Exploration of WhatsApp Application as Learning Media in Vocational Schools Reviewed from the Teacher's Perspective

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Research paper

Exploration of WhatsApp Application as Learning Media in Vocational Schools Reviewed from the Teacher's Perspective

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ABSTRACT

Background: WhatsApp is widely used as a learning medium to make it easier for teachers to send files of school assignment documents and learning materials to students. This study aims to explore the effectiveness of use, constraints, and solutions in using the WhatsApp application as a learning medium in vocational schools from the teacher's perspective. This research is a qualitative study with a narrative inquiry approach.

Methods: The sampling method using purposive sampling obtained a sample size of 6 participants including teachers who have active teaching status and have implemented WhatsApp as a learning medium in their subjects. Interviews were conducted to collect data. Data were analyzed by content analysis using the QSR NVivo application.

Results: 1) the exploration of the use of WhatsApp application as a learning medium in vocational schools in the teacher's perspective was obtained in two categories, including, a) media: discussion, information, evaluation, communication, and b) learning process: offline learning support, and material sharing. (2) obstacles in the use of the WhatsApp application as a learning medium in vocational schools from the teacher's perspective include, a) user aspects: competence in using technology, lack of activity, lack of focus, and b) technical: Wi-Fi network, internet quota, and student devices. (3) Solutions in overcoming obstacles in using the WhatsApp application as a learning medium in vocational schools from the teacher's perspective include, a) school facilities: Wi-Fi network, whiteboards, and b) improvement efforts: interaction, and competence.

Conclusion: The use of WhatsApp applications as a learning media in SMK from the perspective of teachers is said to be effectively used as a medium and support the learning process. The obstacles that teachers often encounter include user constraints and technical obstacles, with the solution taken to improve user competence and optimize the school facilities that have been provided.

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INTRODUCTION

Educators are educational personnel who are qualified as teachers, lecturers, counselors, learning facilitators, widyaiswara, tutors, instructors, facilitators, and other titles according to their specializations, and participate in organizing education. Teachers can be interpreted as people whose duties are related to efforts to educate the nation's life in all its aspects, both spiritual and emotional, intellectual, physical, and other aspects. (Stephens & Crawley, 1994) also adds another understanding of teachers, legally and formally, a teacher is someone who obtains a decree, either from the government or the private sector to teach. The same thing is expressed that teachers are all people who have the authority and the responsibility to guide and foster students. Based on the statements of these experts, a teacher is someone who has the authority and has a decree according to the special expertise they are engaged in to educate students in formal education, from elementary education to secondary education, which aims to educate human resources in all aspects.

Vocational schoolteachers are educators who have the responsibility not only to transfer knowledge but also to equip students with practical skills that are by industry needs vocational schoolteachers must have expertise in their fields and the ability to apply theory in practice (Panjaitan, 2018). In line with (Hanafi, 2017) states that vocational schoolteachers are educators who are tasked with preparing students with skills and knowledge that are relevant to the world of work, where teachers must have a deep understanding of the industry and be able to integrate the curriculum with the needs of the job market. Suprapto, (2016) expressed the same opinion that vocational high school teachers are educators who not only teach but can act as facilitators and motivators in the learning process that is oriented toward work skills. In their role, a teacher is required to be innovative in delivering learning materials so that they can be easily accepted by students. To make it easier for teachers to deliver the material, a teaching medium is needed.

Teaching media is anything that can be used to convey a message from the sender to the recipient so that it can stimulate the thoughts, feelings, attention, and interest of students to learn (Tafonao, 2018). Briggs, (1977) explains that learning media is a physical means to convey content or learning materials, including books, films, videos, and so on. Aldy et al., (2021) also reveal that learning media is a tool used by students and educators to support the learning process. While Dale, (1946) reveals that in the world of education, the use of media/materials/learning facilities often uses the Cone of Experience principle, which requires learning media such as textbooks, learning materials made by teachers, and "audio-visual".

Figure 1. Edgar Dale's Cone of Experience

From the picture above, it is explained that with the use of more concrete learning media or with direct experience, then the information conveyed in the learning process will be well received by students. However, on the contrary, if the use of learning media is increasingly abstract, then the information conveyed by the teacher in the learning process will be difficult for students to accept. Based on the study of the opinions of the expert's above, learning media is a means of communication between teachers and students to send and receive new information, either in print or audio-visual form and including hardware technology such as gadgets, which are used in learning activities.

As technology becomes increasingly sophisticated in the world of education, telecommunications applications are now being innovated as supporting tools in teaching and learning activities to deliver learning material, these tools include Instagram, telegram, WhatsApp (Amran et al., 2024; Firdaus & Ichwanto, 2023; Habes et al., 2022). WhatsApp is a cross-platform messaging application that uses internet data packages, such as those used for e-mail and web browsing that allows exchanging messages without using SMS costs (Wahyuni, 2018). Today the WhatsApp application is widely used in the world of education as a means of learning media to make it easier for teachers. Send data in the form of school assignment document files or learning materials to students via the features contained therein, one of which is the group feature WhatsApp. Hadi, (2015) also stated that the WhatsApp application is very helpful in implementing blended learning-based learning, where teachers are not necessarily always present in the classroom when teaching and learning activities are taking place, but learning materials according to the curriculum can be completed by sending them via the WhatsApp application without reducing the quality of student learning outcomes. Meanwhile, the use of learning media with the WhatsApp application in vocational schools, especially in the Building Modeling and Information Design (DPIB) department, has received many assessments from teachers from various productive subjects and general subjects with various complaints about the obstacles and benefits they have experienced.

Based on these conditions, researchers are interested in exploring the teaching experience of teachers in using the WhatsApp application as a learning medium in vocational schools, the obstacles experienced while using the WhatsApp application as a learning medium in vocational schools, and the solutions taken to overcome obstacles in using the WhatsApp application as a learning medium in vocational schools. Based on the problems formulated above, the objectives of this study are: (1) to explore the effectiveness of using the WhatsApp application as a learning medium in vocational schools from the teacher's perspective; (2) to identify obstacles in using the WhatsApp application as a learning medium in vocational schools; and (3) to reveal solutions to overcome obstacles in using the WhatsApp application as a learning medium in vocational schools.

METHODS

The method used is a type of qualitative research, Qualitative research uses a variety of methods, including case studies, studies in a natural environment, site studies, field studies, ethnology studies in local gazettes, and annotation studies. To enter the world of the subject, qualitative researchers usually use in-depth observation and interviews with participants. They then systematically collect information they see and hear, analyze the information, and combine

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it with additional materials such as photographs, school journals, memories, and other artifacts. Qualitative research emphasizes the collection of information to gain an overall understanding of the "quality" of a matter through in-depth, detailed, and long-term observation and experience gained by interacting with the subjects (Xuehong, 2002). With a narrative inquiry approach, to explore the use of the WhatsApp application as a learning medium in vocational schools from the teacher's perspective. The narrative inquiry method can provide researchers with the opportunity to explore and describe the results of understanding and experiences from informants directly (Higgins & Misawa, 2022).

Sampling Techniques

Sampling was conducted using a purposive sampling technique by directly appointing six participants from several teachers who teach at the DPIB department of SMK from various subject teachers, both productive and general subjects, with the following provisions: (1) participants are teachers who have active teaching status in class; (2) participants have implemented the use of the WhatsApp application in classroom learning activities.

Data collection technique

Data collection with interviews with participants (Gill et al., 2008). Interviews are conducted directly by researchers by asking several questions verbally to be responded to by the teacher. Then the results of the interview are transcribed to conduct validity tests and data analysis.

Data Validity Testing Techniques

Validity test using member checking technique to ensure the accuracy of data submitted by participants (Harvey, 2015). Moleong, (2007) explains that member checking is a process of checking data obtained by researchers to data providers. The purpose of member checking is to find out how far the data obtained is by what is provided by the data provider. Member checking is done by submitting the transcript results to participants to re-check the conformity of the data received by the researcher with the data submitted by the participant.

Data analysis

Data analysis in this study uses content analysis or content analysis with the help of the QSR NVivo application. Elo & Kyngäs, (2008) stated that content analysis is used to categorize text data into categories that allow researchers to gain a better understanding of the phenomena being studied. Afifah et al., (2022) revealed that several steps must be taken to apply this analysis, namely:

1. Listening to recorded interview data.
2. Write down the interview results in a specific format to facilitate the data coding process.
3. The results of the interview transcripts were sent to the sources to conduct data validity tests (member checks).
4. The results of interview transcripts that pass validity can be imported into the NVivo application for analysis.
5. By using the codes menu, researchers create themes or codes to group the interviewees' answers.
6. The data grouping results are created using the framework matrix and diagram map menus on the project map menu, then selecting the export menu to download the data grouping results.
7. Making conclusions from the results of data grouping.

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RESULTS AND DISCUSSION

Based on the results of the researcher's observations, the use of the WhatsApp application as a learning medium in SMK which is reviewed from the teacher's perspective can be said to be effective and less effective with several obstacles that have been found solutions to overcome the obstacles experienced. This opinion can be supported by previous researchers, namely Hadi, (2015) revealed that WhatsApp is one of the applications that can be used as e-learning, so teachers can utilize the group chat feature as a means of discussion and channeling information to students. Based on these results, it can be described in the following points:

1. **Use of WhatsApp Application as Learning Media in Vocational Schools from a Teacher's Perspective**

In the increasingly advanced digital era, information technology has become an integral part of various aspects of life, including in the field of education. One of the instant messaging applications such as WhatsApp has had a major impact on the world of education in supporting learning activities. This application has become increasingly popular in the world of education until now since the COVID-19 pandemic which requires students to study online. This instant messaging application is not only used as a medium of communication but has also developed into an effective tool to support learning activities, especially at the Vocational High School (SMK) level. The use of WhatsApp as a learning medium in one of the private vocational schools in Karanganyar Regency provides various significant benefits. This statement was obtained from the findings of content analysis from interview data conducted on six participants who are teachers at the vocational school with a teaching background in different subjects.

Based on the results of data analysis using content analysis on the use of the WhatsApp application as a learning medium in vocational schools from the teacher's perspective, the researcher summarizes those two important categories contain several aspects related to the use of this application, including: 1) the WhatsApp application is effective as a learning medium, and 2) the WhatsApp application is effective to support the learning process in class. This statement is depicted in the map diagram of the use of the WhatsApp application (Figure 2).
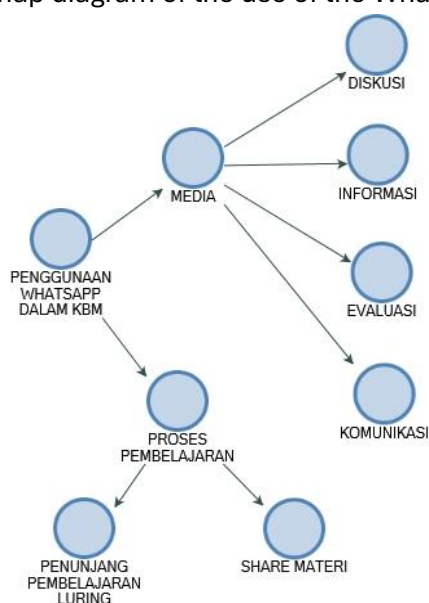

Figure 2. WhatsApp Application Usage Map Diagram

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Based on Figure 2, it can be concluded that the use of the WhatsApp application as one of the learning media by utilizing the latest technology is one of the very interesting innovations in the field of education. Teachers' views regarding the use of the WhatsApp application as a learning media are quite diverse. Based on the results of interviews with participants that have been analyzed using content analysis, most teachers at a private vocational school in Karanganyar Regency gave a positive view regarding the use of the WhatsApp application as a learning tool in vocational schools. Teachers stated that the use of the WhatsApp application is very effective as a means of discussion, and conveying information, be it delivering learning materials, delivering school activity announcements, or delivering assignments during learning. This is in line with research by (Gon & Rawekar, 2017) which states that teachers feel helped by the WhatsApp application as a learning medium to speed up communication, provide faster feedback, and increase student involvement in the learning process. The WhatsApp application is effectively used as a learning medium in vocational schools because by using WhatsApp, the delivery of important information from the school can be quickly disseminated by teachers and directly received by students. In line with the research Kusuma Ardiani, (2022) states that the WhatsApp application is one of the media that can provide effectiveness and efficiency in the learning process. This is in line with the research Bouhnik & Deshen, (2014)that the WhatsApp application can facilitate communication between teachers and students, which has a positive impact on the learning process. In addition, this application is also commonly used as a means of evaluating learning activities that have been carried out (Gon & Rawekar, 2017).

The effectiveness of using the WhatsApp application as a learning medium in one of the vocational schools in Karanganyar Regency is not just that, the use of this application can help the learning process such as sending learning materials to students quickly and efficiently, in addition, learning media using the WhatsApp application is used as a supporting medium for offline learning in vocational schools. This is in line with the research of Chen & Jones, (2007), that the use of WhatsApp in conventional learning makes students more enthusiastic and they are clearer in receiving learning materials. Yonifirnandita et al., (2021) also stated that the WhatsApp application is effective in the learning process. With this application, teachers and Pat sends learning videos while explaining the material that is in line with the videos that are shared directly, so that students can learn through visuals and auditory. This is in line with the research (Bouhnik & Deshen, 2014) which states that WhatsApp can expand interaction and communication between teachers and students so that learning activities run optimally.

The results of this study are in line with the theory of diffusion of innovations about the acceptance of innovation in the development of WhatsApp learning media in schools. In addition, the results of this study are also in line with the TAM theory, which is a theory about the acceptance of technology by looking at the extent to which the WhatsApp application is useful as a learning medium in vocational schools for teachers, in this study the WhatsApp application has been well received by teachers as a teaching medium for students, where teachers will be models in holding the progress of learning activities by utilizing WhatsApp media. This is in line with the agency theory and the theory of teaching experience, where teachers will play an important role in organizing and coordinating the learning activities carried out.

So it can be concluded that the use of the WhatsApp application as a learning medium in vocational schools is effectively used as a means of conveying information such as

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assignments, important information from schools and others, as a discussion medium, a communication medium between teachers and students, and as a medium for evaluating learning activities that have been implemented, in addition, the use of learning media with WhatsApp effectively helps the conventional learning process, where WhatsApp media is used as a supporting medium during teaching and learning activities.

2. Obstacles in Using the WhatsApp Application as Learning Media in Vocational Schools

The use of the WhatsApp application as a learning medium in one of the private vocational schools in Kranganyar Regency was well received by both teachers and students. WhatsApp helps teachers in communication and delivery of information such as sending materials, assignments, and others. In addition, the use of the WhatsApp application in the field of learning will be more time efficient, because the delivery of information can be directly received by students faster. Although the WhatsApp application has become a popular and effective tool in supporting the learning process in vocational schools, of course in the implementation of this learning, the use of WhatsApp is inseparable from various obstacles that hinder the smoothness and effectiveness of learning activities.

Obstacles to using WhatsApp as a learning medium in one of the private vocational schools in Karanganyar Regency are often felt by teachers so that learning activities are not optimal. These obstacles arise from various factors, both from users and from technical aspects. This statement was obtained from the findings of content analysis from interview data conducted with six participants who are teachers at the vocational school with teaching backgrounds in different subjects.
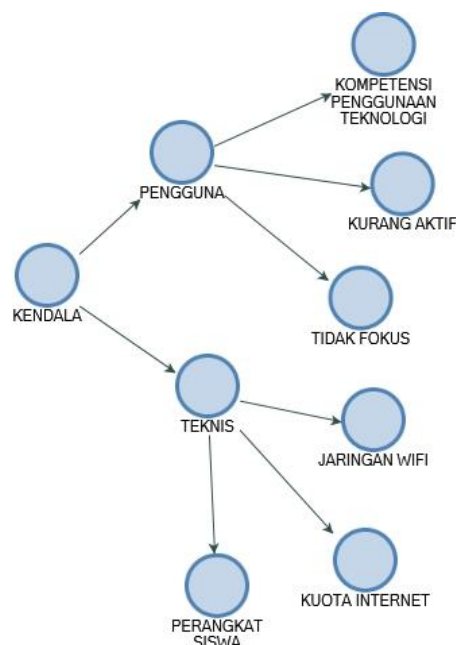

Figure 3. WhatsApp Application Usage Constraints Map Diagram

Based on the results of data analysis using content analysis, researchers grouped two categories of teacher perspective answers to the obstacles experienced during the use of the WhatsApp application as a learning medium in vocational schools, including: 1) obstacles from

user factors, especially teachers and students who play an important role during the learning process, and 2) obstacles from technical factors such as school facilities that do not fully support learning activities. These statements are depicted in the map diagram of obstacles to using the WhatsApp application, as in Figure 3, which was obtained from the results of data coding using the QSR NVivo application. Based on Figure 3, it can be concluded that in addition to the many benefits of the WhatsApp application offered as a learning medium, it is certainly not free from various significant obstacles from various factors, both originating from users and technical aspects.

From the user side, the challenges include limited technological competence among teachers, where there are still some teachers who find it difficult and do not understand how to implement the use of the WhatsApp application as a learning medium in vocational schools. This is in line with the research of (Tondeur et al., 2017) which states that many teachers still find it difficult to use the latest technology used in education. Another obstacle from the user side is the lack of active interaction between teachers and students. Several teachers stated that students tend to focus more on their respective cell phones so that direct discussion time does not run optimally. In addition, students tend not to focus on participating in learning activities, because they are distracted by cellphones. This is in line with the research (Ronsen et al., 2013)stated that the negative side of using the WhatsApp application as a learning medium will disrupt students' concentration because students will be dictated by something on their cellphones. The same thing was also conveyed by Winda & Dafit, (2021), stating that there are still many teachers who have difficulty using online learning media, one of which is WhatsApp media. In addition to obstacles from users, several other obstacles stem from technical factors, where several teachers complained that the Wi-Fi network had not been evenly distributed in vocational schools, so learning was slightly hampered due to slow internet connections. Another technical factor that influences is if students do not have a quota as an alternative if the Wi-Fi network is unstable, so teachers have to explain the entire material directly. In addition, the factor of devices that do not support accessing WhatsApp media is also the most common obstacle encountered by teachers during classroom learning. This is in line with research by Kusuma Ardiani, (2022) stating that the obstacles to using the WhatsApp application as a learning medium in vocational schools that are often encountered are related to technical obstacles such as unstable Wi-Fi networks because the coverage of the installed network is not evenly distributed throughout the room, or students who do not have devices that do not support learning.

So, it can be concluded that there are obstacles to using the WhatsApp application as a learning medium in vocational schools is influenced by the adequacy of school facilities and student devices, in addition, the lack of teacher understanding of the latest technology is also an obstacle in implementing WhatsApp as a learning medium. Rambe & Bere, (2013) stated that there are still many teachers who feel uncomfortable using the WhatsApp application and they find it difficult to integrate it into their learning process. Another obstacle in using the WhatsApp application as a learning medium is in terms of poor student interaction which greatly affects the progress of learning. Barhoumi, (2015) stated that although the WhatsApp application can support student knowledge management and learning activities in the classroom, the interaction between students is often not optimal.

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3. Solutions to Overcome Obstacles in Using the WhatsApp Application as a Learning Medium in Vocational Schools

The use of the WhatsApp application as a learning medium in vocational schools has brought various conveniences, but in its implementation, there are certainly still obstacles. Some of the obstacles that arise are related to the interaction between teachers and students and the limitations of technological competence among teachers. If some of these obstacles are not immediately resolved, they will certainly hinder the effectiveness of the learning process and reduce the potential for using technology. Some other obstacles that teachers often complain about are related to slow internet networks and student devices that do not support them. Based on this statement, a solution is needed to overcome it.

Based on the results of data analysis using content analysis, researchers grouped two categories of teacher perspective answers to solutions in overcoming obstacles experienced during the use of the WhatsApp application as a learning medium in vocational schools, including: 1) utilizing school facilities that have been provided as best as possible to optimize learning activities, and 2) making efforts to improve interactions with students, and teachers must increase their competence in the field of technology. These statements are depicted in the map diagram of obstacles to using the WhatsApp application, as in Figure 4, which is obtained from the results of data coding using the help of the QSR NVivo application.
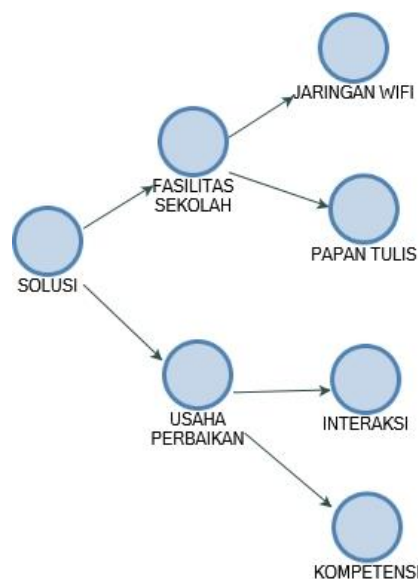

Figure 4. Solution Map Diagram in Overcoming Problems in Using the WhatsApp Application

Based on Figure 4, it can be concluded that the solution to overcome the obstacles is to use the WhatsApp application as a learning tool. The teacher stated that the use of the WhatsApp application was slightly hampered because the Wi-Fi network facilities in the school had not reached all classrooms evenly so the network was less stable when used. So the solution that can be taken is to expand the Wi-Fi network in the school environment so that all students and teachers can access the internet more stably and quickly. This will facilitate the use of WhatsApp more optimally in teaching and learning activities. This is in line with research by Kumar & Kumar, (2020) which states that a supporting factor for learning with online media

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is the availability of stable Wi-Fi facilities. In addition, as an alternative, optimizing existing learning media, such as whiteboards, can also be a solution to support learning. By combining the use of whiteboards in offline classes or video recordings shared via WhatsApp, teachers can help students understand the material visually, which can increase their absorption of lessons. This is in line with the research Blehch Amry, (2014) that states that the combination of direct face-to-face learning with the use of online media in the classroom can make students more active and focused on learning activities.

In addition, some teachers complained that some teachers found it difficult to utilize technology, especially the WhatsApp application as an effective learning medium. This shows an urgent need to improve teachers' digital competence through training programs and workshops that focus on the use of technology in education. So, with the right training to support learning, including managing virtual classes, providing evaluations, and managing the distribution of learning materials. This is in line with the research A Salamah, (2022) where to overcome the constraints of teacher competence who do not yet understand the use of learning media with the WhatsApp application is to try to learn and practice regularly on how to use WhatsApp learning media, and therapy to eliminate the fear of using electronic-based learning media until they can implement the WhatsApp application in their learning activities.

Another solution was conveyed by several participants who stated that to overcome the lack of student interaction during learning, teachers can try to create something new in learning activities so that students feel curious until they are finally interested in participating in learning activities, in addition teachers can make improvements to communication methods, such as scheduling more structured discussion sessions, while still using WhatsApp features that support active interaction. This is in line with the research of Bouhnik & Deshen, (2014), that utilizing school facilities optimally can support the use of WhatsApp as a learning medium. In addition, compiling innovative learning activities can provide training for teachers to improve their technological competence. (Gon & Rawekar, 2017) revealed that developing innovative and interesting learning activities through WhatsApp, such as case-based discussions, interactive quizzes, and the use of multimedia can make learning more interesting and interactive for students. Opinions from other participants stated that the use of the WhatsApp application as a learning medium can be balanced by meeting students directly. So, it can be concluded that the solution that can be taken to overcome the obstacles to using the WhatsApp application as a learning medium in vocational schools is to improve teacher competence and direct interaction between teachers and students, in addition to optimizing the use of school facilities can be a supporting factor to support the learning process to be more effective.

CONCLUSION

Based on the results of research related to the exploration of the WhatsApp application as a learning medium in vocational schools from the teacher's perspective, the following conclusions can be drawn:
1. The exploration of the use of the WhatsApp application as a learning medium in vocational schools from the teacher's perspective was obtained in two categories, including, a) media: discussion, information, evaluation, and communication, and b) learning process: offline learning support, and material sharing.

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2. Obstacles in the use of the WhatsApp application as a learning medium in vocational schools from a teacher's perspective include, a) user aspects: competence in using technology, lack of activity, lack of focus, and b) technical: Wi-Fi network, internet quota, and student devices.

3. Solutions to overcome the obstacles in using the WhatsApp application as a learning medium in vocational schools from a teacher's perspective include a) school facilities: Wi-Fi network, whiteboards, and b) improvement efforts: interaction, and competence.

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