Innovative Online Learning Media During the Covid-19 Pandemic

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Abstract. To improve the quality of the learning program, an efficient and effective approach in the teaching and learning process is required. Currently, educational strategies have become an essential process to enhance students' intelligence during this pandemic. In the field of education, the development of technology and communication requires training and learning using various methods. This approach involves training and teaching activities that are not limited by time and place, as they can be accessed and processed anytime and anywhere. This process aligns with the policy of the Ministry of Education and Culture of Indonesia in overcoming the challenges of learning during the Covid-19 pandemic. In the field of education, the common problem faced is the lack of effectiveness in learning. The methods of delivering materials used are not fully effective in utilizing learning resources. Additionally, suboptimal teaching schedules also affect the students' absorption of the material. Therefore, it is important to implement an approach that combines theory and practice through community service. By doing so, the results of this training will produce innovation in online learning using relevant tools, and enhance teachers' ability to implement self-directed learning approaches.

Keywords: Online Learning, Covid-19 pandemic, Innovative, Information technology.

1. Introduction

Recently, COVID-19 has emerged as one of the types of coronaviruses. Until now, Indonesia has become one of the countries in the world that has confirmed positive transmission of the Corona virus (SARSCoV-2) (WHO, 2019). This new type of coronavirus was first identified in Wuhan in 2019 [1]. As a result of this pandemic, the learning media has shifted from face-to-face to online learning, although many were not prepared for this transition. Therefore, during this pandemic, the learning system must follow an effective learning approach. Currently, the transition in learning methods has forced various parties to take necessary steps to ensure that the learning process continues. Teachers and students have to quickly adapt to information technology as a learning medium. Throughout this pandemic, many parties, including health departments and doctors, have provided important guidance to maintain personal hygiene, a clean environment, and to stay at home [2]. In addition, the Ministry of Education and Culture has also issued guidelines for handling Covid-19 at the educational unit level (Kemendikbud, 2020).

Online learning (in-network) or distance learning has been a long-established learning method in Indonesia [3]. Several government regulations have been issued as legal basis for implementing this learning model (Kemenkumham, 2012, 2013), making it a valid method in higher education. The popularity of this method has increased further when the COVID-19 pandemic hit the world, including Indonesia, in early 2020. In fact, this method became the only option for the education sector to continue the learning process when campuses had to be closed, and all learning activities had to be conducted from home (Kemendikbud, 2020). This was due to government regulations implementing health protocols to break the chain of virus transmission (Kemenkes, 2020). During the pandemic, educational management, teachers, and students quickly adapted to the learning technology, and all learning schedules could proceed as planned [4].

Most schools and universities have been forced to suspend face-to-face teaching and learning processes. As an alternative, the learning process has shifted to online or distance learning systems. The community engagement team has provided socialization about the preparedness of teachers to face online and distance learning, which requires reliable and accessible technology support, as well as the use of commonly used applications during the learning process [5]. An initial agreement between students and teachers in using this platform is also essential to avoid failure in the implementation of the teaching and learning process.

The rapid advancement of technology has opened up opportunities for innovation in education, especially in teaching and learning [6]. The community engagement team, consisting of faculty members, focuses on utilizing technology to enhance the quality of educational activities. The main objective of this engagement is to assist teachers in adopting various platforms in the teaching and learning process. Through this engagement, it is expected that teachers will experience the benefits of facilitating a more

effective and efficient learning process using various tools, such as digital learning applications. Additionally, through this training, teachers are also expected to develop innovation in delivering materials to students using attractive multimedia, including images and videos [7].

In this learning model, various digital technology platforms are utilized. These include Learning Management System (LMS), instant messengers like WhatsApp, social media platforms like YouTube and Instagram, as well as conferencing platforms such as Zoom Meeting, Webex, Jitsi Meet, and Google Meet [8]. However, this learning model still needs further exploration to find the right approach for its effective and efficient implementation. Online learning has limitations in its effectiveness and is related to the level of students' understanding during the learning process [9].

The principles of learning include attention, activity, direct/experiential involvement, and repetition. Before the pandemic, these principles were common and part of the learning culture, where educators directly interacted with students in face-to-face meetings to transfer knowledge, train, and change attitudes. However, when the learning process shifted to the online model, the direct interaction between educators and students became limited due to digital technology [8]. This has affected the principles of learning. Attention, activity, and involvement that previously occurred through direct interventions from educators became limited because digital learning media cannot fully facilitate such interactions.

Learning media is a combination of tools and materials used for communication in conveying and receiving messages or information [9].

Several factors contribute to the ineffectiveness of this method, including slow internet connection, limited internet quota, limitations in the learning environment due to the availability of digital devices, and learning media that may not fully synchronize with the methods used in face-to-face learning [10]. Additionally, the limitations of educators in controlling each student during the learning process allow students to engage in their own learning styles.

The transition from face-to-face (offline) learning to online learning significantly impacts the principles of learning.

The objectives of this community engagement are as follows [11]:

- To produce creative learning materials for teachers or students by presenting the material innovatively.
- To encourage the development of innovative learning materials through the learning process by promoting teachers' creativity in teaching using innovative teaching methods, making it easier for students to grasp the material presented.
- To develop a school information system application ready for use during the learning process.
- To enhance student achievement and learning success optimally using E-Learning.

- To introduce innovations in delivering material to keep students engaged during distance learning.

The shift from face-to-face (offline) learning to online learning has caused the effectiveness of traditional teaching methods used in face-to-face learning to decrease. Teaching methods are techniques used to interact between educators and students to achieve learning objectives set according to the material and mechanism of the teaching method [12]. In the online learning situation, adaptation and knowledge are needed to determine the suitability between learning media and effective teaching methods [13].

2. Method

In the Innovation of Online Learning during the Covid-19 Pandemic, there are several methods that can be used. Some of these methods include [14]:

- E-Learning: Using online platforms and specialized software to provide digital learning materials, assignments, and exams that can be accessed by students from home.
- Video Learning: Creating and using engaging instructional videos to convey lesson materials visually.
- Webinars: Conducting interactive online learning sessions with educators as speakers and students as the audience, allowing interaction through webinar platforms.
- Online Discussion Forums: Establishing online discussion forums or chat rooms to facilitate discussions and Q&A between educators and students.
- Use of Chat or Instant Messenger Applications: Informal approach using chat or instant messaging applications to deliver content and communicate with students.
- Virtual Conference Platforms: Utilizing platforms like Zoom, Google Meet, or Microsoft Teams for virtual face-to-face learning sessions.
- Project-Based Learning: Assigning projects or problem-based assignments for students to complete with guidance from educators through online media.
- Self-Directed Learning with Digital Materials: Providing direct access to various digital learning materials that students can learn independently.
- Use of Social Media: Leveraging social media platforms such as YouTube, Instagram, or Facebook to present engaging and interactive learning content.
- Simulations and Interactive Games: Employing online simulations or interactive games to help students understand learning materials in a fun way.

The combination of the above methods can create effective and engaging learning experiences for students during the Covid-19 pandemic [15].

The community engagement activities focus on providing learning training for teachers and students. Through these activities, two-way communication is expected to occur between the community engagement team, speakers, and participants, as well as among the participants themselves. This allows the delivered material to be easily

understood and well internalized by the participants. The methods used in the engagement activities are as follows [16]:

- The first step involves surveying the location and obtaining activity permits from the school principal. Subsequently, discussions are conducted to prepare teaching materials for the training and plan the implementation process during the engagement.
- The engagement team determines the appropriate time to conduct the activities and provides guidance, demonstrating the content to be delivered.
- The engagement activities aim to foster creativity and artistic spirit in the field of technology for teachers, especially in the use of relevant applications, and to enhance teachers' ability to deliver material effectively.
- Presentation training materials are created on Innovative Strategies in Online Learning to Address Covid-19.
- Teachers are trained to maximize the use of relevant application tools and are given tips and tricks to handle situations often encountered while using technology in learning.
- The final stage is to prepare a training plan and innovative strategies in using Online Learning Models to address Covid-19, to be presented as the end result of the engagement activities.
- The engagement activities aim to enhance teachers' professionalism in mastering and implementing information technology in teaching, as well as building teachers' confidence in students by providing creative and engaging learning materials [17].

Here are the solutions to the Innovative Strategies in Online Learning to Address Covid-19 at SMK Kesehatan Airlangga Balikpapan:

- To overcome students' boredom with conventional materials, using various application tools in the learning model can create a more engaging learning environment and enhance interaction between educators and students. This is expected to make students more interested and active in participating in the learning process.
- To increase students' interest in e-learning, particularly the home page media, the use of varied media in each learning session is expected to be helpful. Partners are expected to understand how to use different application tools in media learning so that the variation in their usage can boost students' creativity.
- Partners are expected to quickly comprehend and master the use of various application tools to facilitate learning, especially amid the pandemic, particularly at SMK Kesehatan Airlangga Balikpapan.
- With the implementation of online learning media and various application tools, it is hoped that this activity can help reduce teenagers' outdoor activities and minimize crowds in public places, thus suppressing the spread of the Coronavirus (COVID-19).

By implementing these solutions, it is expected that SMK Kesehatan Airlangga Balikpapan can be more effective in conducting online learning and facing the challenges of the Covid-19 pandemic.

The community engagement is located at SMK Kesehatan Airlangga Balikpapan, East Kalimantan, Indonesia. The distance between the location and the community engagement team is approximately 4 kilometers and can be reached by vehicle.

Figure 1. Distance to Community Engagement Location

Students feel happy and enjoy the experience of online learning due to its flexibility and easy access to learning materials. To achieve success in online learning, support and collaborative efforts from students, educators, and parents are needed to ensure that technical challenges are overcome and active engagement in the learning process is maintained.

Table 1. Responses from Class Students

Student Responses	Respons		Percentage
	Yes	**No**	**%**
Do you agree with the implementation of online learning in schools during the pandemic?	√	-	100
Can you understand the material through online learning?	√	-	100
Can you use online learning applications effectively?	√	-	100
Apakah Anda menggunakan pembelajaran daring dengan lebih efisien?	√	-	100
Is online learning enjoyable?	√	-	100

Did you face serious challenges in online learning?	√	-	100
Do parents provide positive support during online learning?	√	-	100
Do parents provide facilities during online learning?	√	-	100

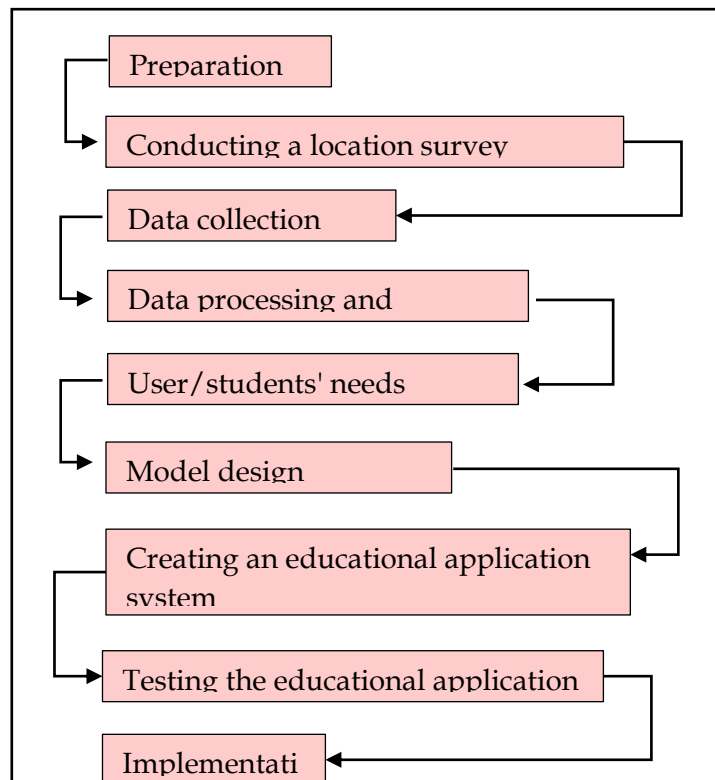The flow of community service activities is as follows:

Figure 2. Action flow

3. Results and Discussion

During the Covid-19 pandemic, innovative online-based learning media has become the main solution for the education sector to ensure the continuity of the learning process. By adopting various innovative methods, educators have successfully created an effective and engaging virtual learning environment. A significant outcome of this innovative online-based learning is the ability for students to continue learning without facing the risk of virus transmission in the physical school environment. Online platforms like E-Learning, Zoom, Google Classroom, and others have facilitated flexible access to learning materials, which can be accessed anytime and anywhere. Learning through video lessons and webinars has also increased student engagement with visually appealing presentations and direct interactions with educators.

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The discussion in the implementation of this innovative online-based learning also highlights some challenges and opportunities. Some students may face technical constraints, such as limited internet connectivity or inadequate devices. However, with support from the school and the utilization of social media, these obstacles can be overcome. Project-based learning approaches and the use of simulations and interactive games in online learning provide opportunities for students to develop practical skills and creativity. Focusing on self-directed learning empowers students to enhance their time management and motivation for learning.

Further discussion involves the recognition among educators about the need for adaptation and improvement in utilizing online-based learning media. Through training and collaboration with fellow educators, they can better understand how to use educational technology effectively and efficiently. Overall, the innovative online-based learning media has brought positive changes to the education sector during the Covid-19 pandemic. Despite challenges that still exist, technological advancements and the spirit of continuous innovation in education can strengthen the education system and prepare students to face a diverse and dynamic future.

The community service for teachers and students at SMK Kesehatan Airlangga Balikpapan was conducted through several training sessions held in the school's computer room and laboratory. The results obtained from this community service include:

- A total of 40 teachers attended the community service event, with some unable to attend due to other overlapping commitments.
- The training material covered Teaching and Learning Strategies and Introduction to E-Learning, including the implementation of E-Learning for both teachers and students.
- The participants of the training expressed satisfaction and enthusiasm in listening to and inquiring about the material presented by the community service team. They gained additional knowledge through this community service activity.
- The community service activities were considered important by both the school and participants as a means of introducing and learning about E-Learning and its platform, as well as preparing E-Learning materials.
- The participants were given explanations about various technology application tools used during the learning process, such as Google Classroom, Google Meet, and E-Learning, which have been provided by the campus.
- The training materials facilitated direct interaction through the platforms, and they could be accessed using various devices such as PCs, notebooks, tablets, or mobile devices without time constraints.
- Explanations were provided about direct teaching models commonly used in media-based learning. The materials were organized to control the content and sequence of information received by teachers and students, helping to overcome difficulties faced by teenagers in using the learning tools.

Overall, the community service activities proceeded smoothly, starting from the preliminary survey, implementation of the community service activities, to the

preparation of the report. The results of discussions indicated that the participants of the community service felt happy and satisfied. This was evidenced by the participants' request to continue the community service activities on an ongoing basis, given the importance of learning and introducing E-learning to teachers and students in the school.

Through continuous community service, it is expected that there will be better cooperation between the informatics engineering program and the teachers at the school, especially in the development of teaching methods. This will allow the community service program to run optimally, in accordance with the obligations of the university's academic community. The E-Learning training received high enthusiasm from the school participants, and they provided full attendance during the training. The school's principal and teachers felt greatly helped by the E-Learning training. Furthermore, the school expressed a desire for the training to be held again in the following year, with more time for in-depth learning of the material.

Several factors that supported the smooth implementation of this community service include:

- High enthusiasm from the participants of the community service, which includes both teachers and students at the school, in actively participating in the E-Learning training.
- The significant benefits and knowledge gained about innovative teaching and E-Learning methods, which further motivated the participants to engage in the community service.
- The support provided by facilities and the dedication of the community service team, which greatly contributed to the smooth flow of the community service activities.

Figure 3. Classroom Atmosphere

Technology devices play a crucial role in modern learning, providing accessibility and flexibility. These devices enable students to access learning materials from anywhere and at any time. With the presence of online platforms like E-Learning or learning

applications, students can engage in self-directed learning based on their preferred time and location that suits their needs.

By harnessing technology devices in education, educators can create more dynamic, interactive, and relevant learning experiences for students. Technology becomes the key to enhancing the effectiveness and efficiency of learning, preparing students to face future challenges.

Figure 4. Learning Using Mobile Devices

Customized Learning: With technology, educators can create learning content tailored to the needs and comprehension levels of the students. Students can learn at their own pace and have the opportunity to focus on areas they consider necessary.

Figure 5. Online Exam Application

Technology facilitates collaboration between students and educators. Through online platforms, students can interact with their peers and teachers, share ideas, discuss, and work together on projects or assignments.

Figure 6. Online Information Access

Technology allows students to continue learning beyond the classroom. They can access online learning resources, participate in online courses, or search for additional information to deepen their understanding of a topic. In an increasingly digital era, technological skills become crucial for success in the job market. The use of technology in education helps students develop relevant technological skills and enhances their readiness to face the demands of the digital world.

4. Kesimpulan

In conclusion, the E-Learning Media Pembelajaran Model Daring strategy in addressing Covid-19 in schools has shown positive outcomes. The school administration expressed satisfaction and hopes for similar continuous activities. The E-Learning training has assisted teachers in creating variations and innovations in the teaching-learning process inside the classroom by utilizing various E-Learning tools.

The training was successfully conducted as participants showed high enthusiasm. They actively engaged in asking questions and attentively listened to various aspects related to the presented materials until the end of the E-Learning training. Through this training, the school community, including teachers and students, gained new insights into the use of E-Learning in the teaching-learning process. E-Learning is acknowledged as an alternative to replace in-person learning when classroom activities cannot be conducted, thus providing significant benefits during the Covid-19 pandemic situation.

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