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The Implementation of Online Learning in Senior High School during the Corona Virus Pandemic

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ABSTRACT

The COVID-19 pandemic has catalyzed a significant shift from traditional face-to-face classes to online learning, profoundly impacting educational practices. This study employs a descriptive qualitative case study approach to investigate the implementation of online learning at MAN 2 Kota Kediri. Data were collected through questionnaires and structured interviews with English teachers to examine their challenges and experiences during this transition. Findings indicate that teachers effectively utilized the discovery learning model, which comprises three key stages: preliminary activities, core activities, and closing activities. Each stage includes critical steps such as stimulation, problem identification, data collection, data processing, and generalization. The results highlight the importance of structured online learning frameworks in enhancing educational outcomes during challenging times. Additionally, the study underscores the role of information technology in education and the necessity for planned, effective human resource development to boost productivity and community welfare. This research contributes valuable insights into the adaptation of teaching methodologies in the face of unprecedented challenges, emphasizing the effectiveness of active learning strategies in an online context.

Keywords: discovery learning, implementation, online learning

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Introduction

The development of education in the era of the Fourth Industrial Revolution leverages digital technology in the learning process, eliminating restrictions related to space and time. Today, the learning process is significantly different from the past, when classes were consistently held face-to-face. Various facilities and benefits offered by information technology are critical considerations in the use of technology for teaching and learning. The application and utilization of technology have also become the focus of much research within the framework of educational development.

On the other hand, improving the quality of human resources is essential and must be carried out in a planned, directed, intensive, effective, and efficient manner. By fostering quality human resources, the productivity of the state can increase, which is hoped to enhance competitiveness and community welfare.

The learning program is crucial because it facilitates direct interaction between educators and students. This interaction is vital; educational outcomes largely depend on the behaviors of both educators and students. Thus, it can be concluded that effective exchange is most likely to occur when educators and students engage in meaningful interaction.

Currently, the educational landscape is vastly different from previous years, primarily due to the global impact of the coronavirus pandemic. Before the pandemic, students could meet face-to-face with their teachers and peers. However, this is no longer possible. Students typically attended school from Monday to Saturday, but since the onset of the pandemic, they have been required to learn from home through online platforms.

COVID-19, an infectious disease first discovered in Wuhan, China, at the end of 2019, began to emerge in Indonesia in March 2020, specifically in Depok, West Java. The virus quickly spread throughout the country, resulting in an increasing number of cases and fatalities. The healthcare system has faced significant challenges, with many medical personnel also becoming infected. As of now, effective treatments are still being sought to curb the spread of the virus.

Addressing issues related to equitable distribution of educational opportunities and quality improvement remains a pressing concern for the government. E-learning has emerged as a crucial initiative to tackle these challenges during the pandemic. With schools closed, teachers are now required to implement e-learning effectively to ensure the continuity of

education while minimizing the risk of virus transmission. This approach not only facilitates ongoing learning but also helps protect the health of students and educators alike.

In the modern education system, advancements in electronic learning (e-learning) are paramount. This method, which has been in use since the mid-1960s in universities across the United States and the United Kingdom, provides a framework for distance learning. The transformation from conventional education to digital formats includes significant influences from e-learning methodologies.

E-learning can be defined as a type of teaching and learning that facilitates the delivery of educational materials to students using internet media, intranets, or other computer networks. This approach allows for flexibility in learning and caters to diverse learning styles. By leveraging information technology, including computers, telecommunications, and multimedia (such as graphics, audio, and video), e-learning enhances interaction between teachers and students. This interactive aspect is critical, as it can lead to improved learning outcomes and a more engaging educational experience.

In summary, the transition to digital education in the era of the Fourth Industrial Revolution has reshaped the learning landscape, offering both challenges and opportunities. By harnessing technology effectively and focusing on quality human resources, educators can adapt to the changing environment and provide meaningful learning experiences for students. As we move forward, continued research and innovation in e-learning will be essential to address the evolving needs of education in a post-pandemic world.

Methods

This study employed a descriptive qualitative approach, specifically utilizing case study techniques. In this research, data are presented in the form of descriptive narratives that accurately depict the real situation, while numbers may also be used to support the presentation and analysis of data. Qualitative research strategies are often referred to as naturalistic because they are conducted in natural settings; this is known as a qualitative approach due to the emphasis on context and the evaluative nature of the findings.

This method is grounded in the philosophy of post-positivism, which posits that reality or an object cannot be understood in parts but must be examined as a whole, broken down into various variables. Qualitative research views objects as dynamic entities, shaped by the

production of concepts and the interpretation of the observed phenomena. This holistic approach acknowledges that each aspect of the object possesses an interconnectedness that cannot be separated. The outcomes of qualitative research should yield significant insights, even generating new hypotheses or information that can aid in addressing existing issues.

This research aims to delve into the conceptual world of the subjects under study, allowing the researcher to thoroughly understand the characteristics of each participant. By comprehending these characteristics, the researcher hopes to gain deeper insights into the social situation and gather richer data. This scientific approach enables a comprehensive and detailed description of the implementation of online learning in Senior High Schools during the COVID-19 pandemic.

According to McMillan and Schumacher, a population is defined as a group of elements or cases—whether individuals, objects, or events—that conform to specific criteria and to which the findings of the research can be generalized. In this study, the subjects are six English teachers at MAN 2 Kota Kediri.

The instruments used in this research are based on the data sources and the research problem. There are three instruments: questionnaires, interviews, and observations. The first instrument is the questionnaire. According to Yusuf (2017), a questionnaire is a method of investigation carried out by sending a set of questions to respondents, who then complete the questionnaire and return it to the researcher. A questionnaire serves as a means to collect information by providing a fixed set of questions to respondents. The researcher uses a questionnaire to gather data about the challenges and feelings of research participants. Two types of questionnaires were used: close-ended and open-ended formats.

This research utilized twelve open-ended questions for teachers, distributed via Google Forms. The researcher shared the link with teachers through a WhatsApp group. The questionnaire was adapted from a study conducted by Aulia Nabilah from IAIN Salatiga. Some questions focused on the meaning of distance learning and the implementation of online education during the pandemic. The questionnaire was written in Indonesian to prevent any misconceptions or misunderstandings.

The second instrument is the interview. An interview is a data collection method in which an interviewer poses questions to an interviewee and gathers information from their responses. The interviewer explains the purpose of the investigation and clarifies what

information is needed. This study employed structured interviews with the teachers, asking about their experiences with online learning during the pandemic.

The third instrument is observation. Classroom observation involves the systematic examination of teaching and learning activities through organized data collection and analysis. It is defined as a process in which the researcher attends one or more class sessions to observe the teacher's instructional practices and student behaviors, followed by discussions with the teacher about these observations. This collaborative method involves both the teacher and the observer playing integral roles before, during, and after the observation process. Given the circumstances, the observations in this study were conducted in online classrooms instead of face-to-face settings.

The next step involves selecting data collection strategies. The most common collection methods in qualitative research include questionnaires, interviews, observations, and documentation. This research employs a combination of these methods.

First, the researcher distributed questionnaires using the open-ended format. The results of the questionnaires assisted in data collection. Six English teachers participated as subjects. Second, interviews were conducted to gain a deeper understanding of how teachers interpret the implementation of online learning during the pandemic. Third, observations were carried out to systematically examine the behaviors and characteristics of participants. The researcher engaged minimally with the subjects while observing key aspects such as the environment, the instructor, and the learning process.

Data analysis techniques in this study are based on the concepts proposed by Miles and Huberman, which include data reduction. Reducing data involves summarizing, selecting key elements, focusing on significant aspects, identifying themes and patterns, and eliminating unnecessary information. This process clarifies the data, making it easier for researchers to conduct further data collection and retrieval if needed.

Data presentation can take various forms in qualitative research, including brief descriptions, charts, and relationships between categories, flowcharts, and narrative text, which is most commonly used.

The final step in data analysis is drawing conclusions based on data reduction and presentation. Conclusions in qualitative research can answer the formulated problems,

though they may evolve as the research progresses, highlighting the iterative nature of qualitative inquiry.

Result and Discussion

1. The Implementation of Online Learning during Pandemic

Below is the number of teachers who use discovery learning and the traditional way of teaching:

No	Name of the teachers	Identified as	The model learning used
1.	Z	Teacher 1	Discovery learning
2.	M.H	Teacher 2	Problem Based Learning
3.	N.M	Teacher 3	Discovery learning
4.	I.S	Teacher 4	Discovery learning
5.	D. L	Teacher 5	Problem Based Learning
6.	M. H. N	Teacher 6	Problem Based Learning

Based on the data obtained, 50% of the teachers in MAN 2 Kediri have implemented discovery learning. But the other 50% still use the old way of online learning. Teachers who apply discovery learning tend to want the class to be livelier. As a result, even though it is only through online learning from home, the teacher feels that when using discovery learning students become more enthusiastic in learning. While teachers who still use the old model think that with the lecture method students will have better understanding of what the teacher is saying during the online learning. Discovery learning not only makes easy for teachers to teach during a pandemic but also provides convenience in taking student grades. The teacher states that if students are active and follow learning diligently, they will get good grades, but if students are passive and rarely participate in online learning, their scores will be different from those who are active and diligent in participating in online learning.

In addition, the teacher said that in distance learning, teachers and students are not at the same place. So, with online learning students can still learn smoothly even though they are not in school.

"Pembelajaran Jarak Jauh, siswa dan guru tidak berada dalam satu ruangan" (N.M)

Meanwhile, according to L, learning where students and teachers are in separate locations requires an interactive telecommunication system to connect the two and the

various resources required in it. Then distance learning requires telecommunication tools can interconnected between teachers and students during the learning process

> *"Pembelajaran yang mana peserta didik dan instrukturnya berada di lokasi terpisah sehingga memerlukan sistem telekomunikasi interaktif untuk menghubungkan keduanya dan berbagai sumber daya yang diperlukan di dalamnya" (L)*

Another teacher stated that the implementation of online learning during the pandemic is delivery materials, learning, assignments and online assessment processes through applications available on the internet. Then, the ability to use the internet is needed in teaching online learning. So that material that cannot be delivered offline can be delivered properly.

> *"Penyampaian materi, pembelajaran, penugasan dan proses penilaian secara online melalui aplikasi-aplikasi yg tersedia diinternet" (H)*

According to IS, there are some obstacles, but they can be overcome, although they are less effective. Online learning is of course less effective because we are all used to teach face to face. We can judge if there are students who do not understand the material we supply. But if through online learning not all students can pay attention to what we say. Some students do not even understand the material we provide.

> *"Ada beberapa kendala, tetapi so far bisa terlewati, meskipun kurang efektif" (IS)*

According to NM, the advantages of online learning are the teachers and students become more familiar with various learning applications. The teacher explains a material, it can be enough to send a video or file, and it can save time. The students working on assignments can be more flexible in time. Teachers and students do not need to wear uniforms. There is no need for a special room to study, deliver materials or collect the assignment; you can be anywhere as long as there is internet.

> *"Baik guru dan murid jadi semakin familiar dengan berbagai aplikasi pembelajaran. Untuk menjelaskan sebuah materi, bisa cukup dg mengirimkan video atau file, itu bisa mengefektifkan waktu. Pengerjaan tugas busa lebih fleksibel waktunya. Guru dan murid tdk perlu pakai seragam. Tdk harus ada ruangan khusus utk belajar, menyampaikan materi maupun mengumpulkan tugas bisa dimana saja selama ada internet."(NM)*

According to Z, the advantages of online learning are students more independent, creative and proactive in learning.

> *"Siswa lebih mandiri, kreatif dan proaktif dalam pembelajaran" (Z)*

According to H, disadvantages of online learning is low motivation with students tend to ignore the online learning process. The results of the assessment do not describe the original competence of students. Character education is difficult to instill in students. Students have a low desire to learn by using online learning, if they are given complete and unrestricted facilities by their parents. It makes the current students lack good character, because the school has difficulty to teach students who only learn through online learning.

> *"Siswa dg motivasi rendah cenderung mengabaikan proses pembelajaran online. Hasil penilaian tidak menggambarkan kompetensi asli peserta didik. Pendidikan karakter Sulit ditanamkan pd siswa" (H)*

According to Zi, disadvantage of online learning is it has not been able to monitor students optimally because we can't meet in person so we can't monitor student progress.

> *"Belum dapat memantau siswa secara maksimal" (Zi)*

One of the teacher, Z stated that the steps in teaching students during the pandemic are more on practice and assignments, because if there is too much material, it will make students bored and lazy in doing assignments. Then it is explained sufficiently and given an example in the process or the teacher can also provide a video for the students so they can see the video for themselves. If something is not clear, you can ask the teacher. After that students are given assignments so that the teacher can still take grades.

> *"Lebih pada praktek dan tugas" (Z)*

According to H, the steps in teaching students during the pandemic are greetings, introduction, submission of material, discussion and questions and answers about the material, giving assignments, and daily assessment. Making steps in online learning so that students can feel learning like at school, even if only through online.

> *"Langkah-langkah yang saya gunakan dalam pembelajaran biasanya salam, pendahuluan, penyampaian materi, diskusi dan tanya jawab ttg materi, pemberian tugas, dan penilaian harian." (H)*

The teacher makes students stay focus and understand the material even if it is only with online learning according to NM, the way to make students stay focus during online learning is not to be monotonous. The material can be delivered in various forms. There are videos, there are files, and there is Power Point, so the students don't get bored. It is even better if the teacher himself is the perpetrator of the videos. Usually, students will be

interested if they don't just read the material because not many students like to read. By using videos they can be entertained and enjoy the material being taught.

> "*Jangan monoton. Materi bisa disampaikan dalam berbagai bentuk. Ada yg video, ada file, ada ppt, spy anak gak bosan. Lebih baik lagi kalau guru sendiri yg jd pelaku video" (NM)*

The school will support the students and school by providing quota subsidies and computer laboratory.. The school will try to keep students learning online by minimizing existing problems.

> *"Memberikan waktu ke siswa, madrasah memberi subsidi kuota dan kalau tetap tidak bisa, madrasah menyediakan laboratorium komputer" (Z)*

According to H, the school will help students who have difficulty participating in online learning by facilitating them to come to the madrasa computer laboratory. This is the most effective solution if learning cannot be held while students are at home. Constrained by quota or other things which cannot done with online learning done at home.

> *"Menfasilitasi mereka untuk datang ke lab komputer madrasah" (H)*

The teachers expect by implementing online learning during pandemic, teachers are given the opportunity to prepare the best media of their own creations to be delivered to students. During the pandemic, teachers continue to try finding appropriate strategies and media during online learning.

> *"Kita para guru diberikan kesempatan menyiapkan media terbaik hasil kreasi kita sendiro untuk disampaikan ke para siswa." (NM)*

The appropriate strategy of implementation online learning during pandemic should not be difficult for students. It should be comfortable for all students, and the teacher should not give too many assignments to students. Currently, there are many applications that are chosen by teachers to teach students so that the material presented can be conveyed properly and students also understand what the teacher is saying. The task given by the teacher to his students should not be too much because it will make students lazy to do it.

> *"Pemakaian aplikasi atau mode pembelajarannya harus tidak mempersulit siswa, tapi harus nyaman untuk semua siswa, jangan terlalu banyak memberikan tugas untuk siswa." (L)*

According to IS that the applications used during the pandemic were varied, quizzes, zoom meetings, etc. All of applications used of course students have mastered. Then, it will

be easy to them be able to know school materials during a pandemic which is not allowed for face-to-face meetings between students and teachers.

"Bervariasi, quiz, zoom meeeting dll" (IS)

The electronic media in question are applications like as Google Classroom, Google Meet, WhatssApp. Application makes students easier to get additional material from the teacher.

"Seluruh media elektronik cocok untuk online" (Z)

According to Zi, the appropriate media used for online learning in a pandemic is Zoom, Google Chrome, Google Meet, and Telegram. When having a quota, students can access the application. With encouragement from the teacher, students will be able to understand the material smoothly.

"Dengan menggunakan aplikasi Zoom, Google Classroom, Google Meet, Telegram" (Zi)

The learning strategy that you use guarantee that students will understand the material according to NM, the strategy used so far in teaching her students is uncertain, especially skill/psychomotor tests. It would still be better if face to face. We can actually use Zoom Meet, but the problem is that there are some children whose quota is not sufficient. Thus affecting their understanding and of course their score. they don't understand the material because they are constrained by insufficient quota.

"Tidak yakin, terutama pengujian ketrampilan/ psikomotor. Akan tetap lebih baik kalau tatap muka. Kita bs pakai zoom meet sebenarnya, tp kemdalanya sebagian anak2 tak mempunyai ckp kuota." (NM)

According to L, WA is used for starting the teaching learning, for understanding the material we need to explain by using YouTube or Zoom meetings, and for delivering or submitting assignments, the teachers use Google Classroom.

"Untuk info mulai pembelajaran kita WA, untuk pemahaman materi yg kami perlu jelaskan kita gunakan you tube atau zoom meeting, untuk tugas tugas kita gunakan Google Classroom." (L)

The teachers have another strategy if the strategy that has been implemented does not work properly. The teachers prepare other strategies to find strategies that match online learning because in online learning the only thing that can be assessed is the presence of students and the tasks they have done and the completeness in collecting assignments. The

benchmark for the achievement of the strategy taken is from students who do correctly the practice questions given.

"Ada, siswa mengerjakan dg benar latihan soal" (IL)

The teacher also conducts presentation to know the students' understanding. With presentations, it can be seen how far students understand the given task. Using presentations reduces students who only cheat on assignments from their friends, because the understanding of students must be different.

"Ya. Kemampuan siswa mempresentasikan secara online" (Zi)

In this research found that teachers who taught English at MAN 2 Kota Kediri used the discovery learning model. This study made observations when the teacher taught the material about recount text. The first stage is preliminary activities. At beginning of opening learning, teacher welcomes and invites students to pray together. This is takes for ten minutes because there are some students who are late for online learning. The teacher intentionally gives more time so students miss the material to be taught. After praying together, the teacher began to check the students' attendance. Before online learning begins, the teacher has asked students to confirm their attendance, through the WhatsApp group. When online learning has started, the teacher only needs to call one by one the students who have sent their names in the WhatsApp group. This is done so students are ready to face day's learning.

After the stage of praying together and checking student attendance, the teacher continued to explain the objectives and benefits of the day's learning which was the material about recount text. One of the goals and benefits of studying recount text is that students are able and understand what an example of a recount text looks like. The teacher conveys an outline of the scope of the material and the learning steps. The students started to take notes a little because the teacher delivered some outlines of the material to be taught that day.

The second step is core activities. The teacher starts to stimulate students by asking questions, recommending reading books and other learning activities that lead to things related to recount text. Such as asking "have you ever seen a flood phenomenon that occurred in an area?" or "have you ever recounted your childhood to your friends?". Here, students are faced with something that causes confusion, then proceed not to give generalizations, so that the desire to investigate themselves. Students start looking for what is meant by recount text

material. Stimulation in this phase serves to provide conditions for learning interactions that can develop and help students in exploring the material provided.

After giving stimulations, the teacher gives students the opportunity to identify as many problems as possible that are relevant to the recount text, then one of them is chosen and formulated in the form of a hypothesis. Such as when the researcher made observations, there was one student who said that the recount text was a text that occurred in the past. There are also other students who say that recount text is a text that contains phenomena that happened, for example the flood in Bandung or the earthquake that occurred in Yogyakarta some time ago.

Next step is collecting information from any media. In this step, students already have thoughts and hypotheses that begin to appear in their minds, the teacher begins to ask students to collect data that can support the hypotheses they have made. The teacher gives advice, can look for data in textbooks, companion books or even from the internet. When exploration takes place, the teacher also provides opportunities for students to gather as much relevant information as possible to prove whether or not the hypothesis is true. For students, this stage served to answer questions or prove whether the hypothesis is true or not.

When the students get the recount text, the teacher guides when students process data that students get. The teacher guides students to classify data that students have collected starting from the definition, purpose, generic structure, and characteristics of recount text. After all data is collected, the teacher asks the students to present their respective results. This can be called verification. Verification purpose is learning process will run well and creatively if the teacher provides opportunities for students to find a concept, theory, rule or understanding through examples that they encounters in their lives. The end of the core activities is to make conclusions from what has been obtained by students. The teacher collects all the data obtained by students and then concludes it starting from the definition, purpose, generic structure, and examples that we usually encounter every day.

The last step is closing activities. The teacher reviews everything that has been learned. The teacher repeats starting from the definition of recount text is a text that tells the reader about one story, action or activity or a text which recounts events or experiences in the past. The purpose of studying recount text material is to retell past experience. The generic

structure used in recount text is orientation, events, and re-orientation. While the characteristics of recount text are using the simple past tense, past continuous tense, past perfect tense, and past perfect continuous tense. Using temporal sequences like On Saturday, on Monday, on Sunday. Focus on specific participants like I (the author). Using the conjunctions like as then, before, after, etc. Using action verb like as went, stayed. After all activities are finished, the teacher ends the lesson by praying and thanking the students for being supportive during the lesson. This is done so that students stay excited during online learning.

The teacher who taught English at MAN 2 Kota Kediri used the discovery learning model which there are three stages of activity that have been fulfilled by teachers and students. They are preliminary activities, core activities, and closing activities. These stages are related to Jerome Bruner's theory (2009) which states that discovery learning is an inquiry-based, constructivist learning theory that takes place in problem solving situations where the learner draws on his or her own past experience and existing knowledge to discover facts and relationships and new truths to be learned. Students interact with the world by exploring and manipulating objects, wrestling with questions and controversies, or performing experiments. As a result, students may be more likely to remember concepts and knowledge discovered on their own.

The first stage is the preliminary activity. This stage is the beginning of learning. So, the steps taken by the teacher are to invite students to pray together so that it is smooth and the material is easy to understand. After praying, the teacher checks the attendance of students. Previously, students had reported attendance through the WhatsApp group. So, the teacher only needs to mention the names of students who have taken online learning. Then it is continued with the teacher conveying the objectives and benefits of learning about the topic to be taught. The students pay attention to what the teacher says. And then the teacher conveys an outline of the scope of the material and the learning steps. The students started to take notes a little because the teacher delivered some outlines of the material to be taught that day.

The second step is core activities. At this stage, learning begins with the teacher asking questions, examples or other references, and brief explanations that lead to problem solving preparation. This stage serves to prepare learning conditions that can assist students in

exploring teaching materials. Students are faced with relevant questions or problems to foster a desire to investigate and find out the answers themselves. Then, teacher begins to identify problem. Teacher gives the opportunity for students to provide opinions or temporary answers related to the topic of discussion. Students give opinions on what is asked by the teacher. After that, the teacher gives time to students to collect information from any media. Students are given the opportunity to collect as much relevant information as possible to prove whether the temporary answers given are correct or not. This can be done by reading books or online resources, observing objects, experiments, etc.

Students already have the necessary data obtained from various sources, the teacher asks students to process the data that has been obtained. Students process the information that has been obtained either through data collection, and then interpret it. Then, the teacher asked the students to prove the information they had. Students present results of their group's information processing to other groups. Other students are given the opportunity to provide feedback, criticism and suggestions, as well as questions. The last is the teacher guides students to draw conclusions from the findings, interpretations, and evidence that have been presented to get a general picture or answer to the problems faced and approved by each group. Students write in their own books on the conclusions explained by the teacher.

The third step is closing activities. In this stage, the teacher reviews material that has been studied together by students and provides corrections if needed as well as recommendations from the learning process that has been implemented. The teacher asks students to pray together and stay diligent in studying despite the pandemic and maintaining health protocols.

Conclusion

To sum up, the teachers used the discovery learning model during pandemic. In discovery learning there are five steps that must exist, namely stimulation, identification of problem, data collection, data processing and generalization. Although there are differences in the model used by the teachers, they hope that even in a state of online learning, the results obtained by students will remain the same and the material provided can be conveyed properly.

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