Utilization of YouTube as a Learning Media Algorithms of Programming for Students Informatics Engineering UNIPMA

Sekreningsih Nita[1*], Dayu Agung Wicaksono[2]

[1-2]*Universitas PGRI Madiun, Jl. Auri 14-16 Madiun, Indonesia*

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****Correspondence Email:***
nita@unipma.ac.id

Abstract

YouTube as an information sharing site is an application that is provided free of charge and is easy to access and use in various activities, on of which is for creating learning media. Learning with YouTube can improve skills and strengthen learning in the form of videos, making it easier to study and develop discussion material for Professional Educators. The purpose of using learning media via YouTube is to help Informatics students understand teaching material more easily and can motivate them to learn. The method in this research uses descriptive qualitative and collects primary and secondary data, namely students who take the 1st semester Algorithms of Programming course, class 1A, 1B, 1C totaling ± 50 people and other internet users who watch videos on YouTube and library journals that are relevant to the research topic . The process and steps for making YouTube as a learning media include, 1) Making storyboards for material concepts 2) Making ppt files as discussion material 3) Making learning videos 4) Editing videos 3) Uploading videos to YouTube. The final result was +250 views, comments and likes. Whereas, learning videos can be viewed via the YouTube channel at the link https : // www.youtube.com / watch?v = bRsSFCc8kV0. The conclusion of this research is that using YouTube as a learning media makes learning more interesting, effective and very useful in the learning process and increases student motivation in learning more optimally because it can be played back to understand the material more deeply.

1. Introduction

Learning via YouTube can make students more active and creative and free to express their ideas, while making learning more interesting and fun (Yusriani et al., 2022). It was also said by (Mutoharoh Tryas, 2022) that YouTube as a website is a place to convey learning media information in video form, making it easier to learn and develop skills for professional educators in delivering teaching material. YouTube can be used as a teaching medium that can increase student interest and motivation in learning (Mujianto, 2019). In the learning process, YouTube is able to give students enthusiasm to learn and can provide new experiences (Sistadewi, 2019). Through social media (YouTube) learning media creates a more innovative, creative and effective learning atmosphere and provides new synergy in learning activities (Kamhar et al., 2019). Learning using YouTube media for students is said to be more effective in terms of usability, accuracy and scope (Samosir, 2019).

Currently, YouTube has become the largest and most popular site for sharing videos because it can facilitate its users to upload videos or broadcast videos directly and can be watched for free by users all over the world, (Setiadi et al., 2019)). The increasing trend of YouTube users can be the basis for utilizing the platform as a learning medium (Kamila et al., 2021). Other researchers (Khasanah et al., 2022) said that apart from having interactive learning features and fun videos, YouTube is also a stimulator in improving critical thinking for students. From the perspective of lecturer resources, using video learning media on YouTube can create more targeted learning activities for students. YouTube learning media can replace classroom learning activities. Efforts to increase the effectiveness of using learning media means improving lecturers' skills in using learning media and students can learn more optimally, interestingly, effectively and motivatingly because they can be seen repeatedly to understand the material, especially Algorithms of Programming.

1.1 Literature Review

In this research the author explains several problems that occur, including: 1) How effective is the use of YouTube as a learning medium, 2) How the use of YouTube in learning can improve, maximize and motivate student learning, and 3) How the use of YouTube in learning is more interesting, effective and efficient for users. The problem formulation includes aspects of using YouTube as an alternative learning besides other methods and has an impact on learning interest in understanding learning material in the Algorithms of Programming course.

1.2 Research Purposes

The aim of this scientific research is to study the use of YouTube as an alternative learning media that can help students improve and maximize their understanding of the subject matter, namely Algorithms and Programming and can motivate student learning. This research uses library literature and collects secondary data, namely the first semester students of classes 1A, 1B and 1C totaling + 50 students as well as internet users wherever they are by watching videos on YouTube. The final results of the research show that YouTube can be used as an effective and useful learning medium in the learning process, so that it can increase student motivation and be more active in learning, as evidenced by + 250x (times) the number of viewers, comments and likes. The final results can be seen via the YouTube channel with the URL address: https://www.youtube.com/watch?v=bRsSFCc8kV0.

2.

3. Research Methods

The method in this research uses descriptive qualitative which includes, 1) research design, 2) research subjects and objects, 3) data collection methods, 4) research instruments, 5) data analysis techniques. The subject of this research is the YouTube application for learning Algorithms of Programming for 1st semester in UNIPMA Informatics Engineering students consisting of classes 1A, 1B, 1C totaling ± 50 people and other users who watch videos on YouTube. The object of research is the use of the YouTube application as a learning media. Whereas, data collection consists of 2 (two) types, namely: 1) Primary Data, data obtained from the YouTube

application for learning algorithms of programming from researchers, 2) Secondary Data, data originating from literature that supports primary data, such as articles, journals scientific information relevant to the research topic, the internet, and books related to research. Furthermore, the research instrument in the form ofdocumentation notes, namely data regarding the use of the YouTube application as a learning medium, was analyzed using qualitative descriptive. First, researchers made observations of the YouTube application, using various videos contained in the YouTube application. Second, record various videos in the YouTube application and their uses which can be a learning medium in learning Algorithms of Programming. Third, carry out documentation studies with various literature relevant to the research and research results.

4. Result and Discussion

The author describes several stages of creating learning using YouTube media. The process and steps for making and using YouTube as a learning media include, 1) Making storyboards for material concepts 2) Making ppt files as discussion material 3) Making learning videos 4) Editing videos 5) Uploading videos to YouTube. The following is an explanation of each stage:

1) Making a material concept storyboard :

Table 1 Storyboard of material concept

Number	Scene Number	Information	Duration
1	001	Monolog The initial display contains the opening of the material, the material meeting, the title of the material and a brief introduction from the material presenter. Next, click (any button) to go to the next slide.	30 detik
2	002	Explanation of Discussion Material: 1. Preview: previous material 2. Looping: the topic of material discussed Conclusion : Conclusions from the material discussed	10 detik
3	003	Explanation of Preview Material (previous material) consists of: 1. IF 2. Nested IF Conditional condition 1 (one) for IF and conditional condition more than 1 (one) for Nested IF	15 detik
4	004	Explanation of Main Material: LOOPING Contains Repetition Structure, explanation of the parts of looping in general, which consists of 2 core parts, namely: 1. Recurrence conditions in the form of Boolean expressions 2. Contents / body of the repetition	15 detik
5	005	Contains LOOPING Type Material, divided into 3: 1. FOR 2. WHILE 3. DO WHILE	10 detik
6	006	The display for Looping-1 Material is: FOR Explaining the Syntax of For Syntax is the format/procedure/writing rules of the For loop	15 detik
7	007	The slide about For provides more details about how to fill in the syntax and a brief explanation of the intent and purpose of each statement in the syntax	15 detik

8	008	Slides about writing For in C++ programming in full. How it is implemented in the program and the program output results. Example of output in Ascending Form For variable type: Int (integer)	15 detik
9	009	Slides about writing For in C++ programming in full. How it is implemented in the program and the program output results. Example of output in Descending Form For variable type: Int (integer)	15 detik
10	010	Slides about writing For in C++ programming in full. How it is implemented in the program and the program output results. Example of output in Descending Form For variable types: char (1 letter character)	15 detik
11	011	Slides about writing For in C++ programming in full. How it is implemented in the program and the program output results. Example of output in Descending Form For variable type: string (character > 1 letter)	15 detik
12	012	The display for Looping-2 Material is: WHILE Explain the syntax of While Syntax is the format/procedure/writing rules of the while loop	10 detik
13	013	The slide about While provides more details about how to fill in the syntax and a brief explanation of the intent and purpose of each statement in the syntax The flow of the while algorithm is depicted in the form of a flowchart	15 detik
14	014	Slides about writing While in C++ programming in full. How it is implemented in the program and the program output results. Example of output in Ascending Form For variable type: Int (integer)	20 detik
15	015	Slides about writing For in C++ programming in full. How it is implemented in the program and the program output results. Example of output in Descending Form For variable types: char (1 letter character)	20 detik
16	016	The display for Looping-3 Material is: DO WHILE Explain the syntax of Do While Syntax is the format/procedure/writing rules for the Do While loop The do while algorithm is displayed in flowchart form	15 detik
17	017	Slides about writing Do While in C++ programming in full.	20 detik
		How it is implemented in the program and the program output results. Example of output in ascending form For variable type: Int (integer)	
18	018	The slide contains conclusions from all discussion material about looping, namely : 1. For 2. While	15 detik

		3. Do While	
19	019	Closing Slide See you in the next material Closing Greetings and Thank You	10 detik

2) Creation of ppt files as discussion material :

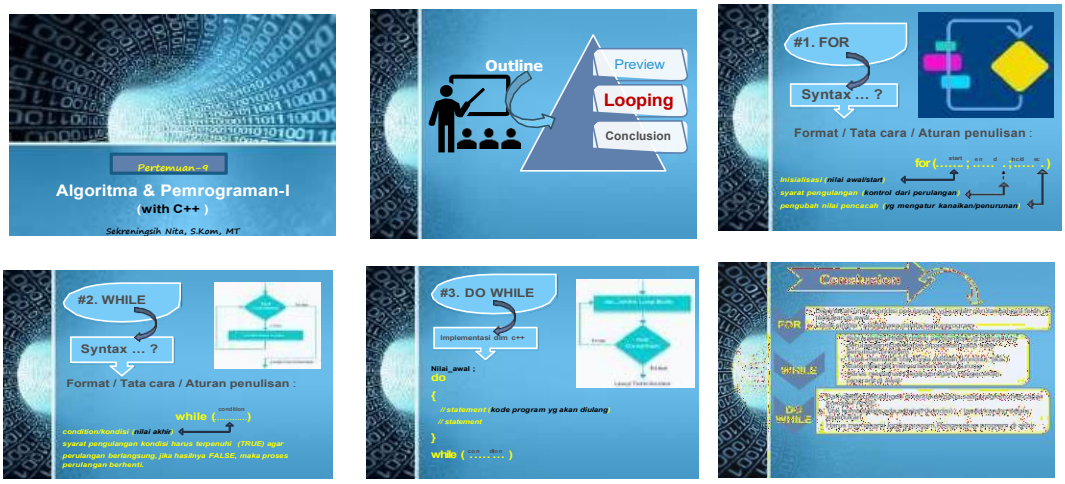

Fig. 1 Figure of ppt files

3) Making Learning Videos :
Tutorial dapat dilihat pada url : https://www.youtube.com/watch?v=CDkDOL2h7R4

4) Edit video :
Cara edit lihat di url : https://www.youtube.com/watch?v=d7WEQQFaquE
Aplikasi uses : WONDERSHARE FILMORA

5) Upload video to youtube :
Here are the steps for uploading videos on YouTube :

1. Login ke YouTube Studio.
2. Di pojok kanan atas, klik BUAT. Upload video .
3. Pilih file yang ingin di upload. File video dapat mengupload hingga 15 video sekaligus. Pastikan untuk mengklik Edit di setiap file untuk mengedit detail video yang dipilih.

The following are the results of the Author's creation of Algorithm Programming learning video which has been successfully uploaded on YouTube and has been shared with students, especially 1st semester inclasses 1A, 1B, 1C, Informatics Engineering UNIPMA and other viewers on the internet. Note: viewer data will continue to change as long as the video is stored on the internet.

Fig. 2 Figure Learning Media by nita in YouTube

5. Conclusions

Using YouTube as a learning media can increase interest in learning and motivate and maximize the understanding of 1st semester students in classes 1A, 1B and 1C who teach Algorithms of Programming courses and other viewers on the internet. Apart from that, through YouTube learning is more interesting, effective, efficient and free to express creative ideas. The main advantage of YouTube as a learning media is that it is currently the most popular website on the internet because of its ease of access and free payment and the large variety of videos available to provide a lot of inspiration for netizens (users). In terms of context, YouTube helps lecturers convey teaching materials (learning content) in a more interesting and direct way. For users (students), apart from making it easier to learn effectively and efficiently, it can also create new experiences in the learning process because it can be watched repeatedly if you cannot understand the content of the material. Apart from that, it can increase students' motivation in learning, proven to be ± 250x (times) watched, commented on and liked. So the conclusion of this research is that using YouTube as a learning media makes learning more interesting, effective in increasing student motivation in learning because it can be played back to understand the material more deeply.

6. References

Kamhar, Y.M., Lestari E., 2019, Pemanfaat Sosial Media Youtube Sebagai Media Pembelajaran Bahasa Indonesia Di Perguruan Tinggi, Inteligensi : Jurnal Ilmu Pendidikan, UNITRI Press, Vol 1 No 2 Juni 2019.

Kamila, F., Bahtiyar, H. A., Putri, M. N., & ... (2021). Efektifitas Penggunaan Youtube Sebagai Media Pembelajaran Daring Mi/Sd. *Prosiding SEMAI …*,1–13. https://proceeding.uingusdur.ac.id/index.php/semai/article/view/383%0Ahttps://proceeding.uingus dur.ac.id/index.php/semai/article/download/383/143

Khasanah, A. T. N., Satiti, K. A., Aristu, A., Rizkia, D. F., & Dayu, D. P. K. (2022). Media Pembelajaran Youtube untuk Meningkatkan Keterampilan Berpikir Kritis Siswa Sekolah Dasar. *Seminar Nasional Bahasa, Sastra, Seni, Dan Pendidikan Dasar 2 (SENSASEDA) 2*, *2*(November), 104–109.

Khotimah, S. K. S. H. (2021). Pemanfaatan Media Pembelajaran, Inovasi di Masa Pandemi Covid-19. *Edukatif :Jurnal Ilmu Pendidikan*, *3*(4), 2149–2158. https://doi.org/10.31004/edukatif.v3i4.857

Mujianto, H. (2019). PEMANFAATAN YOUTUBE SEBAGAI MEDIA AJAR DALAM MENINGKATKAN MINAT DAN MOTIVASI BELAJAR Haryadi Mujianto Program Studi Ilmu Komunikasi , Peminatan Public Relations , Universitas Garut email : *haryadimujianto*@uniga.ac.id Pendahuluan Youtube adalah media sosia. *Jurnal Komunikasi Hasil Pemikiran Dan Penelitian*, *5*(1), 135–159. https://journal.uniga.ac.id/index.php/JK/article/view/588

Mutoharoh Tryas. (2022). Pemanfaatan Aplikasi Youtube untuk Media Pembelajaran. *Jubah Raja (Jurnal Bahasa, Sastra, Dan Pengajaran)*, *1*(November), 97–102.

Setiadi, E. F., Azmi, A., & Indrawadi, J. (2019). Youtube Sebagai Sumber Belajar Generasi Milenial. *Journal of Civic Education*, *2*(4), 313–323. https://doi.org/10.24036/jce.v2i4.135

Sistadewi, M. (2019). Penggunaan Media Youtube dalam Pembelajaran Bahasa Indonesia Pada Masa Sekolah Tatap Muka Terbatas. *Jurnal Pendidikan Dan Pembelajaran Bahasa Indonesia*, *10*(2), 186–194. https://ejournal-pasca.undiksha.ac.id/index.php/jurnal_bahasa/article/download/3500/pdf

Yusriani, Y., Nasution, M., & Syahputra, E. (2022). Pemanfaatan Aplikasi You Tube Sebagai Media Pembelajaran Bahasa Indonesia. *Jurnal Multidisiplin Dehasen (MUDE)*, *1*(3), 215–218. https://doi.org/10.37676/mude.v1i3.2521