing program, as well as another application, such as an audio video processor, in order to generate media for more advanced learning. engaging and interactive for students In addition, the utilization of technology as a learning resource has been properly implemented. Educators may optimize the use of the Internet as a resource for learning. The Internet access skills of professors are already of a very high caliber and quality (Lestari & Pratama 2020).

Current societal requirements and habits have spawned advancements in several domains, including technology. Lessons for students at Labuhanbatu University have not uniformly adapted to changes in the pattern of the learning process necessitated by a development in information and communication technology in order to keep up with the accelerating dynamics of a rapidly changing world. The paradigm of the lecturer's use of information and communication technology in the classroom is currently restricted to the use of presentations, particularly PowerPoint. Internet use is currently confined to obtaining extra information about the subject to be provided; it is not being utilized as a strategy for a good new learning system with a learning process developed, nor as a learning system for social media networks (Husain, 2014).

Utilizing technology effectively is a solution for these challenging circumstances. To fulfill a human need, technology acts as a conduit for contact between individuals even when they are separated by distance. Consequently, the government has devised a procedure for conducting online instruction that optimizes the use of technology. In an online learning implementation that employs online learning media, there are a variety of types that have both good and bad effects on students. These types can affect student learning results as well as the students' attitudes. unfavorable, and there are also a variety of good and negative effects on kids, teachers, and parents (Salsabila et al., 2021).

The world of technology and information is expanding, and the rate of technological advancement is accelerating. In the contemporary period, several new alternatives are developed, as well as the incorporation of technology into school curriculums and current institutions. E-Learning strategies are also becoming increasingly diversified. E-Learning is a kind of remote learning in which teaching and learning are supported and deepened by the presence of technology or digital media. Media in the classroom is effective for introducing pupils to items that they cannot know directly or that are too little to be known directly (Mu'minah & Gaffar, 2020).

D. Conclusion

From the results of research conducted on 5 aspects of indicators regarding learning media through the use of technology in the learning process for biology students in the form of (1) the use of learning media applications through the use of technology to obtain a percentage of 60.29%, (2) increasing motivation in learning media through the use of technology obtained a percentage result of 59.78%, (3) The effectiveness in learning media through the use of technology obtained a percentage result of 61.30%, (4) Learning Media in learning media through the use of technology obtained a percentage result of 56.36%, (5) Interest in Using Technology in learning media through the use of technology obtained a percentage result of 57.96%. That the learning media through the use of technology is very supportive in the process of implementing learning for students.

E. References

Afifa, A, Nur., Ula, S, & Azizah, S,A., (2021). Pengaruh penggunaan teknologi di masa pandemi Covid-19 terhadap hasil belajar pada mata pelajaran biologi di MAN 2 Jember. *ALVEOLI: Jurnal Pendidikan Biologi, 2*(1), 54–66. DOI: https://doi.org/10.35719/alveoli.v2i1.35

Agustina, M. (2013). Pemanfaatan e-learning sebagai media pembelajaran. In *Seminar Nasional Aplikasi Teknologi Informasi (SNATI)*, (pp. 8–12).

Astini, N.K.S. (2020). Pemanfaatan teknologi informasi dalam pembelajaran tingkat sekolah dasar pada masa pandemi Covid-19. *Jurnal Lembaga Penjaminan Mutu STKIP Agama Hindu Amlapura*, *11*(2), 13–25. DOI: https://doi.org/10.47730/jurnallampuhyang.v11i2.194

Budiana, H.R., Sjafirah, N.A. dan Bakti, I. (2015). Pemanfaatan teknologi informasi dan komunikasi dalam pembelajaran bagi para guru SMPN 2 Kawali Desa Citeureup Kabupaten Ciamis. *Dharmakarya: Jurnal Aplikasi Ipteks*

Untuk Masyarakat, *4*(1), 59–62. DOI: https:// doi.org/10.24198/dharmakarya.v4i1.9042

Daulay, S. (2021). *Pengaruh pembelajaran online terhadap prestasi peserta didik di MTS N 9 Sleman Yogyakarta,* (Skripsi, Program Studi Pendidikan Agama Islam, Fakultas Ilmu Agama Islam, Universitas Islam Indonesia Yogyakarta).

Kurniawan, D.L. & Santoso, D. (2013). Pengaruh lingkungan belajra minat belajar dan motivasi belajar terhadp prestasi belajar siswa pada mata pelajaran Tik kelas X SMA 1 kota mungkid, magelang, (Skripsi, Program Studi Teknik Informatika, Fakultas Teknik, Universitas Negeri Yogyakarta).

Habibah, R., Salsabila, U. H., Lestari, W. M., Andaresta, O., & Yulianingsih, D. (2020). Pemanfaatan teknologi media pembelajaran di masa pandemi Covid-19. *Trapsila: Jurnal Pendidikan Dasar*, *2*(2), 1-13. DOI: https://doi.org/ 10. 30742/ tpd. v2i2.1070

Hastuti, D. P., & Pratama, R, M, D., (2021). Pengaruh kebiasaan membaca di media online terhadap penguasaan kosakata selama pembelajaran online. *Edu Cendikia: Jurnal Ilmiah Kependidikan*, *1*(2), 46–51. DOI: https://doi.org/10.47709/ educendikia.v1i2.1040

Huda, I. A. (2020). Perkembangan teknologi informasi dan komunikasi (TIK) terhadap kualitas pembelajaran di sekolah dasar. *Jurnal Pendidikan dan Konseling, 2*(1), 121-125. DOI: https://doi.org/10.31004/jpdk.v2i1.622

Husain, C. (2014). Pemanfaatan teknologi informasi dan komunikasi dalam pembelajaran di SMA Muhammadiyah Tarakan. *Jurnal Kebijakan dan Pengembangan Pendidikan*, *2*(2), 184–192. DOI: https://doi.org/10.22219/jkpp.v2i2.1917

Lestari, I. & Pratama, M, H., (2020). Pemanfaatan TIK sebagai media pembelajaran dan sumber belajar oleh guru TIK. *Edumatic: Jurnal Pendidikan Informatika*, *4*(2), 95–102. DOI: https://doi.org/10. 29408/edumatic.v4i2.2634

Iswanto, R. (2017). Pembelajaran Bahasa Arab dengan pemanfaatan teknologi. *Arabiyatuna : Jurnal Bahasa Arab*, *1*(2), 139. DOI: https://doi.org/10.29240/jba. v1i2.286.

Mastuti, E. (2016). Pemanfaatan teknologi dalam menyusun evaluasi hasil belajar: Kelebihan dan kelemahan "tes online" untuk mengukur hasil belajar mahasiswa. *Jurnal Penelitian Psikologi*, *7*(1), 10–19. URL: http://jurnalfpk.uinsby.ac.id/ index.php/JPP/article/view/93

Muthy, A. N., & Pujiastuti, H. (2020). Analisis media pembelajaran e-learning melalui pemanfaatan teknologi dalam pembelajaran matematika di rumah sebagai dampak 2019-nCoV. *Jurnal Math Educator Nusantara (JMEN)*, *6*(1), 94–103. DOI: https://doi.org/10.29407/jmen.v6i1.14356

Mu'minah, I. H., & Gaffar, A. A. (2020, November). Pemanfaatan e-learning berbasis google classroom sebagai media pembelajaran biologi. In *Prosiding Seminar Nasional Pendidikan* (Vol. 2, pp. 800-816). URL: https://mail.prosiding. unma.ac.id/index.php/semnasfkip/article/view /392

Pakpahan, R., & Fitriani, Y. (2020). Analisa pemanfaatan teknologi informasi dalam pembelajaran jarak jauh di tengah pandemi virus corona covid-19. *Journal of Information System, Applied, Management, Accounting and Research, 4*(2), 30-36. URL: http://journal. stmikjayakarta.ac.id/index.php/jisamar/article/ view/181

Ulfaida, U. & Pahlevi, T. (2021). Pengaruh penggunaan media pembelajaran online terhadap hasil belajar melalui minat belajar siswa pada kelas X OTKP di SMKN1 Lamongan. *Jurnal Edukasi*, *8*(2), 25–31. DOI: https:// doi.org/10.19184/jukasi.v8i2.26902

Prajana, A. (2017). Pemanfaatan aplikasi Whatshap dalam media pembelajaran di UIN Ar-Raniry Banda Aceh. *Cyberspace: Jurnal Pendidikan Teknologi Informasi*, *1*(2), 122–133. DOI: http:// dx.doi.org/10.22373/cs.v1i2.1980

Pratiwi, A. T., & Harahap, R. D. (2022). Obstacles for biology education students in the process of implementing online learning at Labuhanbatu University during the covid-19 pandemic. *BIO-INOVED: Jurnal Biologi-Inovasi Pendidikan*, *4*(1), 10–16. DOI: https:// doi.org/10.20527 /bino.v4 i1.12067.

Prabu, A. A. A., & Puspitasari, M. (2015). kecerdasan emosi guru dan stres kerja dan kinerja guru SMA. *Jurnal Kependidikan Penelitian Inovasi Pembelajaran*, *45*(2), 142–155. DOI: https://doi. org/https://doi.org/10.21831/jk.v45i2.7491.

Salsabila, U. H., Habiba, I. S., & Amanah, I. L. (2020). Pemanfaatan aplikasi Quizizz sebagai media pembelajaran ditengah pandemi pada siswa SMA. *Jurnal Ilmiah Ilmu Terapan*, *4*(2), 163–172. DOI: https://doi.org/10.22437/jiituj.v4i2.11605

Salsabila, U. H., Utami, S. N., Zahra, A., Haikal, F., Fakultas, D., Islam, A., & Ahmad, U. (2021). Pengaruh penggunaan media belajar online selama pandemi. *Jurnal Ilmiah Wahana Pendidikan*, *7*(1), 1–9. DOI: https://doi.org/ 10.5281/zenodo.4412063

Sari, I.P. (2021). Pengaruh sosialisasi pembelajaran online terhadap tingkat keaktifan siswa SD di Desa Sumberagung Lamongan. *Indonesia Journal of Community Research and Engagement*, *2*(1),

1–14. DOI: https://doi.org/10.37680/amalee.v2i1.179

Solviana, M. D. (2020). Pemanfaatan teknologi pendidikan di masa pandemi Covid-19: Penggunaan fitur Gamfikasi daring di Universitas Muhammadiyah Pringsewu Lampung. *Al-Jahiz: Journal of Biology Education Research*, *1*(1), 1–14. URL: https://e-journal.metrouniv.ac.id/index.php/Al-Jahiz/article/view/2082

Susanti, R. (2017). Penerapan pendidikan karakter di kalangan mahasiswa. *Jurnal Al-Ta'lim*, *1*(6), 480–487. DOI: http://dx.doi.org/10.15548/jt.v20i3.46

Sugiyono, S. (2014). *Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D*. Bandung: Alfabeta.

Sukardi, F. R. (2019). Pengaruh model pembelajaran online dilengkapi dengan tutorial terhadap hasil belajar. *JIPI (Jurnal Ilmiah Penelitian dan Pembelajaran Informatika)*, *4*(2), 97–102. DOI: https://doi.org/10.29100/jipi.v4i2.1066

Effendi, D., & Wahidy, A. (2019, July). Pemanfaatan teknologi dalam proses pembelajaran menuju pembelajaran abad 21. In *Prosiding Seminar Nasional Program Pascasarjana Universitas PGRI Palembang,* (pp. 125-129). URL: https://jurnal.univpgri-palembang.ac.id/index.php/Prosidingpps/article/view/2977

Widianto, E., Anisnai, A., Sasami, A. N., & Rizkia, E. F. (2021). Pemanfaatan media pembelajaran berbasis teknologi informasi. *Journal of Education and Teaching*, *2*(2), 213–224. DOI: http://dx.doi.org/10.24014/jete.v2i2.11707

Wibowo, E ,W., (2020). Analisis pendidikan karakter religius, peduli sosial, dan peduli lingkungan terhadap kedisiplinan (Studi kasus mahasiswa Administrasi Perkantoran Politeknik LP3I Jakarta). *Jurnal Lentera Bisnis*, *9*(2), 31–38. DOI: https://doi.org/10.34127/jrlab.v9i2.379

Zabir, A. (2018). *Pengaruh pemanfaatan teknologi pembelajaran Terhadap motivasi belajar siswa SMPN 1 Lanrisang Kabupaten Pinrang* (Doctoral dissertation, Universitas Negeri Makassar).

Zayyadi, M., Supardi, L., & Misriyana, S. (2017). Pemanfaatan Teknologi Komputer Sebagai Media Pembelajaran Pada Guru Matematika. *Jurnal Pengabdian Masyarakat Borneo*, *1*(2), 25-30. DOI: https://doi.org/10.35334/jpmb.v1i2.298