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Distant Learning Satisfaction in High School Chemistry Amidst COVID-19 Pandemic: A Case Study

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Abstract: The aim of this research is to analyze the level of satisfaction with distance learning chemistry during the COVID-19 pandemic. This study used descriptive qualitative method. Data collection through a survey using google form to 449 respondents. The results of the analysis show that the COVID-19 pandemic has an impact on the level of student satisfaction, namely 18% very satisfied, 78% satisfied and 4% dissatisfied with distance learning chemistry. Students participate actively in taking chemistry lessons online. The distance learning system is not limited to being used during the COVID-19 pandemic, but can also be applied in normal conditions as modified learning with face-to-face learning.

Keywords: COVID-19; Distance Learning; Satisfaction

INTRODUCTION

The World Health Organization (WHO) has declared the COVID-19 pandemic as a public health emergency of international concern. COVID-19 is the greatest challenge that these expanded national education systems have ever faced. Many governments have ordered institutions to cease face-to-face instruction for most of their students, requiring them to switch, almost overnight, to online teaching and virtual education (Rangkuti et al., 2021).

Campus class suspension is a precautionary measure for COVID-19, thus the need to create effective online distance

learning is paramount. Although the online instruction is not a new concept, it is a shift away from the traditional classroom teaching model and has come with significant challenges for the educators (Argaheni, 2020). Indonesia set experienced public health emergencies due to Covid-19 since 31 March 2020 and are required to undertake prevention efforts in accordance with the law with enghentikan all the activities in the school and replace with a study from home or distance learning is one way to reduce the spread of COVID-19 (Septiadi et al., 2022)

Pandemic COVID-19 greatly affect all aspects of life. The education system in schools that was originally done face to be

transformed into distance learning. This is a challenge for teachers to continue to provide meaningful learning for students to learn from home though. Online learning is one of the choices of distance learning methods (Andini et al., 2022). Online learning platform has a very diverse selection include Zoom, Google Meet and Google Classroom (Putri et al., 2023).

The success of distance learning is influenced by many elements, including students, teachers, and technology (Hafiza et al., 2022). Based on previous research report ((Meilani et al., 2021);(Sutiah et al., 2020)) the success of implementing distance learning is the influence of various aspects of the learning process, learning tools and psychological aspects. While the research report (Napitupulu, 2020) distance learning satisfaction levels high in the pandemic peguruan COVID-19 is influenced by many factors including accessibility, device ownership, ease of obtaining and studying the material, the accuracy of the method and interactivity.

Until now, the COVID-19 pandemic has not ended with conflict, so the distance learning option is the most appropriate and safe way of learning. The level of student satisfaction can illustrate the success of implementing distance learning, which is still an option today. This research can contribute to providing input on the implementation of distance learning (Nugroho, 2021). Therefore, this research aims to determine the impact of the COVID-19 pandemic on high school students' learning satisfaction, especially chemistry learning.

LITERATURE REVIEW

The online learning system is a learning system without direct face-to-face contact between teachers and students but is carried out online using the internet network. Teachers must ensure that teaching and learning activities continue, even though they are at home. The impact of online learning activities can be seen from the aspects of learning spirit, literacy of online learning

technology, intrapersonal communication activities, collaboration activities, and independent learning independence (Akhiar & Muazzinah, 2021)

Online learning was first recognized due to the influence of the development of electronic-based learning (e-learning) introduced by the University of Illinois through a computer-based learning system (Hasanah & Qomariyah, 2023). Online learning is a system that can facilitate students to learn more widely, more, and varied. Through the facilities provided by the system, students can learn anytime and anywhere without being limited by distance, space and time. The learning materials are more varied, not only in verbal form, but more varied such as visual, audio, and motion (Kartini et al., 2022).

Online learning requires support from various mobile devices such as smartphones, tablets, and laptops, which allow access to information flexibly and at any time. The use of mobile technology has a huge impact in education, including in achieving distance learning goals (Sadikin & Hamidah, 2020). Various media can also be utilized to support the implementation of online learning, for example, the use of virtual classes through platforms such as Google Classroom, Edmodo, and Schoology, as well as instant messaging applications such as WhatsApp (Rosa & Suryadi, 2022).

METHODS

This study used descriptive qualitative method. The sample is students of SMAN 3 Yogyakarta with the science program in 2020 and who live in the Special Region of Yogyakarta. Primary data collection used an online survey method with an instrument in the form of a questionnaire containing 7 closed statements which was distributed via the WhatsApp group for each class. The results of the distribution of data collected were 449 respondents from 724 targets. The measurement scale consists of a nominal scale and a Likert scale. Nominal data were analyzed using the formula:

$$P = \frac{\sum f}{\sum N} \times 100\%$$

(Sutisnowati, 2021)

While the Likert scale uses the formula

$$P = \frac{\sum R}{Y \times n} \times 100\%$$

Information :

Y = Highest Likert score x number respondents

n = Number of questions
 (Rahayu & Shafina, 2022)

The results of the distribution of data collected were 449 respondents from 724 targets. Where the number of man was 166 people and woman were 283 people. The calculation results are presented in Table 1.

Table 1. Characteristics of respondents

| Respondents | Frequency | Percentage |
|-------------|-----------|------------|
| Class X | 181 | 36.27% |
| Class XI | 161 | 35.86% |
| Class XII | 107 | 23.83% |

RESULT AND DISCUSSION

Ownership of Learning Devices and Internet Access

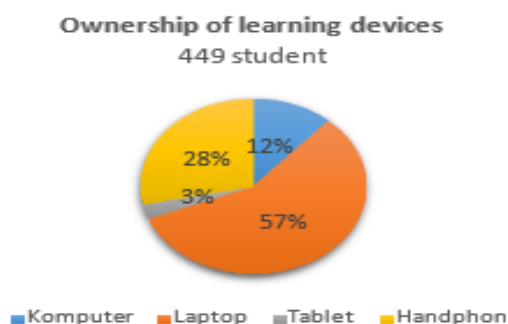


Figure 1. Chart of ownership of learning devices

Based on Figure 1, it can be seen that the implementation of distance learning will take place optimally if the infrastructure is met. For distance learning, devices are a must-have item to support the learning process. This is supported by several research results which state that tools or devices play a role in the learning process (Sutiani et al., 2022) of our participants, it shows that 100% have good devices for distance learning. The types of devices owned include 54 students using computers, 256 students using laptops, 14 students using tablets, and 126 students using cellphones.

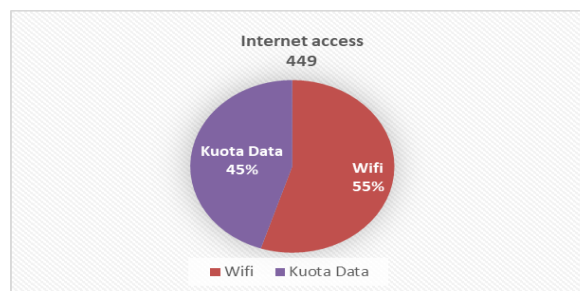


Figure 2. Chart of Internet access

Based on the research results that we present in Figure 2, 202 participants have a fairly good internet connection, namely using a data quota, while 247 students have a good internet connection such as a WiFi network. Good connections provide comfortable learning for students. In accordance with research conducted by (Panggabean et al., 2021), there are several things important things to pay attention to requirements for online learning activities using the internet, among others others: 1) learning activities are carried out through the use of networks (internet), 2) availability of learning service support can be used by students or students, 3) availability of service support tutor (consultation) who can help participants learn if they experience difficulties, 4) availability of institutions organizing/managing elearning activities, 5) positive attitudes from students and lecturer on computer technology and internet, 6) learning system design that can be learned/known by students, 7) evaluation system for learning progress or development students, and 8) feedback mechanisms developed by the institution organizer or manager.

Ease of Studying the Material

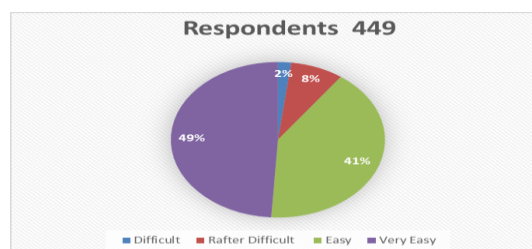


Figure 3. Chart of ease of studying the material

Based on Figure 3, it explains that the ease with which students learn learning material is one of the factors that influences student satisfaction in distance learning. The

research results show that the majority find it easy to learn the learning material provided through online learning. A total of 449 students out of 89% answered that it was easy to learn distance learning material. Only 11% answered that it was difficult to learn distance learning material. This statement is in line with research conducted by (Fashiri & Susanti, 2020), where students find it easier to understand the material through E-Learning but if it is supported by adequate learning tools such as web-based interactive teaching materials.

Interactivity

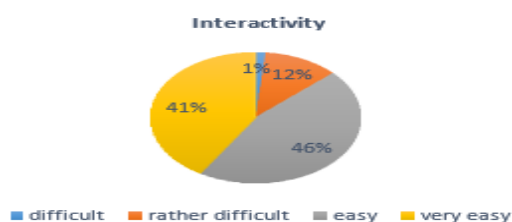


Figure 4. Chart of interactivity

Figure 4 explains another success factor for distance learning in terms of the quality of the education system, namely interactivity. Based on the research results, the majority felt it was easy and able to interact with teachers. The informant was able to ask questions and respond to the learning material provided by the teacher. However, there are 13% who still have difficulty interacting, where students still have difficulty asking and responding to the learning material provided by the teacher. In line research states that interactivity and opportunities to respond to material for distance learning play an important role (Lestari, 2022). Interactivity is an indispensable element in distance learning (Al-Gifari & Supriyanto, 2022).

The Accuracy of The Learning Method

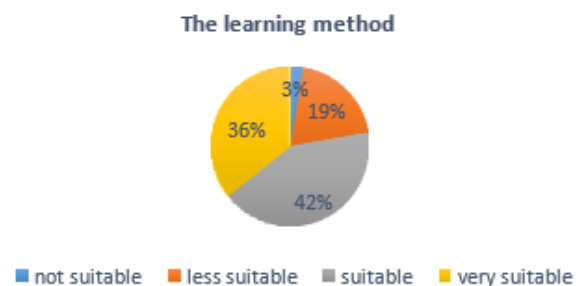


Figure 5. Chart of the precision of learning method

Based on Figure 5, the right distance learning method can help the distance learning process. The effectiveness of distance learning methods influences student satisfaction. The research results provided mixed responses. Most informants stated that the distance learning method currently used was appropriate. Of the total 449 informants, only 12 students or 3% of all respondents stated that the learning method was not appropriate. The distance learning application used is Google Classroom which can be used for Google Play, sending YouTube videos, Jamboard, all of which can be used for direct interaction between students and teachers. Appropriate distance learning methods also influence the quality of the system and the quality of information as well as the quality of services received by students (Sunarti & Mitrohardjono, 2021). Apart from that, the right method can also influence students' attitudes in doing so (Sulastri, 2020). Based on the informant's answers, currently the method used in distance learning is correct.

The Ability of Teachers

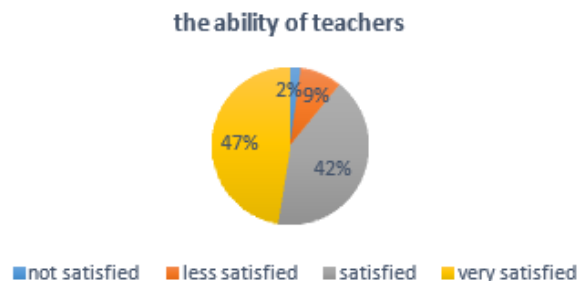


Figure 6. Chart of the ability of teachers

Overall, students rated satisfactory where the majority of students rated that the teacher was able to deliver material on current distance learning. A total of 400 students answered satisfied. Only 10 students were dissatisfied and 39 were less satisfied with the teacher's ability to deliver distance learning material. Intellectual ability, individual learning and self-confidence must exist in every teacher (Sabaniah et al., 2021). The ability of teachers actively involved and provide additional online science influential in improving the quality of learning (Sitompul, 2022). Moreover, the attitude of the current distance learning teacher effect on

student satisfaction (Safak, 2021). Confidence in using technology to new learning also affects the quality of lecturers (Donasari & Silaban, 2021). Delivery of material in face-to-face is different from the delivery of content via distance learning (Rohmanto & Setiawan, 2022)

Satisfaction With Distance Learning



Figure 7. Chart of satisfaction with distance learning

Overall, regarding student satisfaction in distance learning due to the Covid-19 pandemic, there are two sides, namely from the technology and teacher side. Based on this research, it is known that the majority are satisfied with the current distance learning. The impact of Covid-19 does not give students dissatisfaction in receiving learning materials. It is likely that students and teachers are already used to using technology in face-to-face learning. It was proven from the research results that only 18 students were dissatisfied with the current distance learning and 81 students were very satisfied. Quality information and a quality system are also the keys to ODL success. The results of this research are in line with research conducted by (Novitasari & Aznam, 2023) analysis is in the high category, interpretation skills, explanation, retrieval conclusions, and evaluations in the sufficient category are just self-regulation skills very low category because they are not used to this activity.

CONCLUSION

The current Covid-19 pandemic has an impact on many things including in the world of education, namely high schools. SMAN 3 Yogyakarta as one of the educational institutions in Indonesia are

required to follow the changes metode pembelajaran as the impact of a pandemic Covid 19th. Location of schools located in the city center into its own carrying capacity in the implementation of distance learning. Becomes a challenge for the institution. Although the majority of students (95.8%) already have

Distance learning is a good alternative when classroom learning is suspended during the COVID-19 pandemic period. It is also important to acknowledge that, distance learning cannot replace the need for onsite and face-to-face learning, but may complement existing traditional classroom-based learning model. Distance learning has an impact on changes in individual learning readiness and the preparation of institutional facilities to blended learning.

Based on the research, it is known that overall both in terms of technology as well as the teachers, the students were satisfied. Based on these results, it means the system is running in the school is good and should be maintained. Distance learning can be considered the implementation of blended learning in the current learning new habits later.

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