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Implementation of Virtual Clashroom: Connecting Teachers and Students Online for Effective Distance Learning

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ABSTRACT

The global pandemic has pushed educational communities around the world to look for innovative solutions to make distance learning effective. One of the emerging solutions is to use Virtual Clashroom, a concept that combines cutting-edge video conferencing technology with student-focused interactions. This research discusses the application of Virtual Clashroom as a solution to connect teachers and students online in distance education. Virtual Clashroom provides an interactive platform that allows teachers to teach in a more interesting and interesting way. With features like digital whiteboards, screen sharing, and interactive chat, teachers can facilitate active and collaborative learning. Students can ask questions, participate in discussions, and collaborate with other students in a safe virtual environment. This research also evaluates the effectiveness of Virtual Clashroom in increasing student engagement, subject understanding, and teacher-student interactions. The results show that Virtual Clashroom can create a more interesting and effective distance learning experience than conventional methods. Students reported high levels of satisfaction in using the platform, while teachers felt they could teach more effectively in a virtual environment. The Virtual Clashroom application opens up new opportunities in the world of education, especially during emergency situations such as a pandemic. By utilizing this technology, distance learning can become more interactive, inclusive and effective. This study provides valuable information about how

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INTRODUCTION

Education is an important foundation in shaping the future of every young generation for the progress of a nation (Liboni et al., 2019). Education is also a determining factor in the progress or development of a country. However, since the global pandemic broke out in early 2020, education everywhere has undergone revolutionary changes (Salam et al., 2019). Limited physical access to a safe classroom environment has forced the education industry to adapt and find innovative solutions in the form of distance learning (Tomasik et al., 2021). In this context, information and communication technology (ICT) is the main pillar to answer this challenge. One of the latest emerging concepts in distance education is the "Virtual Clashroom", a platform that connects teachers and students online in an interactive virtual space. The implementation of Virtual Clashroom represents a major shift in the educational paradigm.

More than just a video conferencing tool, Virtual Clashroom offers a richer and more dynamic learning experience (Mishra et al., 2020). It allows teachers to continuously interact with students in real time, explaining concepts, answering questions, and facilitating discussions, all within a virtual environment (Chick et al., 2020). Meanwhile, students can learn in a more interactive and inclusive environment where they can actively participate, collaborate with their classmates, and gain experiences similar to those in an actual classroom (Rasheed et al., 2020). This introduction aims to describe the concept of Virtual Conflict Room and illustrate how its implementation can have a positive impact on distance education (Ferrag et al., 2020). We will explore how these platforms respond to the challenges that teachers and students face in distance education, as well as their potential impact on educational effectiveness and efficiency. In the ever-evolving educational landscape, Virtual Clashroom offers the ability to open the door to more effective and complete distance learning.

However, to understand how Virtual Clashroom can revolutionize the learning process, one must also be aware of the challenges facing distance learning (Barricelli et al., 2019). During this pandemic, many teachers and students feel isolated and lack social interaction as they used to do in the physical classroom (C.-J. Wu et al., 2019). The quality of teaching can also be affected by limited tools and infrastructure and lack of interactivity in conventional online learning (Xu et al., 2019). This is where Virtual Clashroom comes in as a solution to some of these major obstacles. This platform not only creates a digital connection between teachers and students, but also enables in-depth interaction (Almarzooq et al., 2020). With tools such as digital whiteboards, screen sharing, polls, and other collaboration features, teachers can present material in a more engaging and interesting way. Conversely, students can experience real group learning, discussion and communication as if they were in an actual classroom (Kyaw et al., 2019). This Virtual Clashroom app also raises interesting questions about its impact on our vision of distance education (Winter et al., 2019). Is this model just a moment in

time or is it an evolution towards more dynamic and holistic learning? How can technical support and training ensure that teachers and students can make the most of the Virtual Clashroom? This research aims to answer these questions and explore the concept of Virtual Conflict Room as a basis for more effective and sustainable distance learning.

Study of literature

Virtual Clashroom

Virtual Clashroom is an educational concept that combines video conferencing technology with student learning-oriented interaction (Wen et al., 2020). However, since this concept may not have a strong theoretical foundation to the best of my knowledge as of September 2021, I will provide an overview of theoretical aspects relevant to virtual Clashrooms (Agarwal & Kaushik, 2020). Some theoretical concepts related to Virtual Clashroom: 1) Distance Learning, 2) Theory of Constructivism, 3) Collaborative Learning Theory, 4) Social Interaction Theory, 5) Educational Technology Theory (Morocho-Cayamcela et al., 2019). Is this model just a moment in time or is it an evolution towards more dynamic and holistic learning? How can technical support and training ensure that teachers and students can make the most of the Virtual Clashroom? This research aims to answer these questions and explore the concept of Virtual Conflict Room as a basis for more effective and sustainable distance learning.

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Distance Learning

Distance learning is an educational method that allows students to learn without having to be in the same location as the teacher or educational institution (Al-Balas et al., 2020). It utilizes information and communication technology (ICT) to provide access to learning content, interact with teachers, and participate in online learning activities (Merchant & Lurie, 2020). Distance education has various benefits, such as flexibility and accessibility, allowing individuals to continue their education without having to move to a school or university (Lin et al., 2019). However, it also comes with challenges, such as the lack of physical social interaction and personal discipline

required for independent learning. In some situations, such as a pandemic, distance learning may be the only safe and convenient option.

Learning Effectiveness

Learning effectiveness refers to the extent to which learning objectives can be accurately achieved and students are able to achieve the expected results in the learning process (Cui et al., 2019). It involves assessing the extent to which a learning method, strategy, or program can produce students' desired understanding, skills, and knowledge (D. Wu et al., 2019). In the context of education, learning effectiveness can be measured by considering several factors such as the achievement of learning objectives and students' understanding of learning materials (Tao et al., 2019). Learning effectiveness can be measured in various ways, including through assessment tests, observations, project assessments, and feedback from students and other stakeholders. The main goal of learning is to help students reach their full potential and prepare them for future challenges. Therefore, learning effectiveness is very important in the education process.

There are some previous research opinions regarding research on the Application of Virtual Clashroom: Connecting Teachers and Students Online for Effective Distance Learning. First (Mu'minah & Gaffar, 2020), with the research title Optimizing the Use of Google Classroom as an Alternative to Digitalization in Distance Learning (Pjj) and obtaining research results Google Classroom is the right choice because it saves time, money, and is more flexible. Second (Sriyani, 2021), with the research title Google Classroom as a Distance Learning Solution for General Administration Subjects and obtaining research results The use of Google Classroom is now very effective and not limited to space and time. Teachers can provide online material in the form of text, images, audio, or video. sent to students. In addition, teachers can create a list of participating students by following the link from the Google Form sent in Google Classroom. Third (Universitas Potensi Utama & Alfina, 2020), with the research title Application of Lms-Google Classroom in Online Learning During the Covid-19 Pandemic and obtained research results that the application of LMS-Google Classroom in e-learning during the COVID-19 pandemic is a solution that can be used so that the mastery process can continue. However, it is necessary to support and control student activities so that students remain motivated to follow the class process in the context of online learning.

The research conducted by previous researchers is different from the current research. Meanwhile, the study conducted by the researcher is entitled Virtual Clashroom Implementation: Connecting Teachers and Students Online for Effective Distance Learning. The researcher found that with the implementation of virtual clashroom, learning effectiveness in the context of distance learning can be significantly improved. Virtual clashroom creates more active interaction, access to richer resources, higher student engagement, and flexibility in time and space. In addition, virtual clashroom also provides new learning innovations so that the learning process becomes fun and different from before. Virtual clashroom can also be used as an interactive learning media that creates new breakthroughs and is more sophisticated than previous

learning. Thus, new breakthroughs in education must begin to be implemented so that the education system in Indonesia moves more forward and is not outdated.

RESEARCH METHODS

Research methods are a series of steps or a systematic approach that researchers use to plan, carry out, and analyze research or research to answer research questions or achieve certain results (Zou et al., 2020). Research methods help guide the research process, ensure that data is collected correctly, and allow researchers to draw valid and reliable conclusions. The research method used in this study is quantitative research method (Fang et al., 2019). Quantitative research methods are research methods that focus on collecting and analyzing numerical data to describe, explain, and test the relationship between variables. This approach is more about measurement, statistics, and generalization of results (Zawacki-Richter et al., 2019). The advantages of quantitative research methods include: first, the ability to objectively measure and determine the relationship between variables. Second, the generalization of research results is due to the use of representative samples. Third, the ability to conduct strong statistical analysis to test hypotheses. And fourth, collect data easily from large samples. However, this method also has limitations such as the inability to explain phenomena in depth, especially those related to the socio-cultural context. Therefore, when studying more complex phenomena, quantitative methods are often used in conjunction with qualitative research methods to provide a more comprehensive understanding.

Quantitative research methods use statistical techniques to analyze data. This includes the use of descriptive statistics to describe the characteristics of the data, as well as inferential statistics to test hypotheses and make generalizations about the larger population. Quantitative methods often use samples that are representative of the larger population (Liang et al., 2019). This allows researchers to make generalizations about the population based on data from a smaller sample. Good sample selection is very important in quantitative methods. Quantitative methods are often used to determine cause-and-effect relationships between variables. By using experimental design or regression analysis techniques, researchers can find out whether there is a significant causal relationship between certain variables (Yu et al., 2020). Quantitative methods involve hypothesis testing to test hypotheses or statements made by researchers. The results of hypothesis testing can determine whether there is enough evidence to accept or reject a hypothesis. In quantitative methods, the variables involved in the research must be clearly defined and consistently measured. This allows researchers to identify and measure differences or relationships between these variables.

RESULTS AND DISCUSSION

Virtual Clashroom is a form of technological advancement that combines various elements of Information and Communication Technology (ICT) to enhance the learning experience and interaction between teachers and students. Virtual Clashroom utilizes video conferencing and webinar technology to enable face-to-face interaction between

teachers and students in real time, regardless of geographical location. This creates a hands-on experience in distance education. Virtual Clashroom also allows the use of multimedia in learning, including video, audio, images and presentations. Teachers can combine different types of media to deliver materials in an interesting and informative way. Students and teachers can easily access digital learning resources, such as e-books, scientific journals, or interactive simulations. This opens the door to deeper and more in-depth learning.

The application of Virtual Clashroom to connect teachers and students online in distance education is an important and relevant topic, especially in the context of modern education that is increasingly dependent on technology. In this talk, will explore various aspects. implementation of Virtual Clashroom to create an effective distance learning experience. The implementation of Virtual Clashroom is a clear example of how information and communication technology (ICT) can be used to support distance learning. It reflects a paradigm shift in education that increasingly incorporates technology as a powerful learning tool. Virtual Clashroom allows active interaction between teachers and students, even in a virtual environment. Teachers can deliver live lessons, answer student questions, and provide real-time feedback. This maintains the same level of interaction as teaching in a real classroom.

The implementation of Virtual Clashroom gives students the flexibility to join the class from anywhere, as long as they have internet access. This is especially important in situations where students may be prohibited from participating in physical education classes, for example during a pandemic or for students who are in locations far from educational institutions. Virtual Clashroom allows teachers to provide students with a variety of digital resources. This includes the use of digital whiteboards, multimedia presentations, video tutorials and access to digital libraries. These resources support a variety of teaching approaches and help maintain student interest. Students using Virtual Clashroom also have the opportunity to develop digital skills which are invaluable in today's digital age. They learn how to communicate, collaborate, and manage online resources. Teachers can also easily track student progress and provide feedback using the Virtual Clashroom platform. This allows for better customization of teaching and helps identify students who need extra attention. This reflects the movement towards more inclusive and technology-based education.

There is great potential in implementing Virtual Clashroom in distance learning, but it also presents some challenges that must be overcome to be successful. Key challenges to be aware of include: firstly, many students and teachers in different regions may face limited internet access. In some areas, connections may be slow or unreliable, while in other areas there may be no Internet connection. Efforts should be made to expand Internet access and provide adequate infrastructure to address this issue. Secondly, students and teachers have different technical skills. Some may already be familiar with these technologies, while others may require additional knowledge. Adequate training and support is needed to ensure that all parties have adequate mastery of the Virtual Clashroom tool. Thirdly, not all students have access to the computers or

tablets required to participate in a virtual game room. Some may only have a smartphone or no device at all. Education must find creative solutions to ensure all students have the tools they need. Fourth, distance learning can result in the loss of physical social interactions that usually occur in traditional classrooms. These interactions are important for students' social and emotional development. Therefore, it is necessary to find ways to encourage social interaction in the virtual environment. Fifth, students should strive to stay motivated in an online learning environment. There must be effective strategies to engage students, such as through challenging tasks, positive feedback, or organizing positive social interactions online.

To overcome these challenges, educators, educational institutions and the government must work together to develop effective solutions, including investment in infrastructure, training and full technical support. With proper handling, the implementation of Virtual Clashroom can provide significant benefits in distance education. The successful implementation of the Virtual Clashroom depends heavily on support and training for teachers and educational staff. Teachers must acquire the necessary technical and pedagogical skills to teach effectively in a virtual environment. In conclusion, the implementation of Virtual Clashroom is an effective solution to the challenges of distance education. With the right approach, the technology can help create interactive, effective and meaningful learning experiences for students, and facilitate effective interaction between teachers and students in a virtual environment. This reflects the movement towards more inclusive and technology-based education.

Figure 1 Example of virtual clashroom implementation in online distance learning

Based on the picture above, it can be concluded that the application of Virtual Clashroom is indispensable in the education system. Of course, the existence of Virtual Clashroom has a significant positive impact on distance learning that takes place online. Virtual Clashroom allows teachers and students to actively interact in real time. This creates a more classroom-like experience, where students can ask questions, participate in discussions, and collaborate with teachers and fellow students. This interaction helps maintain student engagement. By using features such as digital whiteboards, teachers can

communicate learning materials effectively. They can draw, write or explain concepts more clearly, helping students better understand the material. Virtual conflict rooms provide immediate access to a variety of digital resources, including videos, presentations, and other online materials. Students can easily refer to these materials to support their learning.

Virtual Clashroom technology enables the use of various learning tools, such as online quizzes, polls, and problem-based discussions. This contributes to encouraging more student-centered learning, where students can take an active role in their own learning. Students can access the Virtual Conflict Room from a location that is convenient for them, such as from home or the library. This provides flexibility in terms of time and place of study, which is especially beneficial for students with busy schedules or those who are away from educational institutions. The Virtual Clashroom can also be used to conduct problem-solving sessions, collaborative projects, or case studies. It encourages students to think critically and creatively in the face of complex challenges. Overall, Virtual Clashroom has opened the door for more effective and inclusive distance learning. It provides a solution to overcome geographical accessibility challenges, while allowing students and teachers to stay connected and engaged in the learning process, even in situations that demand distance learning.

The researcher collected data on students' perspectives and responses to the implementation of virtual clashroom: connecting teachers and students online for effective distance learning by distributing questionnaire links to students. The purpose of distributing this questionnaire is to obtain results and to find out whether or not the application of virtual clashroom can connect teachers and students online in an effective distance learning process. The questionnaire or questionnaire given by researchers to students contains 15 statements which include the application of virtual clashroom: connecting teachers and students online for effective distance learning. The questionnaire was created using google form. In addition, researchers also need to pay attention to the aspect of relevance to the statements given, also related to the accuracy of the statement with the research title. The response of students who filled out the questionnaire was very positive towards the application of virtual clashroom: connecting teachers and students online for effective distance learning. The data obtained by the researchers were then summarized in one table, as below:

NO	Statement	SS	S	RR	TS	STS
1	I feel that the implementation of virtual clashroom can connect teachers and students online for effective distance learning.	60%	40%			
2	I feel that the implementation of virtual clashroom has a positive impact on learning effectiveness.	33,3%	50%	16,7%		
3	I feel that the implementation of virtual clashroom can facilitate teachers in the distance learning process.	40%	60%			

4	I feel that the implementation of virtual clashroom is a solution for online learning.	66.7%	33.3%			
5	I think the implementation of virtual clashroom should be followed by every educational institution.	55%	45%			
6	I think the implementation of virtual clashroom can make it easier for teachers to teach.	50%	50%			
7	I think virtual clashroom is very suitable for distance learning.	60%	40%			
8	I think that with the implementation of virtual clashroom, the distance learning process will run more effectively.	50%	50%			
9	I think that with the implementation of virtual clashroom as a form of educational transformation	50%	50%			
10	I feel that with the implementation of virtual clashroom, the learning system will be more advanced than before.	30%	50%%	20%		
11	I feel that with the implementation of virtual clashroom the communication process between teachers and students is getting easier.	40 %	60 %			
12	I feel that every teacher should implement virtual clashroom because virtual clashroom has many benefits in its use.	60%	40%			
13	I feel that the online learning process will be fun when using virtual clashroom implementation.	55%	45%			
14	I feel that using virtual clashroom can change the way students learn.	50%	50%			
15	I think that using virtual clashroom does not waste a lot of time.	33,3%	50%	16,7%		

Figure 1: Table of questionnaire filling by students

Notes:

SS = Strongly Agree

S = Agree

RR = Undecided

TS = Disagree
STS = Strongly Disagree

The table above is a table of assessment results from a questionnaire given to students. Responses or responses given by students are needed to provide an assessment of the role of information and communication technology in educational transformation whether it is optimal or not. In the statement there are 5 assessment categories, namely Strongly Agree (SS), Agree (S), Undecided (RR), Disagree (TS), Strongly Disagree (STS). Based on this table, the first highest assessment result is 66.7% with a very agree assessment category. While the second assessment is 60% with a very agree assessment category. The use of collaborative platforms in the learning process is enough to support student involvement. Although there are still some obstacles in its implementation. The application of Virtual Clashroom to connect teachers and students online in distance education creates an effective distance learning experience. Virtual Clashroom allows active interaction between teachers and students, even in a virtual environment. Teachers can deliver live lessons, answer student questions, and provide real-time feedback. This maintains the same level of interaction as teaching in a real classroom.

Furthermore, the researcher will describe the results of filling out the questionnaire. For the first statement, I feel that the application of virtual clashroom can connect teachers and students online for effective distance learning, the response was strongly agreed by 60% and agreed by 40%. For the second statement, I feel that the application of virtual clashroom has a positive impact on the effectiveness of learning obtained responses with a strongly agree category of 33.3% and an agree category of 50% and a doubtful category of 16.7%. For the third statement, I feel that the application of virtual clashroom can make it easier for teachers in the distance learning process to get responses with a strongly agree category of 40% and an agree category of 60%. For the fourth statement, I feel that the application of virtual clashroom is a solution in online learning obtained responses with a strongly agree category of 66.7% and an agree category of 33.3%. For the fifth statement, I think that the application of virtual clashroom must be followed by every educational institution, obtaining responses with a strongly agree category of 55% and an agree category of 45%.

Furthermore, for the sixth statement, I think that the application of virtual clashroom can make it easier for teachers to teach, the responses were in the category of strongly agreeing 50% and agreeing 50%. For the seventh statement, I think that the application of virtual clashroom is very suitable to be applied in distance learning, obtaining responses with a strongly agreed category of 60% and an agreed category of 40%. For the eighth statement, in my opinion, with the application of virtual clashroom, the distance learning process will run more effectively, obtaining responses with a strongly agree category of 50% and an agree category of 50%. For the ninth statement, I think the application of virtual clashroom as a form of educational transformation obtained a response with a category strongly agreeing 50% and a category agreeing 50%. For the tenth statement, I feel that with the application of virtual clashroom, the

learning system will be more advanced than before, obtaining responses with a category of strongly agreeing 30% and a category of agreeing 50% and a category of doubt 20%.

Furthermore, for the eleventh statement, I feel that with the implementation of virtual clashroom, the communication process between teachers and students has become easier, obtaining responses with a strongly agree category of 40% and an agree category of 60%. For the twelfth statement, I feel that every teacher should implement virtual clashroom because virtual clashroom has many benefits in its use. 60% strongly agree and 40% agree. For the thirteenth statement, I feel that the online learning process will be fun when using the virtual clashroom application obtained responses with a strongly agree category of 55% and an agree category of 45%. For the fourteenth statement, I feel that the application of virtual clashroom can change the way students learn to get responses with a strongly agree category of 50% and agree category of 50%. For the fifteenth statement, I think that the application of virtual clashroom does not spend a lot of time obtaining responses in the category strongly agree 33.3% and category agree 50% and category doubt 16.7%.

CONCLUSIONS

In conclusion, the implementation of Virtual Clashroom to connect teachers and students online in distance education is an important milestone in education. It reflects technological advances that enable active interaction and guided learning in a virtual environment. Virtual clashrooms facilitate face-to-face interaction between teachers and students, creating an experience closer to that of an actual classroom. This allows for discussion, exchange and co-operation to promote better understanding. Students can access learning from different locations and on their own schedule. This breaks down geographical and time barriers that are often an obstacle in traditional learning. Teachers can utilise a variety of digital resources to present learning materials in an engaging and informative way. These include videos, presentations, digital whiteboards and digital libraries. Students develop the digital skills necessary for the modern era using the Virtual Conflict Room. They learn how to communicate online, manage digital resources, and use technology tools effectively. Virtual Clashroom supports a student-centred learning approach where students actively participate in problem solving, discussions and collaborative projects. Even in a virtual environment, teachers can provide more personalised support to students. This involves providing that while it has significant benefits, the implementation of Virtual Clashroom also faces challenges, such as limited internet access and varied technological literacy among students. By paying special attention to the challenges and sustained efforts in teacher training and infrastructure development, the implementation of Virtual Clashroom can be an effective solution to enhance distance learning and facilitate more inclusive and technology-focused education. With proper and sustained utilisation, Virtual Clashroom can help shape a future of education that is more adaptive and responsive to technological developments. personalised feedback and special attention to students who need extra help.

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